STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546

Phone: 860-594-3128

September 10, 2014

Subject: Project No. 151-273
F.A.P. No. 0842(195)
Reconstruction of I-84, Washington Street to Pierpont Road, Town of Waterbury.

NOTICE TO CONTRACTORS:

This is to notify all concerned and especially the prospective bidders that the bid opening for the subject project is being postponed Two (2) weeks from September 17th to October 1st, 2014 at 2:00 P.M. in the Conference Room of the Department of Transportation Administration Building, 2800 Berlin Turnpike, Newington, Connecticut.

Addendum No. 1 is attached and can also be obtained on the Statewide Contracting Portal at http://www.biznet.ct.gov/scp_search/BidResults.aspx?groupid=64

This Addendum is necessary to revise a contract documents.

Pre-Bid Questions and Answers: Questions pertaining to DOT advertised construction projects must be presented through the CTDOT Pre-Bid Q and A Website. The Department cannot guarantee that all questions will be answered prior to the bid date. **PLEASE NOTE - at 12:01 am, the day before the bid, the subject project(s) being bid will be removed from the Q and A Website, Projects Advertised Section, at which time questions can no longer be submitted through the Q and A Website. At this time, the Q and A for those projects will be considered final, unless otherwise stated and/or the bid is postponed to a future date and time to allow for further questions and answers to be posted.**

Philip J. Melchionne
For: Gregory D. Straka
Contracts Manager
Division of Contracts Administration

SEPTEMBER 4, 2014
RECONSTRUCTION OF I-84
FEDERAL AID PROJECT NO. 0842(195)
STATE PROJECT NO. 0151-0273
CITY OF WATERBURY

ADDENDUM NO. 1

This Addendum addresses the following questions and answers contained on the "CT DOT QUESTIONS AND ANSWERS WEBSITE FOR ADVERTISED CONSTRUCTION PROJECTS":

Question and Answer Nos. 17, 27, 28, 29, 30, 36 and 37

SPECIAL PROVISIONS

NEW SPECIAL PROVISIONS

The following Special Provisions are hereby added to the Contract:

- NOTICE TO CONTRACTOR - IMS INSTALLATION
- NOTICE TO CONTRACTOR - HAZARDOUS MATERIALS INVESTIGATIONS
- ITEM NO. 0020801A - ASBESTOS ABATEMENT
- ITEM NO. 0020903A - LEAD COMPLIANCE FOR MISCELLANEOUS EXTERIOR TASKS
- ITEM NO. 0507171A – HYDRODYNAMIC SEPARATOR (SITE NO. 1)
- ITEM NO. 0507172A – HYDRODYNAMIC SEPARATOR (SITE NO. 2)
- ITEM NO. 0507173A – HYDRODYNAMIC SEPARATOR (SITE NO. 3)
- ITEM NO. 0507174A – HYDRODYNAMIC SEPARATOR (SITE NO. 4)
- ITEM NO. 0507175A – HYDRODYNAMIC SEPARATOR (SITE NO. 5)
- ITEM NO. 0507176A – HYDRODYNAMIC SEPARATOR (SITE NO. 6)
- ITEM NO. 0507177A – HYDRODYNAMIC SEPARATOR (SITE NO. 7)
- ITEM NO. 0507178A – HYDRODYNAMIC SEPARATOR (SITE NO. 8)
- ITEM NO. 0916111A – NOISE BARRIER WALL (STRUCTURE)
- ITEM NO. 0916126A- NOISE BARRIER WALL
- ITEM NO. 0916219A- ROCK IN POLE EXCAVATION
- ITEM NO. 1301023A - FURNISH AND INSTALL WATER MAIN 8 NPS - (OFF STRUCTURE)
- ITEM NO. 1301024A - FURNISH AND INSTALL WATER MAIN 12 NPS - (OFF STRUCTURE)
- ITEM NO. 1301026A - FURNISH AND INSTALL WATER MAIN 18 NPS - (OFF STRUCTURE)

- ITEM NO. 1301770A - FURNISH AND INSTALL 200 MM WATER MAIN ON BRIDGE
- ITEM NO. 1301771A - FURNISH AND INSTALL 300 MM WATER MAIN ON BRIDGE
- ITEM NO. 1301773A - FURNISH AND INSTALL 450 MM WATER MAIN ON BRIDGE
- ITEM NO. 1302004A – 200 MM GATE VALVE
- ITEM NO. 1302006A - 300 MM GATE VALVE
- ITEM NO. 1302009A - 450 MM GATE VALVE
- ITEM NO. 1302063A - ADJUST MANHOLE FRAME AND COVER (WATER MAIN)
- ITEM NO. 1302901A - AIR RELIEF VALVES (WATER MAIN)
- ITEM NO. 1302912A - INSTALL BLOW-OFF ASSEMBLIES (WATER MAIN)
- ITEM NO. 1304066A - REMOVE WATER MAIN
- ITEM NO. 1400010A - TRENCH EXCAVATION 0-12M DEEP (SANITARY SEWER)
- ITEM NO. 1401021A - DROP MANHOLE (1.2M DIAM.) 3 TO 6M DEEP (SANITARY SEWER)
- ITEM NO. 1401023A - DROP MANHOLE (1.2M DIAM.) 9 TO 12M DEEP
- ITEM NO. 1401035A – MAINTENANCE AND PROTECTION OF EXISTING SEWER SERVICE
- ITEM NO. 1401105A - 600 MM R. C. PIPE RG CLASS V (SANITARY SEWER)
- ITEM NO. 1401158A - 900 MM R. C. PIPE RG CLASS V (SANITARY SEWER)
- ITEM NO. 1401662A - SANITARY MANHOLE (1.2M DIAM.) 0 TO 3M DEEP
- ITEM NO. 1401663A - SANITARY MANHOLE (1.5M DIAM.) 3 TO 6M DEEP
- ITEM NO. 1401664A - SANITARY MANHOLE (1.2M DIAM.) 6 TO 9M DEEP
- ITEM NO. 1401665A - SANITARY MANHOLE (1.2M DIAM.) 9 TO 12M DEEP

REVISED SPECIAL PROVISIONS

The following Special Provisions are hereby deleted in their entirety and replaced with the attached like-named Special Provisions:

- NOTICE TO CONTRACTOR - 30-DAY SYSTEM OPERATIONAL TEST
- NOTICE TO CONTRACTOR - INSTALLATION QUALIFICATIONS
- NOTICE TO CONTRACTOR - PROPRIETARY ITEMS
- NOTICE TO CONTRACTOR - TELECOMMUNICATIONS INSTALLATION
- NOTICE TO CONTRACTOR - TRAFFIC MONITORING STATIONS
- NOTICE TO CONTRACTOR - ENVIRONMENTAL INVESTIGATIONS
- NOTICE TO CONTRACTOR - NCHRP 350 REQ. FOR WORK ZONE TRAFFIC CONTROL DEVICES

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

- ITEM NO. 0101117A - CONTROLLED MATERIALS HANDLING
- ITEM NO. 0202223A – J-HOOK VANE
- ITEM NO. 0202315A – DISPOSAL OF CONTROLLED MATERIALS
- ITEM NO. 0703023A – INSTREAM STRUCTURE TYPE A
- ITEM NO. 0703024A – INSTREAM STRUCTURE TYPE C
- ITEM NO. 0703025A – INSTREAM STRUCTURE TYPE D
- ITEM NO. 0703026A – ROCK RAMP FISHWAY
- ITEM NO. 0703027A – ROCK RAMP
- ITEM NO. 0703030A – PLACEMENT OF CHANNEL BOULDER
- ITEM NO. 1108644A - TRAFFIC MANAGEMENT SYSTEM CABINET

DELETED SPECIAL PROVISIONS

The following Special Provisions are hereby deleted in their entirety:

- NOTICE TO CONTRACTOR – CONSTRUCTION ZONE SEPARATION
- NOTICE TO CONTRACTOR – INCIDENT MANAGEMENT SYSTEM INSTALLATION
- NOTICE TO CONTRACTOR – CAMERA LOWERING DEVICE ASSEMBLY AND CAMERA POLES
- ITEM NO. 1108625 - MODIFY EXISTING MINI HUB CABINET
- ITEM NO. 1301022A - FURNISH AND INSTALL DUCTILE IRON WATER MAIN 8 NPS - (OFF STRUCTURE)
- ITEM NO. 1302002A - 8 NPS GATE VALVE
- ITEM NO. 1302003A - 12 NPS GATE VALVE
- ITEM NO. 1302004A - 18 NPS GATE VALVE
- ITEM NO. 1302051A - REMOVE EXISTING 8 NPS WATER MAIN
- ITEM NO. 1302899A - BLOW-OFF ASSEMBLIES (WATER MAIN)
- ITEM NO. 1302917A - AIR VALVES (WATER MAIN)
- ITEM NO. 1401259A - 900 MM REINFORCED CONCRETE PIPE (SANITARY SEWER)
- ITEM NO. 1403002A - SANITARY MANHOLE (1.2 DIA.) 3M TO 6M DEEP
- ITEM NO. 1403004A - SANITARY MANHOLE (1.8M DIA.) 3M TO 6M DEEP
- ITEM NO. 1403005A - SANITARY MANHOLE (1.2M DIA.) 6M TO 9M DEEP
- ITEM NO. 1403006A - SANITARY MANHOLE (1.2M DIA.) 6M TO 9M DEEP
- ITEM NO. 1403007A - SANITARY MANHOLE (1.2M DIA.) 9M TO 12M DEEP
- ITEM NO. 1403010A - SANITARY DROP MANHOLE (1.2M DIA.) 3M TO 6M DEEP
- ITEM NO. 1403011A - SANITARY DROP MANHOLE (1.2M DIA.) 9M TO 12M DEEP

CONTRACT ITEMS
NEW CONTRACT ITEMS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
0020801A	ASBESTOS ABATEMENT	L.S.	1
0020903A	LEAD COMPLIANCE FOR MISCELLANEOUS EXTERIOR TASKS	L.S.	1
0507161	MODIFIED TYPE "C-L" CATCH BASIN QUAD GRATE - TYPE II	EA	1
0507171A	HYDRODYNAMIC SEPARATOR (SITE NO. 1)	EA	1
0507172A	HYDRODYNAMIC SEPARATOR (SITE NO. 2)	EA	1
0507173A	HYDRODYNAMIC SEPARATOR (SITE NO. 3)	EA	1
0507174A	HYDRODYNAMIC SEPARATOR (SITE NO. 4)	EA	1
0507175A	HYDRODYNAMIC SEPARATOR (SITE NO. 5)	EA	1
0507176A	HYDRODYNAMIC SEPARATOR (SITE NO. 6)	EA	1
0507177A	HYDRODYNAMIC SEPARATOR (SITE NO. 7)	EA	1
0507178A	HYDRODYNAMIC SEPARATOR (SITE NO. 8)	EA	1
0507216	SPECIAL TYPE "C-L" CATCH BASIN OVER 3 M DEEP	EA	3
0916111A	NOISE BARRIER WALL (STRUCTURE)	SQ. M	2825
0916126A	NOISE BARRIER WALL	SQ. M	4910
0916219A	ROCK IN POLE EXCAVATION	V. M	725
1301023A	FURNISH AND INSTALL 8 NPS WATER MAIN (OFF STRUCTURE)	M	75
1301024A	FURNISH AND INSTALL 12 NPS WATER MAIN (OFF STRUCTURE)	M	225
1301026A	FURNISH AND INSTALL 18 NPS WATER MAIN (OFF STRUCTURE)	M	875
1301770A	FURNISH AND INSTALL 200 MM WATER MAIN ON BRIDGE	M	70
1301771A	FURNISH AND INSTALL 300 MM WATER MAIN ON BRIDGE	M	150
1301773A	FURNISH AND INSTALL 450 MM WATER MAIN ON BRIDGE	M	100
1302006A	300 MM GATE VALVE	EA	5
1302009A	450 MM GATE VALVE	EA	10
1302058	ABANDON WATER MAIN	M	910
1302063A	ADJUST MANHOLE FRAME AND COVER (WATER MAIN)	EA	60

1302898	BLOW-OFF MANHOLE (WATER MAIN)	EA	2
1302901A	AIR RELIEF VALVE (WATER MAIN)	EA	1
1302912A	INSTALL BLOW-OFF ASSEMBLIES (WATER MAIN)	EA	2
1304066A	REMOVE WATER MAIN	M	1200
1400010A	TRENCH EXCAVATION 0 - 12M DEEP (SANITARY SEWER)	CU.M	4600
1401158A	900 MM R.C. PIPE RG CLASS V (SANITARY SEWER)	M	240
1401105A	600 MM R.C. PIPE RG CLASS V (SANITARY SEWER)	M	110
1401242	200 MM DUCTILE IRON PIPE (SANITARY SEWER)	M	25
1401245	375 MM DUCTILE IRON PIPE (SANITARY SEWER)	M	540
1401248	600 MM DUCTILE IRON PIPE (SANITARY SEWER)	M	100
1401662A	SANITARY MANHOLE (1.2M DIA.) 0 TO 3M DEEP	EA	3
1401663A	SANITARY MANHOLE (1.5M DIA.) 3 TO 6M DEEP	EA	11
1401664A	SANITARY MANHOLE (1.2M DIA.) 6 TO 9M DEEP	EA	7
1401665A	SANITARY MANHOLE (1.2M DIA.) 9 TO 12M DEEP	EA	2
1401021A	DROP MANHOLE (1.2M DIA.) 3 TO 6M DEEP (SANITARY SEWER)	EA	1
1401023A	DROP MANHOLE (1.2M DIA.) 9 TO 12M DEEP (SANITARY SEWER)	EA	2

REVISED CONTRACT ITEMS

ITEM NO.	DESCRIPTION	ORIGINAL QUANTITY	REVISED QUANTITY
0205001	TRENCH EXCAVATION 0 - 1.2 M DEEP	5170 CU.M	500 CU. M
0205003	TRENCH EXCAVATION 0 - 3 M DEEP	6900 CU.M	19200 CU.M
0205005	TRENCH EXCAVATION 0 - 4.5 M DEEP	2350 CU.M	5610 CU.M
0205007	TRENCH EXCAVATION 0 - 6 M DEEP	1525 CU. M	380 CU.M
0205009	TRENCH EXCAVATION (0M - 7.5M) DEEP	2300 CU.M	90 CU.M
0507001A	TYPE "C" CATCH BASIN	54 EA	53 EA
0507021A	TYPE "C" CATCH BASIN DOUBLE GRATE - TYPE I	1 EA	2 EA
0507051A	TYPE "C" CATCH BASIN OVER 3 M DEEP	28 EA	31 EA

0507056A	TYPE "C" CATCH BASIN DOUBLE GRATE - TYPE II (1.2M SUMP)	11 EA	13 EA
0507201A	TYPE "C-L" CATCH BASIN	36 EA	42 EA
0507222A	TYPE "C-L" CATCH BASIN DOUBLE GRATE TYPE II	10 EA	8 EA
0507251A	TYPE "C-L" CATCH BASIN OVER 3 M DEEP	32 EA	35 EA
0507264A	SPECIAL TYPE "C-L" CATCH BASIN DOUBLE GRATE - TYPE II	2 EA	3 EA
0507272A	TYPE "C-L" CATCH BASIN DOUBLE GRATE - TYPE II OVER 3 M DEEP	4 EA	3 EA
0507444A	TYPE "C-M" SPECIAL CATCH BASIN OVER 3 M DEEP	3 EA	2 EA
0507449A	TYPE "C-M" CATCH BASIN	54 EA	53 EA
0507452A	TYPE "C-M" CATCH BASIN OVER 3 M DEEP	37 EA	40 EA
0507463A	TYPE "C-M" CATCH BASIN DOUBLE GRATE - TYPE II OVER 3 M DEEP	2 EA	3 EA
0507682A	MANHOLE - 1525 MM DIAMETER	6 EA	2 EA
0507685A	MANHOLE - 1830 MM DIAMETER	1 EA	7 EA
0507687A	MANHOLE - 1220 MM DIAMETER	11 EA	12 EA
0507688A	MANHOLE - 1220 MM DIAMETER OVER 3 M DEEP	10 EA	5 EA
0507754	RESET TYPE “C” CATCH BASIN DOUBLE GRATE – TYPE II	12 EA	13 EA
0651012	375 MM R.C. PIPE	2575 M	2180 M
0651013	450 MM R.C. PIPE	940 M	1120 M
0651015	600 MM R.C. PIPE	897 M	1430 M
0651017	750 MM R.C. PIPE	330 M	740 M
0651019	900 MM R.C. PIPE	326 M	625 M
0651020	1050 MM R.C. PIPE	170 M	220 M
0651021	1200 MM R.C. PIPE	135 M	200 M
0714020A	TEMPORARY SHEET PILING	69446 SQ.M	53500 SQ.M
0948423A	HABITAT ENHANCEMENT TYPE A	40 EA	2 EA
0948424A	HABITAT ENHANCEMENT TYPE B	40 EA	3 EA
1108628A	PORT SHARING DEVICE	1 EA	3 EA
1302004A	200 MM GATE VALVE	10 EA	9 EA
1303226	FIRE SUPPRESSION STANDPIPE SYSTEM	11 EA	4 EA

DELETED CONTRACT ITEMS

ITEM NO.	DESCRIPTION	ORIGINAL QUANTITY	REVISED QUANTITY
0507223A	SPECIAL TYPE “C-L” CATCH BASIN DOUBLE GRATE TYPE I	5 EA	0
0507268	TYPE "C-L" SPECIAL CATCH BASIN DOUBLE GRATE TYPE II OVER 3M DEEP	2 EA	0
0507467A	TYPE "C-M" CATCH BASIN DOUBLE GRATE - TYPE II	2 EA	0
1301022A	FURNISHING AND INSTALLING 8NPS WATER MAIN	L.S.	0
1302002A	100 MM GATE VALVE	9 EA	0
1302003A	150 MM GATE VALVE	5 EA	0
1302051A	RESET VALVE BOX (WATER MAIN)	1200 EA	0
1302059	ABANDON VALVE (WATER MAIN)	910 EA	0
1403002A	MANHOLE OVER 3 M DEEP	3 EA	0
1403007A	SPECIAL SANITARY MANHOLE	2 EA	0
1403010A	MANHOLE FRAME AND COVER	1 EA	0
1403011A	DROP MANHOLE (SANITARY SEWER)	2 EA	0

PLANS

NEW PLANS

The following Plan Sheets are hereby added to the Contract:

01.02.001.A1
02.01.083-1

REVISED PLANS

The following Plan Sheets are hereby deleted and replaced with the like-numbered Plan Sheets:

01.05.004, 01.05.018, 01.05.019, 01.05.020, 01.05.021

02.01.003, 02.01.008, 02.01.015, 02.01.024, 02.01.025, 02.01.027, 02.01.029, 02.01.032, 02.01.033, 02.01.037, 02.01.040, 02.01.041, 02.01.042, 02.01.048, 02.01.049, 02.01.050, 02.01.051, 02.01.053, 02.01.056, 02.01.057, 02.01.058, 02.01.060, 02.01.063, 02.01.064, 02.01.065, 02.01.070, 02.01.071, 02.01.072, 02.01.075, 02.01.077, 02.01.078, 02.01.079, 02.01.080, 02.01.083, 02.01.086, 02.01.087, 02.01.088, 02.01.089, 02.01.090, 02.01.091, 02.01.093, 02.01.094, 02.01.095, 02.01.096, 02.01.099, 02.01.100, 02.01.101, 02.01.103, 02.01.104, 02.01.105, 02.01.109, 02.01.112, 02.01.113, 02.01.117, 02.01.120, 02.01.121

03.01.014, 03.01.015, 03.01.016, 03.01.017, 03.01.018, 03.01.019, 03.01.020, 03.01.021, 03.01.022, 03.01.023, 03.01.024, 03.01.025, 03.01.026, 03.01.027, 03.01.028, 03.01.029, 03.01.030, 03.01.031, 03.01.032, 03.01.033, 03.01.034, 03.01.036, 03.01.037, 03.01.038, 03.01.039, 03.01.040, 03.01.041, 03.01.042, 03.01.043, 03.01.044, 03.01.045, 03.01.046, 03.01.047, 03.01.048, 03.01.049, 03.01.050, 03.01.051, 03.01.052, 03.01.053, 03.01.054, 03.01.055, 03.01.056, 03.01.057, 03.01.058, 03.01.059, 03.01.060, 03.01.061, 03.01.062, 03.01.063, 03.01.064, 03.01.065, 03.01.066, 03.01.067, 03.01.068, 03.01.069, 03.01.070, 03.01.071, 03.01.072, 03.01.073, 03.01.074, 03.01.075, 03.01.101, 03.01.102, 03.01.103, 03.01.104, 03.01.105, 03.01.106, 03.01.108, 03.01.111, 03.01.112, 03.01.114, 03.01.115

04.01.002, 04.01.003, 04.01.005, 04.01.006, 04.01.007, 04.01.008, 04.01.009, 04.01.018, 04.01.019, 04.01.020, 04.01.027, 04.01.028, 04.01.029, 04.01.030, 04.01.031, 04.01.032, 04.01.033, 04.01.036, 04.01.037, 04.01.038, 04.01.039, 04.01.040, 04.01.041, 04.01.042, 04.01.071, 04.01.072, 04.01.073, 04.01.074, 04.01.075, 04.01.076, 04.01.077, 04.01.078, 04.01.079, 04.01.080, 04.01.081, 04.01.082, 04.01.083, 04.01.084, 04.01.093, 04.01.094, 04.01.101, 04.01.103, 04.01.104, 04.01.105, 04.01.106

07.01.050, 07.01.051, 07.01.052, 07.01.053, 07.01.064, 07.01.065, 07.01.073, 07.01.075

The Detailed Estimate Sheets do not reflect these changes.

The Bid Proposal Form has been revised to reflect these changes.

There will be no change in the number of calendar days due to this Addendum.

The Federal Wage Rates dated June 13, 2014 are hereby deleted and replaced with the attached Federal Wage Rates dated July 25, 2014.

The foregoing is hereby made a part of the contract.

NOTICE TO CONTRACTOR - 30-DAY SYSTEM OPERATIONAL TEST

Upon successful completion of the installation of the CCTV, TFM, VMS, Modify existing main fiber hub, modify existing operations center control system, fiber optic cable, fiber optic communication equipment, traffic management system cabinet, and other items within this contract and as approved by the Engineer, a 30-day system operational test shall commence. 30 day operational tests cannot commence until complete end to end system communication is operational and completed.

During the course of this test, each item listed below must function in accordance with the specifications for the duration of the test. Each item listed below must be tested concurrently. The contractor shall refer to each item for additional testing, if required.

If a malfunction occurs within the stated time frame, then the Contractor shall make all necessary repairs to the system and re-establish proper operational. Upon approval of the Engineer, the 30-day system operational test will begin as new. The system must operate a full thirty (30) consecutive days without a malfunction before the system will be accepted by the Engineer. The Contractor shall coordinate the 30-day System Operational Test with other pertinent items in this specification and contract.

The Contractor shall maintain and submit to the Engineer a log of recording each 30-day system operational test until all items have successfully completed the 30-day test. The log shall contain a record of all 30-day system operational test start date, reported and recorded failures and repairs to remedy failures of any of the items, re-start dates, and 30-day system operational test completion dates. The log shall contain a list all of the sites on the plans. The Contractor shall submit to the Engineer a weekly status of the log to the Engineer for approval until all of the sites have successfully completed the test. The Contractor shall report to the Engineer each 30-day system operational test successful completion on the day the test is completed. The Contractor shall maintain the log on a daily basis. The Contractor shall provide a copy of the log at the Engineer's request at any time to clarify or resolve any issues with the 30-day system operational test. The Contractor shall submit to the Engineer a proposed log format prior to start of any 30-day system operational test for review and approval by the Engineer.

The Contractor shall be responsible for coordination of the 30-day system operational test with the Newington Operations Staff. The Contractor shall notify Mr. Richard Launder @ 860-594-3456 when each system is to begin a 30-day system operational test. The Contractor shall make available a telephone number to the Engineer and the Newington Operations Staff for reporting failures. The Contractor shall be responsible for notifying Newington Operations when a restart and successful completion of each camera assembly is made.

The Newington Operations Staff will report to the Contractor when the system experiences a failure. The Contractor is responsible for reporting any or all failures to the Engineer.

Upon successful completion of the 30-day System Operational Test and approval by the Engineer, the system shall be supported by Item #1112250 – Equipment Operations until the successful completion of the entire construction project or as directed by the Engineer.

The Contractor shall coordinate the 30-day System Operational Test with other pertinent items in this contract and other ConnDOT contracts (If required) described in these specifications and other specification in this contract. CCTV, and VMS shall be grouped into 30-Day Tests as listed below or as approved by the Engineer. All CCTV and TFM Items necessary to successfully operate the CCTV and TFM shall be grouped into a 30-Day Test. The VMS shall operate a 30-Day Test independent of the other 30-Day Tests.

Item #	**Description**
CCTV	
1108637A	Traffic Management System Cabinet – ALL Sites
1112210A	Camera Assembly – ALL Installations
1113059A	Traffic Flow Monitor – ALL Installations
1108704A	OVDT – ALL Installations
1108707A	Rack Mount OVDR
1108628A	Port Sharing Device – ALL Installations
1108662A	Media Converter – ALL CCTV and TFM Installations
1108661A	10/100Base-TX Ethernet Switch
1113604A	Fiber Optic Cable 6 Fiber
1113621A	Fiber Optic Cable 72 Fiber
1108539A	Modify Operation Center Control System
1108164A	Modify Existing Main Fiber Hub
VMS	
1050110A	VMS Type B Walk-In
1108662A	Media Converter

NOTICE TO CONTRACTOR –IMS INSTALLATION

The Contractor is alerted that no service interruption of the Incident Management System, resulting from the Contractors operations will be allowed.

IMS Conduit

This project will install new IMS conduit and fiber optic cable between I-84 at Pierpont Rd to I-84 at Hamilton Ave (Exit 23 I-84 WB) in the newly constructed median. The newly installed fiber optic trunk line cable and conduit will replace the temporary fiber installed along East Main Street, Pierpont road, and Silver Street. Please refer to the temporary IMS fiber plans for exact location of temporary fiber optic cable that will be removed under removal of existing ATMS item.

Stage 1 Construction (optional)

CCTV Site 1 Installation

The incident management system PVMS located in Waterbury near Hamilton Avenue must be operational at all times during construction.

The installation of CCTV site 1 will only occur in the event that the existing PVMS located in Waterbury near Hamilton Avenue can no longer be maintained and operated. Under the direction of highway operations the contractor will need to install CCTV site 1 according to contract plans within 6 months of notice.

- The Contractor shall install CCTV site 1 as indicated on the plans
- The Contractor shall splice into the existing temporary 12 fiber as indicated on the Fiber Optic Cable Splice block diagram Phase 1
- The Contractor shall furnish and install the necessary items to complete CCTV site 1 for full operation back at the Newington Operations Center as shown on the contract plans.
- Partially finish items for “modify existing main fiber hub” and “modify existing Newington operations center” for CCTV site 1.

* * * * * * *

Stage 2 Construction

IMS installation

In order to maintain an uninterrupted service to the existing Incident Management System the Contractor shall maintain the existing temporary 12 fiber cable until the new 72 fiber trunk line cable and conduit is installed and ready to be spliced.

The work included in the installation of the IMS is as follows:

- Install 1 CCTV (CCTV Site 1) if stage 1 was not completed
- Install 2 CCTV, 1 VMS sites
- The Contractor shall splice into the newly installed 72 fiber median trunk line cable as indicated on the Fiber Optic Cable Splice block diagram Phase 2
- Finish items for "modify existing main fiber hub" and "modify existing Newington operations center".
- Once the new trunk line cable is installed, operational and all major road reconstruction is complete the contractor can remove the abandoned temporary 12 fiber cable and PVMS as detailed under item 1113813A Removal of existing ATMS.

* * * * * * *

The Contractor shall exercise extreme caution during all stages of the work. In the event of damage to the IMS system, the Contractor shall immediately notify the Engineer.

The Contractor is responsible for accurately locating the existing conduit for carrying fiber optic cable. The Contractor shall contact Mr. James Gannon of Conn. DOT Highway Operations (203-696-2685) at least forty-eight (48) hours prior to locating mainline fiber optic conduit.

The Contractor is hereby notified that hand digging may be required to accurately locate the existing IMS conduit. The Contractor shall also be responsible for maintaining and protecting the existing IMS conduit and trunk fiber optic cable at all times and during all phases of the Contractors work operations.

The Contractor shall notify the Engineer prior to the start of his work and shall be responsible for all coordination with the Department. The Engineer shall be present during any work involving the conduit carrying fiber-optic cable. The Contractor shall allow the Engineer complete access to the work.

NOTICE TO CONTRACTOR – HAZARDOUS MATERIALS INVESTIGATIONS

A limited hazardous materials site investigation has been conducted at Bridge Nos. 01224, 01226, 01228, 04321 and 06284 for the widening of I-84 in Waterbury, Connecticut. The scope of inspection was limited to the representative components projected for impact.

The results of the investigation indicated the presence of lead based paint (LBP) on structural steel/metal bridge components at Bridge Nos. 01224, 01226, 01228 and 04321 that are scheduled for impact. No lead was identified on the painted concrete abutments of Bridge Nos. 01224, 01226 and 01228 or the painted structural steel/metal surfaces of Bridge No 06284.

Results obtained from TCLP waste stream sampling and analysis for leachable lead in the paint associated with the metal/structural steel at Bridge Nos. 01224, 01226 and 01228, characterized the paint waste stream as **RCRA Hazardous waste (>5.0mg/l)**. Paint waste generated from the structural steel or metal surfaces from Bridge No. 04321 is presently presumed to be **RCRA Hazardous waste (>5.0mg/l)**.

All steel and metal generated from work tasks (painted or not) shall be segregated and recycled as scrap metal at a scrap metal recycling facility. The recycling of scrap metal (regardless of lead paint concentration) is exempt from USEPA RCRA and CTDEEP Hazardous Waste Regulation.

Black asphalt expansion joint materials located at abutments, wing walls and parapets at Bridge Nos. 01224, 01226 and 04321 were found to contain asbestos. Hard brittle caulks associated with the railing supports at Bridge No. 01226 and Bridge No. 01228 and expansion joints at Bridge No. 01228 were also found to be asbestos. Eight (8) transite pipes and one (1) metal pipe with tar/brown insulation on the underside of Bridge No. 01228 contained asbestos as well.

Bird/pigeon guano accumulations were identified in accessible areas of Bridge Nos. 01226, 01228 and 06284.

The Contractor is hereby notified that these hazardous materials requiring special management or disposal procedures will be encountered during various construction activities conducted within the project limits. The Contractor will be required to implement appropriate health and safety measures for all construction activities impacting these materials. These measures shall include, but are not limited to, air monitoring, engineering controls, personal protective equipment and decontamination, equipment decontamination and personnel training. WORKER HEALTH AND SAFETY PROTOCOLS WHICH ADDRESS POTENTIAL AND/OR ACTUAL RISK OF EXPOSURE TO SITE SPECIFIC HAZARDS ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

The Department, as Generator, will provide an authorized representative to sign all manifests and waste profile documentation required by disposal facilities for disposal of hazardous materials.

The Sections which shall be reviewed by the Contractor include, but are not limited to, the following:

- Item No. 0020903A – Lead Compliance for Miscellaneous Exterior Tasks
- Item No. 0020801A – Asbestos Abatement
- Item No. 0020765A – Guano Abatement

The Contractor is alerted to the fact that a Department environmental consultant may be on site for abatement and related activities, to collect environmental samples (if necessary), and to observe site conditions for the State.

Information pertaining to the results of the limited hazardous materials investigation discussed can be found in the document listed below. This document shall be available for review at the Office of Contracts, 2800 Berlin Turnpike, Newington, Connecticut.

- HazMat Inspection Letter, ADDENDUM #1 HazMat Inspection – I-84 Widening, Bridge Nos. 01224, 01226, 01228, 04321 & 06284, Waterbury, CT, TRC Environmental Corporation, June 20, 2014.

NOTICE TO CONTRACTOR – INSTALLATION QUALIFICATIONS

All project management, construction, installation, and inspection services shall be performed by individuals who have performed the same job function on at least three previously completed construction and installation communication projects of comparable size and complexity.

Approval of ITS Equipment Installer:

Each Contractor or Subcontractor performing the work involved with the installation of Intelligent Transportation System (ITS) equipment related to the Incident Management System shall provide references and resumes of staff that shall meet the following requirements:

Satisfactory completion of at least three (3) projects in the last three (3) years that includes the installation of each of the ITS equipment identified below.

- 100 mm Multiduct Conduit
- Pullboxes
- Camera Lowering Devices
- Camera Assemblies
- Traffic Management System Cabinets (TMSC)
- Traffic Flow Monitors (TFM) and TFM Poles
- Variable Message Signs (VMS) and VMS Controller Cabinets

The Contractor shall provide a list of each ITS project which the Contractor has performed, including a description of each project, the location of each project, inclusive dates of when the work was performed on each project, and a contact reference for each project listed.

This document shall be submitted to ConnDOT for review and approval before any Incident Management System project work may proceed.

At any time during construction that qualifications submitted for individuals are found to not be performing the work, then qualifications will need to be resubmitted for re-approval. The department reserves the right to reject any individual that is not deemed to be qualified based upon past or present performance.

Approval of Fiber-Optic Cable Installation, Splicing and Testing:

Each Contractor or Subcontractor performing the work involved with installing, splicing and testing of cable and electronic communication systems and installing detection and video systems, shall provide references and resumes of staff that are assigned to work on this project shall meet the following requirements:

Satisfactory completion of at least three (3) fiber-optic based communication projects in the last three years. Experience shall be in related fiber optic systems for installers involving single-mode cables in excess of 10 kilometers.

The Contractor shall provide a list of each fiber-optic based communications project and/or intelligent transportation system project which the Contractor has performed, including a description of each project, the location of each project, inclusive dates of when the work was performed on each project, and a contact reference for each project listed. Each of the referenced projects shall include completing a minimum of three (3), multi-fiber, single-mode, optical fiber cable fusion splices, and installation of at least 25 optical connectors on single-mode optical fibers. As a minimum, the contact reference shall include an individual's name, training certificates (including updated licenses), title, and current telephone number.

The Contractor shall be certified by the fiber optic equipment manufacturer for installation and splicing.

This document shall be submitted to ConnDOT for review and approval before any Incident Management System project work may proceed.

At any time during construction that qualifications submitted for individuals are found to not be performing the work, then qualifications will need to be resubmitted for re-approval. The department reserves the right to reject any individual that is not deemed to be qualified based upon past or present performance.

Approval of ITS Systems Integrator:

The Prime Contractor or qualified proposed ITS Systems Integrator Subcontractor performing the work described in these Special Provisions which are involved with supplying, installing, configuring and testing of electronic communication systems and video systems for the Incident Management System shall provide a printed document (nine copies) that contains the proposed ITS Systems Integrator's experience in the areas noted below, as well as references and resumes for staff proposed to perform the project work. The document should clearly indicate how the proposed ITS Systems Integrator meets the following requirements:

- Experience involving at least seven (7) ITS system integration projects with overall system responsibility and accountability, each employing at least 8 camera sites used for highway transportation purposes. A minimum of 7 years experience in ITS system integration.

- Design and installation of at least 200 point-to-point optical digital video links used for highway transportation purposes.

- A minimum of two (2) projects using video matrix switchers with a minimum size of 240 inputs and 64 outputs of analog video used for highway transportation purposes.

- Installation of video compression equipment involving at least ten sites, comprising video compression algorithms including but not limited to: H.261, MPEG1, MPEG2, MPEG4, and MJPEG used for highway transportation purposes.

- Experience using various applicable test equipment including: Fiber Optic Spectrum Analyzer, OTDR, BERT, Protocol Analyzer, and Oscilloscope.

- Installation of a minimum of 40 digital video encoder and decoder devices.

- Ability to respond within 2 hours travel by car to Central Office located at ConnDOT, 2800 Berlin Turnpike, Newington CT.

- Provision of 24x7x365 maintenance available with technicians fully trained and certified in ITS related equipment.

- Demonstrate a general working knowledge of specifications RS-170 and RS-250C.

- Demonstrate a general working knowledge of communications protocols utilized in the CCTV industry.

- Demonstrate a general working knowledge of physical communications interfaces such as RS-232, RS-422, RS-485, RS-530, and RS-449.

- Demonstrate extensive working knowledge of Ethernet physical topologies TCP/IP routing schemes, metro ring and link aggregation protocols, VLAN configurations, and Quality of Service configuration and setup.

At any time during construction that qualifications submitted for individuals are found to not be performing the work, then qualifications will need to be resubmitted for re-approval. The department reserves the right to reject any individual that is not deemed to be qualified based upon past or present performance.

The document for the ITS Equipment Installer, Fiber-Optic Cable Installation, Splicing and Testing Qualifications and ITS Systems Integrator shall be submitted for approval within ten (10) days of the Contract Award to:

Mr. Harold J. Decker
Connecticut Department of Transportation
Bureau of Engineering and Highway Operations
2800 Berlin Turnpike P.O. Box 317456
Newington, Connecticut 06131-7546

These requirements shall apply to the following contract item installations:

- Optical Fiber Cable, Single Mode, Loose Buffered Tube Cable, 6-Fiber, 12-Fiber, 36 Fiber and 72-Fiber
- Fiber Optic Cable Splice Closures
- Repair Fiber Optic Cable
- Traffic Management System Cabinets
- Video equipment, including cameras and mountings
- Modify Existing Operations Center Control System
- Optical Video/Data Transmitter and Receiver
- 10/100 Ethernet Switch
- Port Sharing Device
- Ethernet Media Converter
- Modify Existing Main Fiber Hub
- Traffic Flow Monitor

The Contractor shall not start work on the Incident Management System until the Contractor receives approval from the Office of Highway Operations.

The Incident Management System shall be maintained in normal working operation at all times.

In the event that the Contractor needs to remove an Incident Management System device from service, the Contractor shall notify Mr. Robert Kennedy at the Newington Operations Center (860) 594-3458 at least ten (10) working days prior to any scheduled work operation. An Incident Management System device shall consist of CCTV Cameras, Traffic Management System Cabinets (TMSC), Mini-Hub cabinets, Traffic Flow Monitors (TFM), Variable Message Signs (VMS), Highway Advisory Radio (HAR) site equipment and fiber optic cable including any associated fiber optic communications plant equipment.

All Project related scheduled work that will require the downtime of the Incident Management System, such as the splicing of the fiber optic trunkline cable, shall be performed on a non-holiday weekend as specified in Section 1.08 Prosecution and Progress - Incident Management System and as approved by Mr. Robert Kennedy, Newington Operations Center. The scheduled work performed on the approved non-holiday weekend shall be completed in a fifteen (15) hour work window. The Contractor shall identify the work that will be performed during this work window as well as a list of the approved staff to be performing work on the Incident Management System. Any deviation in the fifteen (15) hour work window must be approved by the Newington Operations Center staff.

Prior to the scheduled start of work on the Incident Management System, the Contractor shall contact the Bridgeport Operations Center to determine if there are any on-going incidents on the highway system. The Incident Management System will not be removed from service until any on-going incidents on the highway system are cleared and approval is granted by the Newington Operations Center staff.

All Contractor personnel involved in the placing, splice preparation and splicing of fiber optic cable shall meet or exceed the above referenced installation qualifications and shall be approved by the Office of Highway Operations. Under no circumstance will unqualified, unapproved Contractor personnel be allowed to work on the Incident Management System.

All Contractor personnel involved in terminating communication cables for the above listed items shall meet or exceed the above referenced installation qualifications and shall be approved by the Office of Highway Operations.

NOTICE TO CONTRACTOR – TELECOMMUNICATIONS INSTALLATION

I. Dial-up Leased Line Installation

AT&T is to provide telephone conductors from the service source, either utility pole or underground structure, to an Auxiliary Termination Cabinet on the cabinet. Conduit will be installed by the Contractor with pull string for AT&T personnel to install the conductors. Conduit risers will be provided by the Contractor on the custodial utility pole for pulling conductors. The Contractor is responsible for coordinating the telephone field installation with AT&T. The Contractor shall contact Mr. John Korte at (860) 594-3459 at least 45 days prior to the telephone installation so arrangements can be made with the telephone Contractor. The Engineer will advise the Contractor of the proposed installation date. The Contractor shall coordinate with the telephone representative at the VMS site to ensure installation is complete and operational. The Contractor shall notify the Engineer the telephone installation at each site is complete.

The Contractor shall contact the utility representatives listed on the plans in advance of the start of construction at each site.

The Contractor shall schedule a utility coordination meeting at the start of construction. The contractor shall notify the utility representatives shown on the plans at least 14 days prior to the utility meeting. The purpose of the utility meeting is to review the proposed service connection locations and to review the procedures that the contractor must follow to initiate the utility service connections.

The utility representative's names and contact information are as follows:

CCTV/TFM LOCATION PLAN 1-3
AT&T
Mr. Glenn McLeod (203) 575-6703
Or Mr. Eric Clark (203) 238-7407

VMS LOCATION PLAN 1
AT&T
Mr. Glenn McLeod (203) 575-6703
Or Mr. Eric Clark (203) 238-7407

NOTICE TO CONTRACTOR – PROPRIETARY ITEMS

The Contractor is hereby notified that the following items shall be furnished by the specific manufacturer:

Item	Description	Manufacturer
1113059A	Traffic Flow Monitor	EIS Electronic Integrated Systems
1050110A	Motorists Aid Variable Message Sign Type B Walk-In	Daktronics, Inc.
1108704A	Optical Video/ Data Transmitter	Multidyne, Inc.
1108707A	Rack Mount Optical Video / Data Receiver	Multidyne, Inc.
1112210A	Camera Assembly	American Dynamics, Inc.
1112217A	Camera Lowering Device Assembly Type B	MG2
1108628A	Port Sharing Device	Garrettcom

NOTICE TO CONTRACTOR – TRAFFIC MONITORING STATIONS

It shall be the responsibility of the Contractor to replace the loop detectors and piezo sensors at existing Traffic Monitoring Station Site No. 31E in the City of Waterbury, which will be disturbed as a result of pavement work on I-84. Existing cabinet, solar power equipment, handholes and conduit shall be reused, except for conduit stubbing into roadway. Existing handholes shall be reset. Existing conduit stubbing into roadway shall be removed from handholes to edge of pavement to make room for the installation of new conduit. New 25 mm liquidtight flexible nonmetallic conduit shall be installed from handholes 305 mm into shoulder. Existing No. 14 loop wires shall be removed from handholes, existing 14/2 cables and piezo sensor cables shall be removed from conduit, handholes and cabinet, and existing No. 8 bare copper grounding conductor shall be removed from handholes. Existing 14/2 cables and piezo sensor cables shall be disconnected from terminal blocks in cabinet prior to pavement work. The Contractor shall install six type 1 piezo sensors along with piezo cable from sensor to cabinet. The Contractor shall install three loop detectors. Loop detectors shall be installed in final pavement course and spliced to new 14/2 cables in existing handholes. Existing handholes shall have rigid metal conduit and handhole covers bonded with a new No. 8 bare copper grounding conductor. All wiring within the cabinet shall be neat, firm, labeled and connected to the appropriate terminal blocks. The insulation and drain wire of each loop detector cable and the jacket of each piezo sensor cable shall be removed from only the last 50 mm at terminals to minimize electrical interference and cable shall be connected to the terminals using spade lugs. The Contractor shall clearly mark each loop detector cable and piezo sensor cable to identify the loop detector and piezo sensor to which it is connected, as stated in the general notes and labeled on the site plan. The Contractor shall properly identify all loop detectors and piezo sensors at terminals with strip tags, as labeled on the site plan.

It shall be the responsibility of the Contractor to relocate existing Traffic Monitoring Station Site No. 31W from its current location on I-84 Westbound west of the Route 69 (Hamilton Avenue) overpass at approximately Sta. 1+251 in the City of Waterbury, which will be disturbed as a result of the widening of I-84, to a new location on I-84 Westbound east of the Route 69 (Hamilton Avenue) overpass at approximately Sta. 1+406. Existing cabinet with all components excluding the battery shall be removed and salvaged. Existing cabinet foundation, solar power equipment (aluminum pedestal, pedestal foundation, and battery) and handholes shall be removed and disposed of. New traffic monitoring station cabinet shall be mounted on a new foundation at the location shown on the plan. The Contractor shall install six type 1 piezo sensors along with piezo cable from the sensor to the cabinet. The Contractor shall install three loop detectors in final pavement course. Loop wire shall be spliced to 14/2 cable in handholes and 14/2 cable shall be run back to the cabinet. Rigid metal conduit and handhole covers shall be bonded in handholes with No. 8 bare copper grounding conductor.

The Contractor shall notify "Call Before You Dig," telephone: 1-800-922-4455 for the location of public underground facilities in accordance with Section 16-345 of the Regulations of the Public Utilities Regulatory Authority. In areas adjacent to underground lighting circuitry and Incident Management System (IMS), the Contractor is required to hand excavate. The Contractor will be responsible for locating, verifying the location of, and protecting all lighting and IMS appurtenances above and below ground. Any damage caused to the lighting system or IMS will be the responsibility of the Contractor, and will be replaced by the Contractor at his own expense, as directed by the Engineer. Mark out of the lighting circuitry and IMS will not relieve the Contractor of responsibility.

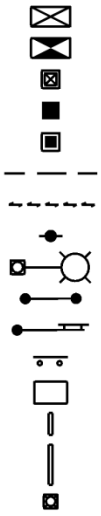
The Contractor shall notify the project inspector when access to the cabinets is required. The project inspector shall contact Ms. Donna Weaver of CONNDOT's Office of Systems Modeling and Forecasting's Traffic Monitoring section at telephone no. (860) 594-2334 for the Contractor to gain access to the cabinets. The project inspector shall inform Ms. Weaver of the commencement of loop detector and piezo sensor installation 7 days prior to the start of work in order to provide an opportunity for a representative of the Traffic Monitoring section to be present during the installation. Also, the project inspector shall provide Ms. Weaver 7 days notice prior to disturbing the sites.

The Contractor shall notify the project engineer when all traffic monitoring station work is completed. The project engineer shall contact Mr. Edward Majcherek of CONNDOT's Facilities Design Electrical section at telephone no. (860) 594-2795 to schedule a semi-final inspection.

All information needed to complete the work is shown on 216 mm x 279 mm plan sheets, details and specifications.

METRIC

LEGEND:



TRAFFIC CONTROLLER CABINET AND FOUNDATION
REMOVE TRAFFIC CONTROLLER CABINET AND FOUNDATION
CONCRETE HANDHOLE - TYPE III
EXISTING CONCRETE HANDHOLE
REMOVE EXISTING CONCRETE HANDHOLE
RIGID METAL CONDUIT
SAW CUT
WOOD POLE
LIGHT STANDARD
OVERHEAD SIGN
CANTILEVER SIGN
SIDE MOUNTED SIGN
LOOP DETECTOR
TYPE 2 PIEZO SENSOR
TYPE 1 PIEZO SENSOR
SOLAR POWER SYSTEM

NOTES:

1. ALL CABINETS TO BE FIELD LOCATED OR AS SHOWN ON PLAN. INSTALL CONCRETE SIDEWALK ON CABINET DOOR SIDE PER STANDARD INSTALLATION DETAIL.
2. LOOP AND PIEZO INSTALLATION SHALL COMPLY WITH SECTION 10.00 GENERAL CLAUSES FOR HIGHWAY ILLUMINATION AND TRAFFIC SIGNAL PROJECTS.
3. SINGLE CONDUCTORS SHALL BE STRANDED COPPER, INSULATION TYPE THWN AND RATED FOR 600 VOLTS.
4. THE REMOVAL OF BRUSH IS TO BE INCLUDED UNDER THE ITEM TRAFFIC CONTROLLER CABINET BASE MOUNTED.
5. RIGID METAL CONDUIT IN CONCRETE HANDHOLES SHALL BE BONDED WITH NO. 8 BARE COPPER GROUNDING CONDUCTOR.
6. ANY UNUSED CONDUIT SHALL BE CAPPED WITH A MALLEABLE IRON CAP.
7. THE CONTRACTOR SHALL PROVIDE THE STATE A COMPLETE SET OF REPRODUCIBLE AS-BUILT DRAWINGS CLEARLY INDICATING ANY DEVIATIONS FROM THE DESIGN AS SHOWN ON THESE DRAWINGS.
8. THE CONTRACTOR SHALL SCHEDULE WORK TO AVOID OTHER HIGHWAY PROJECTS IN AFFECTED WORK AREA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH OTHER HIGHWAY PROJECTS IN THE AREA.
9. THE STATE SHALL RESERVE THE RIGHT TO PRIORITIZE SITES AND SCHEDULE SITE CONSTRUCTION SEQUENCE TO AVOID CONFLICTS WITH OTHER HIGHWAY PROJECTS.
10. ALL HANDHOLES SHALL BE LOCATED APPROXIMATELY 1.2 m OFF EDGE OF ROAD. HANDHOLES SHALL NOT BE INSTALLED DIRECTLY UNDER GUIDE RAIL OR ON TOP OF UNDERGROUND LIGHTING CIRCUITRY.
11. THE CABINET DOOR SHALL BE LOCATED SO THE DETECTORS AND SENSORS ARE VISIBLE WHILE FACING THE CABINET OPENING.
12. ALL TRAVEL LANES ARE 3.658 m UNLESS NOTED.
13. ALL TEMPORARY REMOVAL AND/OR RELOCATION OF GUIDE RAIL OR FENCING SHALL BE CONSIDERED INCLUDED IN THE GENERAL COST OF THE WORK.

FILENAME: \PIEZOSTD\PIENOTES.DGN

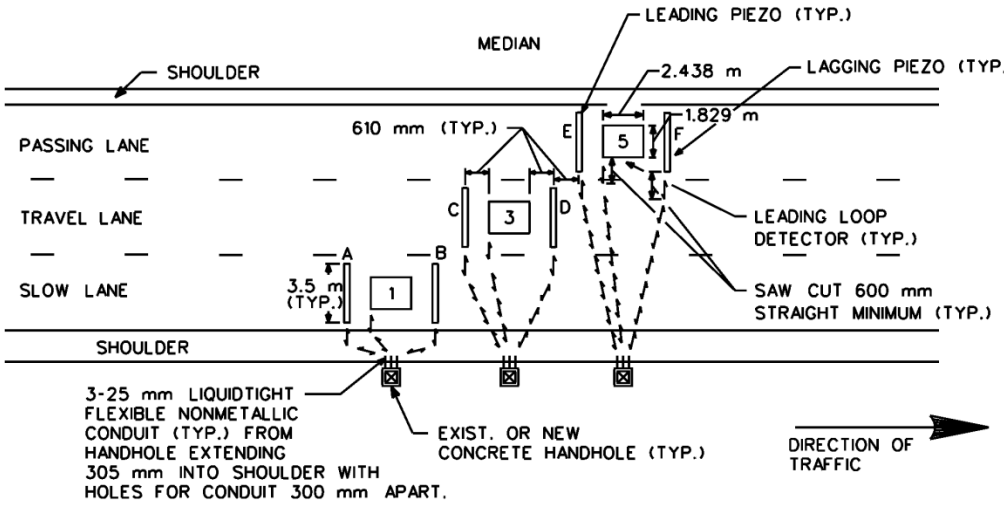
CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION
DIVISION OF BRIDGES AND FACILITIES

LEGEND AND GENERAL NOTES FOR
TRAFFIC MONITORING STATIONS

2/10/14

SCALE - NONE

METRIC



1. LOOP DETECTORS TO BE 1.829 m X 2.438 m. 4 TURNS EACH. UNLESS NOTED.
2. LOOP DETECTORS TO BE INSTALLED IN THE CENTER OF EACH LANE. UNLESS NOTED.
3. LOOP DETECTORS AND PIEZO SENSORS TO BE FIELD LOCATED SO THAT NO SAW CUTS WILL BE MADE THROUGH CONCRETE EXPANSION JOINTS OR POOR PAVEMENT.
4. ALL SAW CUT HOME RUNS SHALL BE A MINIMUM 300 mm APART.
5. ALL LEAD-IN WIRE PAIRS SHALL BE TWISTED TOGETHER SIXTEEN (16) TURNS PER METER WHEN IN CONDUIT.
6. LOOP CABLES SHALL HAVE 600 mm OF SLACK IN HANDHOLES.
7. PIEZO SENSORS TO BE INSTALLED IN THE CENTER OF EACH LANE. UNLESS NOTED.
8. ALL LOOP DETECTOR & PIEZO SENSOR LEADS SHALL BE COLOR CODED WITH TAPE IN CABINET, HANDHOLES & JUNCTION BOXES AS FOLLOWS:
   LEADING LOOPS & PIEZOS = 1 BAND OF TAPE
   LAGGING LOOPS & PIEZOS = 2 BANDS OF TAPE

LOOP NO.:	PIEZO NO.:	TAPE COLOR:
1,2	A,B	RED
3,4	C,D	BLUE
5,6	E,F	ORANGE
7,8	G,H	YELLOW
9,10	I,J	BROWN
11,12	K,L	PURPLE
13,14	M,N	GRAY
15,16	O,P	PINK

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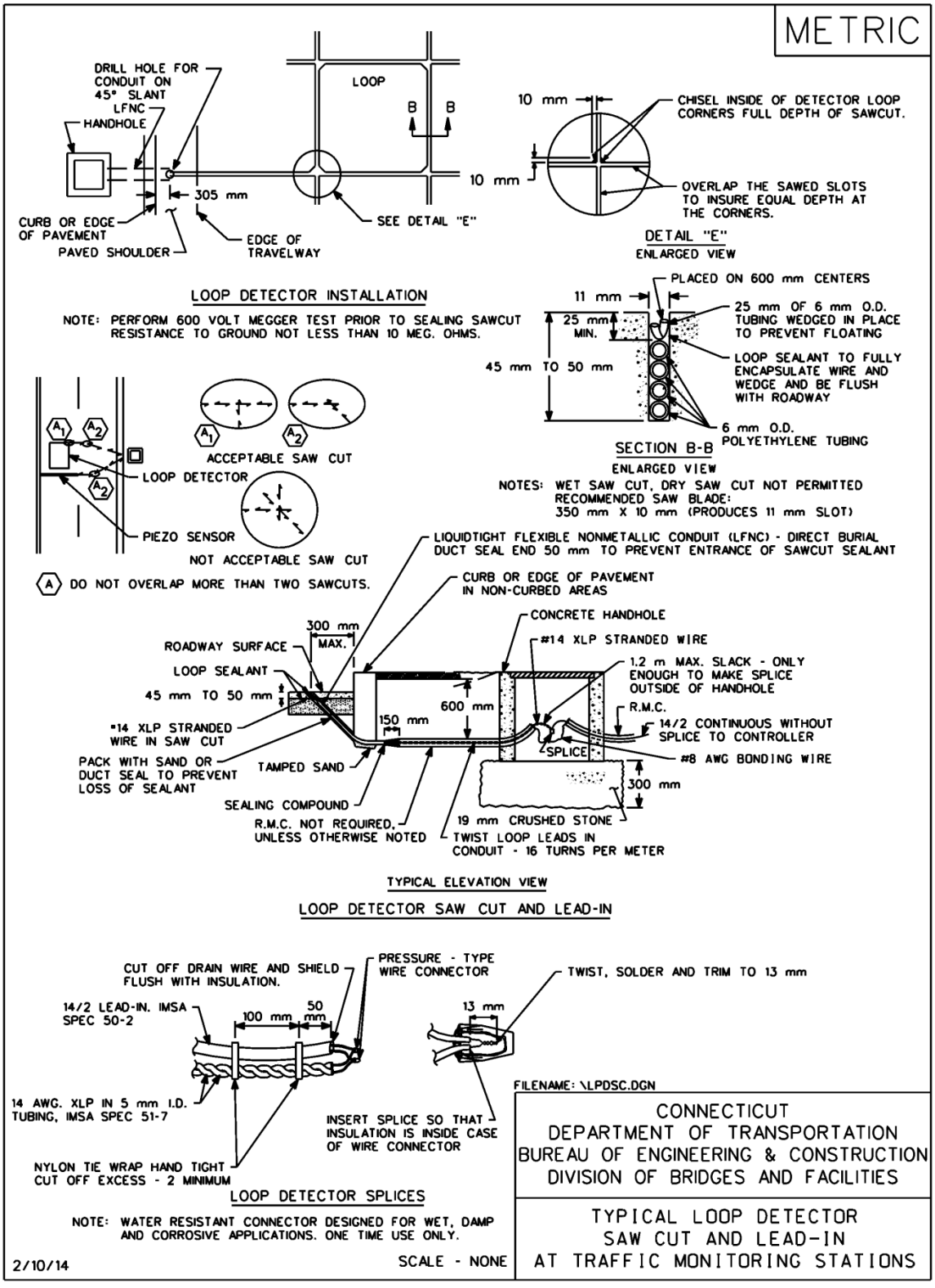
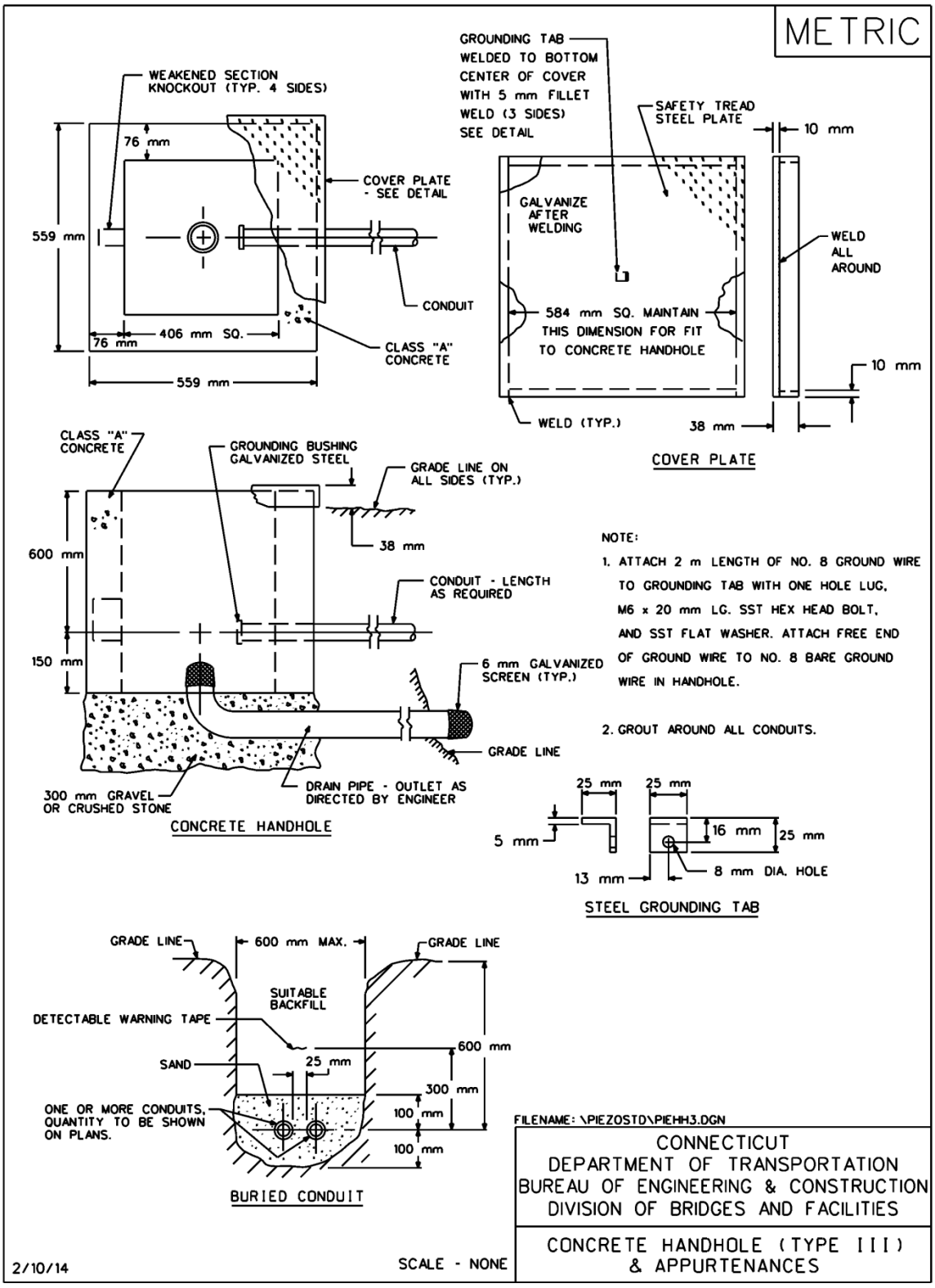
CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION
DIVISION OF BRIDGES AND FACILITIES

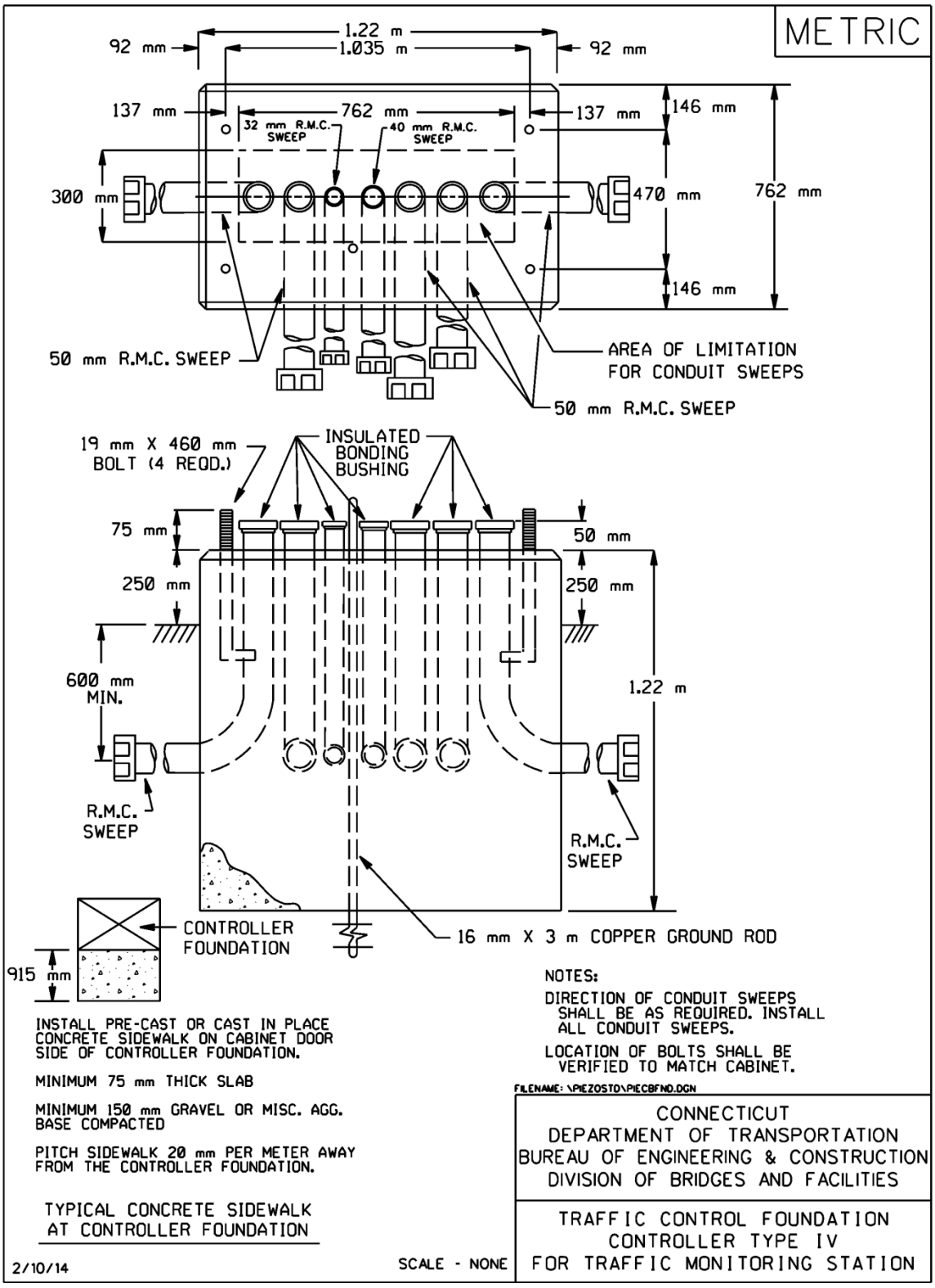
TWO PIEZOS (TYPE 1) &
ONE LOOP PER LANE
AT TRAFFIC MONITORING STATIONS

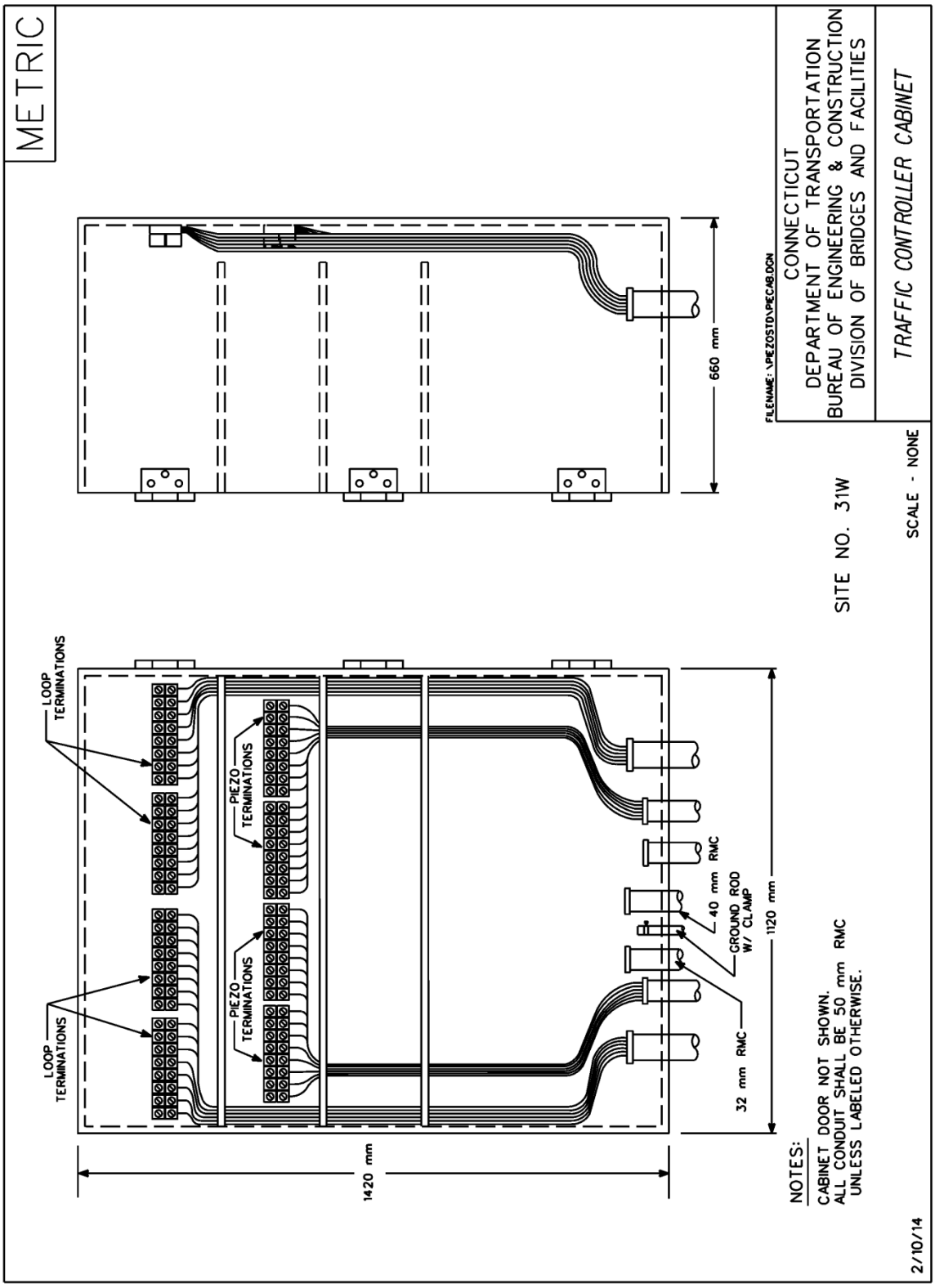
2/10/14

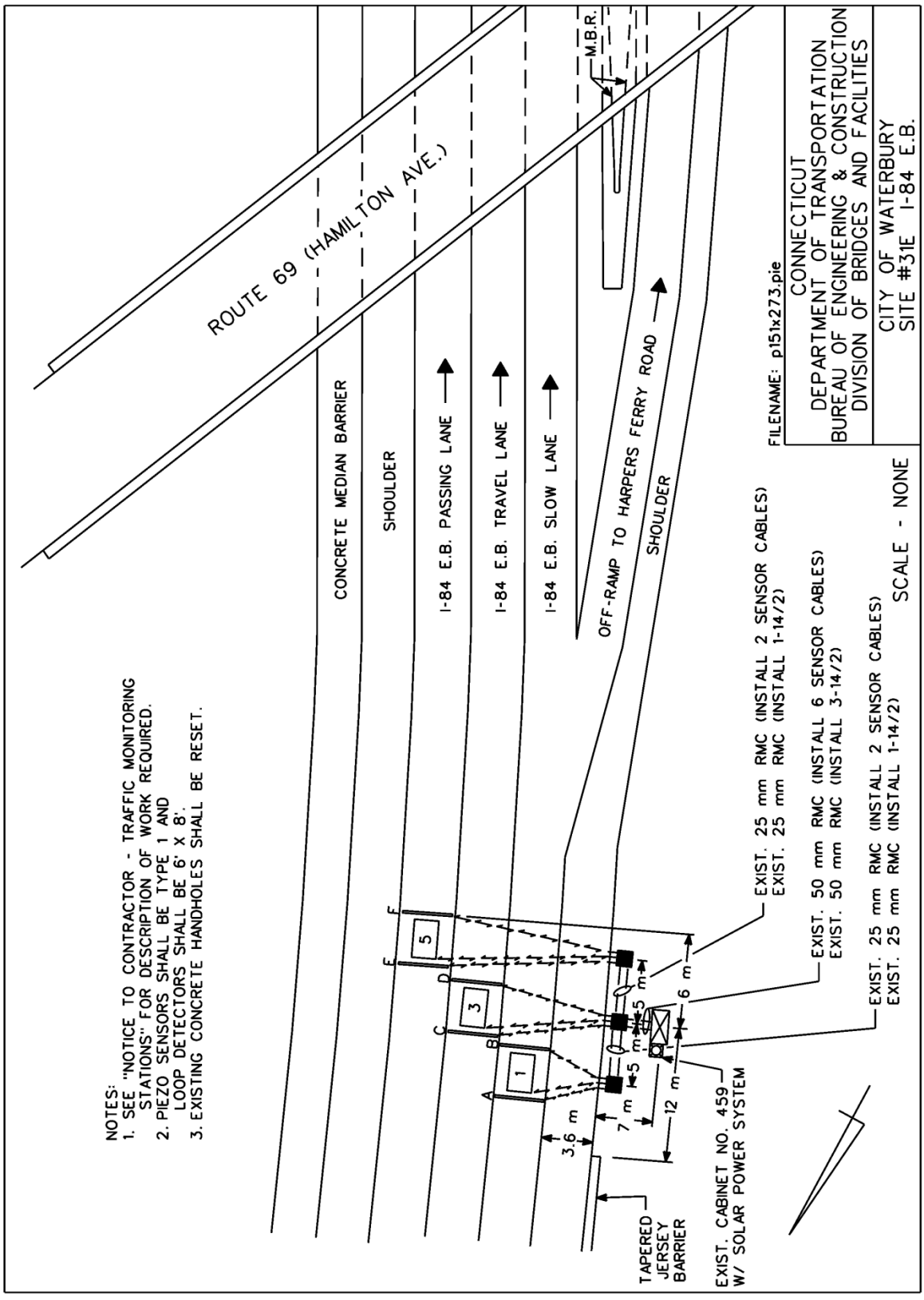
SCALE - NONE

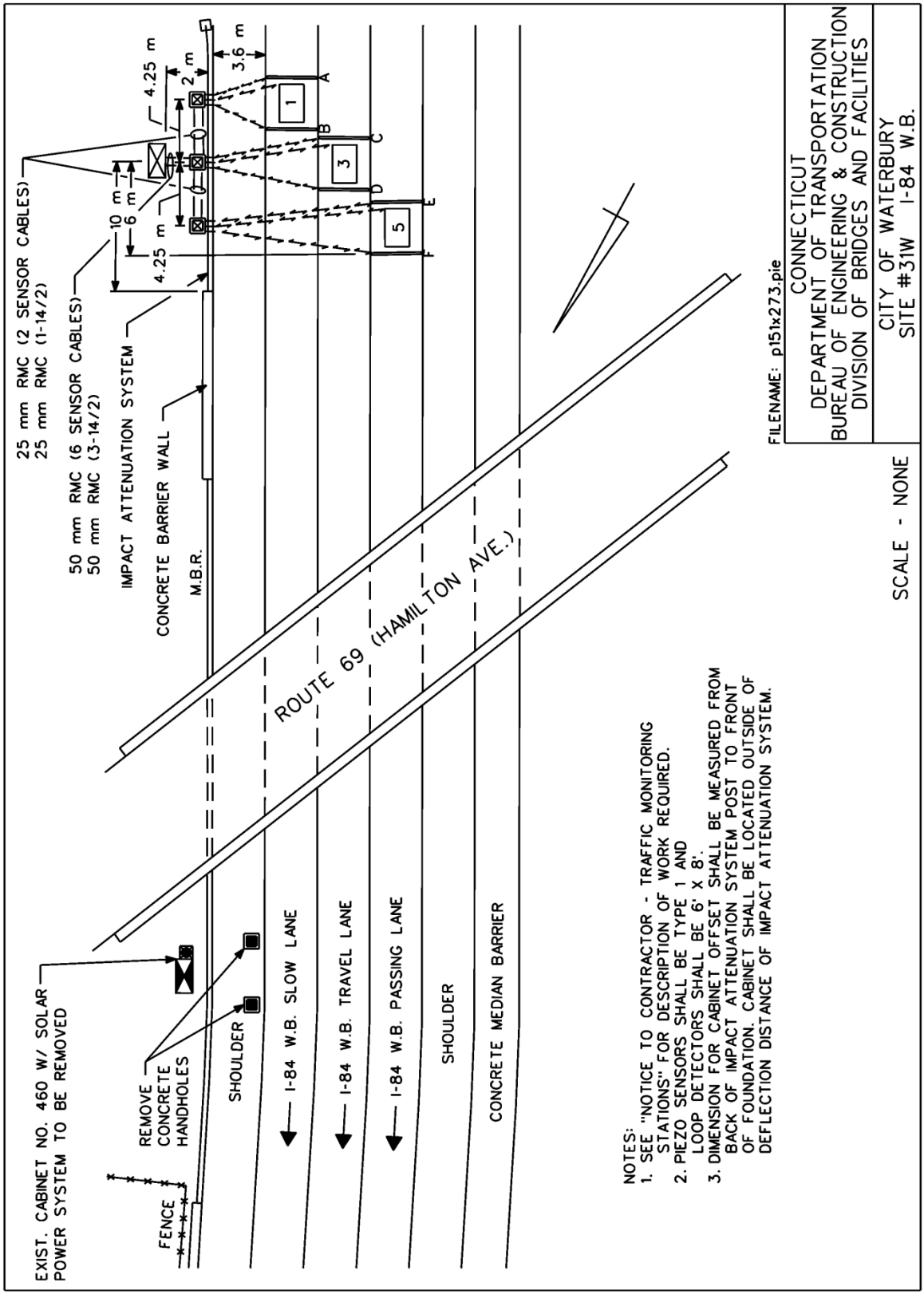

METRIC
DRILL HOLE FOR CONDUIT ON 45° SLANT LFNC
HANDHOLE
LOOP
B B
305 mm
10 mm
CURB OR EDGE OF PAVEMENT
PAVED SHOULDER
EDGE OF TRAVELWAY
SEE DETAIL "E"
10 mm
CHISEL INSIDE OF DETECTOR LOOP CORNERS FULL DEPTH OF SAWCUT.
OVERLAP THE SAWED SLOTS TO INSURE EQUAL DEPTH AT THE CORNERS.
DETAIL "E"
ENLARGED VIEW
LOOP DETECTOR INSTALLATION
NOTE: PERFORM 600 VOLT MEGGER TEST PRIOR TO SEALING SAWCUT
RESISTANCE TO GROUND NOT LESS THAN 10 MEG. OHMS.
PLACED ON 600 mm CENTERS
11 mm
25 mm MIN.
45 mm TO 50 mm
25 mm OF 6 mm O.D. TUBING WEDGED IN PLACE TO PREVENT FLOATING
LOOP SEALANT TO FULLY ENCAPSULATE WIRE AND WEDGE AND BE FLUSH WITH ROADWAY
6 mm O.D. POLYETHYLENE TUBING
SECTION B-B
ENLARGED VIEW
NOTES: WET SAW CUT, DRY SAW CUT NOT PERMITTED
RECOMMENDED SAW BLADE:
350 mm X 10 mm (PRODUCES 11 mm SLOT)
ACCEPTABLE SAW CUT
LOOP DETECTOR
PIEZO SENSOR
NOT ACCEPTABLE SAW CUT
A DO NOT OVERLAP MORE THAN TWO SAWCUTS.
LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT (LFNC) - DIRECT BURIAL
DUCT SEAL END 50 mm TO PREVENT ENTRANCE OF SAWCUT SEALANT
CURB OR EDGE OF PAVEMENT IN NON-CURBED AREAS
CONCRETE HANDHOLE
#14 XLP STRANDED WIRE
300 mm MAX.
ROADWAY SURFACE
LOOP SEALANT
45 mm TO 50 mm
1.2 m MAX. SLACK - ONLY ENOUGH TO MAKE SPLICE OUTSIDE OF HANDHOLE
600 mm
150 mm
R.M.C.
#14 XLP STRANDED WIRE IN SAW CUT
14/2 CONTINUOUS WITHOUT SPLICE TO CONTROLLER
PACK WITH SAND OR DUCT SEAL TO PREVENT LOSS OF SEALANT
TAMPED SAND
SPLICE
#8 AWG BONDING WIRE
300 mm
SEALING COMPOUND
R.M.C. NOT REQUIRED, UNLESS OTHERWISE NOTED
19 mm CRUSHED STONE
TWIST LOOP LEADS IN CONDUIT - 16 TURNS PER METER
TYPICAL ELEVATION VIEW
LOOP DETECTOR SAW CUT AND LEAD-IN
CUT OFF DRAIN WIRE AND SHIELD FLUSH WITH INSULATION.
PRESSURE - TYPE WIRE CONNECTOR
TWIST, SOLDER AND TRIM TO 13 mm
14/2 LEAD-IN. IMSA SPEC 50-2
100 mm
50 mm
13 mm
14 AWG. XLP IN 5 mm I.D. TUBING, IMSA SPEC 51-7
INSERT SPLICE SO THAT INSULATION IS INSIDE CASE OF WIRE CONNECTOR
NYLON TIE WRAP HAND TIGHT
CUT OFF EXCESS - 2 MINIMUM
LOOP DETECTOR SPLICES
NOTE: WATER RESISTANT CONNECTOR DESIGNED FOR WET, DAMP AND CORROSIVE APPLICATIONS. ONE TIME USE ONLY.
2/10/14
SCALE - NONE
FILENAME: \LPDSC.DGN
CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION
DIVISION OF BRIDGES AND FACILITIES
TYPICAL LOOP DETECTOR
SAW CUT AND LEAD-IN
AT TRAFFIC MONITORING STATIONS


METRIC
WEAKENED SECTION KNOCKOUT (TYP. 4 SIDES)
76 mm
559 mm
COVER PLATE - SEE DETAIL
CONDUIT
406 mm SQ.
76 mm
CLASS "A" CONCRETE
559 mm
GROUNDING TAB WELDED TO BOTTOM CENTER OF COVER WITH 5 mm FILLET WELD (3 SIDES) SEE DETAIL
SAFETY TREAD STEEL PLATE
10 mm
GALVANIZE AFTER WELDING
WELD ALL AROUND
584 mm SQ. MAINTAIN THIS DIMENSION FOR FIT TO CONCRETE HANDHOLE
10 mm
WELD (TYP.)
38 mm
COVER PLATE
CLASS "A" CONCRETE
GROUNDING BUSHING GALVANIZED STEEL
GRADE LINE ON ALL SIDES (TYP.)
38 mm
600 mm
CONDUIT - LENGTH AS REQUIRED
150 mm
6 mm GALVANIZED SCREEN (TYP.)
GRADE LINE
300 mm GRAVEL OR CRUSHED STONE
DRAIN PIPE - OUTLET AS DIRECTED BY ENGINEER
CONCRETE HANDHOLE
NOTE:
1. ATTACH 2 m LENGTH OF NO. 8 GROUND WIRE TO GROUNDING TAB WITH ONE HOLE LUG, M6 x 20 mm LG. SST HEX HEAD BOLT, AND SST FLAT WASHER. ATTACH FREE END OF GROUND WIRE TO NO. 8 BARE GROUND WIRE IN HANDHOLE.
2. GROUT AROUND ALL CONDUITS.
25 mm
25 mm
5 mm
16 mm
25 mm
13 mm
8 mm DIA. HOLE
STEEL GROUNDING TAB
GRADE LINE
600 mm MAX.
GRADE LINE
SUITABLE BACKFILL
DETECTABLE WARNING TAPE
600 mm
SAND
25 mm
300 mm
ONE OR MORE CONDUITS, QUANTITY TO BE SHOWN ON PLANS.
100 mm
100 mm
BURIED CONDUIT
FILENAME: \PIEZOSTD\PIEHH3.DGN
CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION
DIVISION OF BRIDGES AND FACILITIES
CONCRETE HANDHOLE (TYPE III) & APPURTENANCES
2/10/14
SCALE - NONE


METRIC
92 mm
1.22 m
1.035 m
92 mm
137 mm
762 mm
137 mm
146 mm
32 mm R.M.C. SWEEP
40 mm R.M.C. SWEEP
300 mm
470 mm
762 mm
146 mm
50 mm R.M.C. SWEEP
AREA OF LIMITATION FOR CONDUIT SWEEPS
50 mm R.M.C. SWEEP
19 mm X 460 mm BOLT (4 REQD.)
INSULATED BONDING BUSHING
75 mm
50 mm
250 mm
250 mm
600 mm MIN.
1.22 m
R.M.C. SWEEP
R.M.C. SWEEP
CONTROLLER FOUNDATION
915 mm
16 mm X 3 m COPPER GROUND ROD
INSTALL PRE-CAST OR CAST IN PLACE CONCRETE SIDEWALK ON CABINET DOOR SIDE OF CONTROLLER FOUNDATION.
MINIMUM 75 mm THICK SLAB
MINIMUM 150 mm GRAVEL OR MISC. AGG. BASE COMPACTED
PITCH SIDEWALK 20 mm PER METER AWAY FROM THE CONTROLLER FOUNDATION.
TYPICAL CONCRETE SIDEWALK AT CONTROLLER FOUNDATION
2/10/14
SCALE - NONE
NOTES:
DIRECTION OF CONDUIT SWEEPS SHALL BE AS REQUIRED. INSTALL ALL CONDUIT SWEEPS.
LOCATION OF BOLTS SHALL BE VERIFIED TO MATCH CABINET.
FILENAME: \PIEZOSTO\PIECBFNO.DGN
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION
DIVISION OF BRIDGES AND FACILITIES
TRAFFIC CONTROL FOUNDATION
CONTROLLER TYPE IV
FOR TRAFFIC MONITORING STATION


METRIC
660 mm
LOOP TERMINATIONS
PIEZO TERMINATIONS
LOOP TERMINATIONS
PIEZO TERMINATIONS
40 mm RMC
GROUND ROD W/ CLAMP
1120 mm
32 mm RMC
1420 mm
NOTES:
CABINET DOOR NOT SHOWN.
ALL CONDUIT SHALL BE 50 mm RMC UNLESS LABELED OTHERWISE.
2/10/14
FILENAME: \PEZOSTD\PECAB.DGN
CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION
DIVISION OF BRIDGES AND FACILITIES
TRAFFIC CONTROLLER CABINET
SITE NO. 31W
SCALE - NONE


NOTES:
1. SEE "NOTICE TO CONTRACTOR - TRAFFIC MONITORING STATIONS" FOR DESCRIPTION OF WORK REQUIRED.
2. PIEZO SENSORS SHALL BE TYPE 1 AND LOOP DETECTORS SHALL BE 6' X 8'.
3. EXISTING CONCRETE HANDHOLES SHALL BE RESET.
ROUTE 69 (HAMILTON AVE.)
CONCRETE MEDIAN BARRIER
SHOULDER
I-84 E.B. PASSING LANE
I-84 E.B. TRAVEL LANE
I-84 E.B. SLOW LANE
OFF-RAMP TO HARPERS FERRY ROAD
SHOULDER
M.B.R.
EXIST. 25 mm RMC (INSTALL 2 SENSOR CABLES)
EXIST. 25 mm RMC (INSTALL 1-14/2)
EXIST. 50 mm RMC (INSTALL 6 SENSOR CABLES)
EXIST. 50 mm RMC (INSTALL 3-14/2)
EXIST. 25 mm RMC (INSTALL 2 SENSOR CABLES)
EXIST. 25 mm RMC (INSTALL 1-14/2)
EXIST. CABINET NO. 459 W/ SOLAR POWER SYSTEM
TAPERED JERSEY BARRIER
3.6 m
7 m
12 m
6 m
FILENAME: p151x273.pie
CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION
DIVISION OF BRIDGES AND FACILITIES
CITY OF WATERBURY
SITE #31E I-84 E.B.
SCALE - NONE


EXIST. CABINET NO. 460 W/ SOLAR POWER SYSTEM TO BE REMOVED
REMOVE CONCRETE HANDHOLES
FENCE
SHOULDER
I-84 W.B. SLOW LANE
I-84 W.B. TRAVEL LANE
I-84 W.B. PASSING LANE
SHOULDER
CONCRETE MEDIAN BARRIER
ROUTE 69 (HAMILTON AVE.)
CONCRETE BARRIER WALL
M.B.R.
IMPACT ATTENUATION SYSTEM
50 mm RMC (6 SENSOR CABLES)
50 mm RMC (3-1 4/2)
25 mm RMC (2 SENSOR CABLES)
25 mm RMC (1-14/2)
10 m
6 m
4.25 m
2 m
3.6 m
NOTES:
1. SEE "NOTICE TO CONTRACTOR - TRAFFIC MONITORING STATIONS" FOR DESCRIPTION OF WORK REQUIRED.
2. PIEZO SENSORS SHALL BE TYPE 1 AND LOOP DETECTORS SHALL BE 6' X 8'.
3. DIMENSION FOR CABINET OFFSET SHALL BE MEASURED FROM BACK OF IMPACT ATTENUATION SYSTEM POST TO FRONT OF FOUNDATION. CABINET SHALL BE LOCATED OUTSIDE OF DEFLECTION DISTANCE OF IMPACT ATTENUATION SYSTEM.
SCALE - NONE
FILENAME: p151x273.pie
CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION
DIVISION OF BRIDGES AND FACILITIES
CITY OF WATERBURY
SITE #31W I-84 W.B.

NOTICE TO CONTRACTOR - ENVIRONMENTAL INVESTIGATIONS

Environmental site investigations have been conducted that involved the sampling and laboratory analysis of soil, sediment and groundwater collected from various locations and depths within the project limits. The results indicate that locations exist within project limits where:

- Leachable lead in soil exceeds the EPA Maximum Concentration for Toxicity Characteristic of 5.0 mg/l
- ETPH, SVOCs, total cadmium, total chromium, total lead, leachable cadmium and leachable lead in soil are above CTDEEP RSR criteria
- SVOCs in sediment are above CTDEEP RSR criteria
- Groundwater has been impacted with total metals and SVOCs at levels that prevent discharge without prior treatment in accordance with a CTDEEP permit.
- Low concentrations of ETPH, VOCs, PCBs and SVOCs in soil and sediment are below criteria
- Low concentrations of ETPH and VOCs in groundwater are below criteria.
- Clean soil material is present at the depths and location as indicated on the plans.

Based on these findings, the entire project corridor has been designated an Area of Environmental Concern (AOEC) for soil and sediment. Two (2) Hazardous Areas of Environmental Concern (HAZ-AOECs) have also been designated within the project corridor. In addition, twenty (20) Areas of Restricted Reuse (AORRs) have been designated within the project limits. Also, a Clean Material Area (CMA) has been designated within the project limits.

A Groundwater Area of Environmental Concern (GW-AOEC) has also been designated within the project corridor. Dewatering fluids generated within the portion of the project bounded by Interstate-84 (I-84) Eastbound Stations 1+400 to 2+600 and Harpers Ferry Road Stations 60+200 and 60+700 shall be considered contaminated and will require controlled handling and disposal in accordance with the contract specifications.

The Contractor will be required to implement appropriate health and safety measures for all construction activities to be performed within the HAZ-AOECs, AORRs, AOEC and GW-AOEC. These measures shall include, but are not limited to, air monitoring, engineering controls, personal protective equipment and decontamination, equipment decontamination and personnel training. WORKER HEALTH AND SAFETY PROTOCOLS WHICH ADDRESS POTENTIAL AND/OR ACTUAL RISK OF EXPOSURE TO SITE SPECIFIC HAZARDS IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

All project soil excavated outside the CMA, HAZ-AOECs, and AORRs may be utilized as fill/backfill within the project corridor, provided such soil is deemed to be structurally suitable for use as fill by the Engineer and is not placed below the water table or in an area subject to erosion. Material excavated from within the project corridor outside the CMA, HAZ-AOECs, and AORRs that cannot be immediately reused within the project corridor shall be transported

and stockpiled at the Temporary Reuse Stockpile Areas (TRSAs) designated within the project limits or transported to the Waste Stockpile Areas (WSAs) when the TRSAs are at capacity as directed by the Engineer. Note: Only one (1) TRSA site shall be utilized by the Contractor at any given time. A new TRSA site shall be opened only when the previous site has reached its capacity or as directed by the Engineer.

Excavated sediment may be utilized within the project corridor, provided such sediment is deemed suitable for use by the Engineer. All sediment which cannot be reused shall be transported to the Waste Stockpile Areas (WSAs) for characterization and off-site disposal.

Material excavated from within the HAZ-AOECs and AORRs shall not be reused and must be transported to the Waste Stockpile Areas (WSAs), characterized and disposed at an approved treatment/disposal facility in accordance with the appropriate contract section.

Material excavated from within the limits of the designated Clean Material Area (CMA) cannot be reused within the project limits and does not require special handling and disposal. This material shall be the property of the Contractor and shall be managed and disposed as surplus material in accordance with the Contract Documents.

The Sections which shall be reviewed by the Contractor include, but are not limited to, the following:

- Item No. 0101000A - Environmental Health and Safety
- Item No. 0101109A – Hazardous Materials Excavation
- Item No. 0101117A - Controlled Materials Handling
- Item No. 0101126A – Disposal of Hazardous Waste
- Item No. 0101128A - Securing, Construction and Dismantling of a Waste Stockpile and Treatment Area
- Item No. 0101130A – Environmental Work – Solidification
- Item No. 0202315A - Disposal of Controlled Materials
- Item No. 0020763A – Disposal of Sediments
- Item No. 0202318A - Management of Reusable Controlled Material
- Item No. 0204213A – Handling Contaminated Groundwater

The Contractor is alerted to the fact that a Department environmental consultant will be on site for excavation and dewatering activities within the HAZ-AOECs, AORRs, AOEC, SED-AOECs,

and GW-AOEC to collect environmental samples for analysis (as necessary), and to observe site conditions for the State.

The temporary reuse stockpile areas (TRSAs) designated on the plans shall be used exclusively for the stockpiling of excavated material (soil) from **outside** the HAZ-AOECs and AORRs.

The WSAs on the plans are to be used exclusively for temporary stockpiling of excavated materials from within project HAZ-AOECs, AORRs, sediment, and excess material from the project excluding the material from the CMA which cannot be stored at the TRSAs as directed by the Engineer for final determination of disposal classification.

Information pertaining to the results of the environmental investigations discussed can be found in the documents listed below. These documents shall be available for review electronically at the Office of Contracts, 2800 Berlin Turnpike, Newington, Connecticut.

- Task 110 - Corridor Land Use Evaluation. Interstate 84 Improvements, Waterbury, Connecticut. Maguire Group, Inc. November 5, 1998.
- Task 120 – Preliminary Site Evaluation, 30 Reidville Drive, Waterbury, Connecticut, Maguire Group Inc, February 14, 2001.
- Task 120 – Preliminary Site Evaluation, 60 Reidville Drive, Waterbury, Connecticut, Maguire Group Inc, February 14, 2001.
- Task 120 – Preliminary Site Evaluation, 116 Reidville Drive, Waterbury, Connecticut, Maguire Group Inc, February 14, 2001.
- Task 120 – Preliminary Site Evaluation, 624-636 Plank Road East, Waterbury, Connecticut, Maguire Group Inc, February 14, 2001.
- Task 120 – Preliminary Site Evaluation, 666 Plank Road East, Waterbury, Connecticut, Maguire Group Inc, February 8, 2001.
- Task 120 – Preliminary Site Evaluation, 696 Plank Road East, Waterbury, Connecticut, Maguire Group Inc, February 8, 2001.
- Task 120 – Preliminary Site Evaluation, 305 Harpers Ferry Road, Waterbury, Connecticut, Maguire Group Inc, May 27, 2003.
- Task 120 – Preliminary Site Evaluation, Harpers Ferry Road – Lot 33, Block 483, Map 420, Waterbury, Connecticut, Maguire Group Inc, February 8, 2001.
- Task 120 – Preliminary Site Evaluation, 229 Farrell Road, Waterbury, Connecticut, Maguire Group Inc, February 8, 2001.
- Task 120 – Preliminary Site Evaluation, 2614 East Main Street, Waterbury, Connecticut, Maguire Group Inc, February 14, 2001.
- Task 210 - Surficial Site Investigation. Interstate 84 Improvements, Volumes 1 & 2, Waterbury, Connecticut. Maguire Group Inc., February 20, 2002.
- Task 210 - Surficial Site Investigation. Interstate 84 Improvements, Volumes 1 & 2, Waterbury, Connecticut. Maguire Group Inc., June 20, 2003.
- Task 210 – Surficial Site Investigation, 30 Reidville Drive, Waterbury, Connecticut, Maguire Group Inc, July 5, 2001.
- Task 210 – Surficial Site Investigation, 116 Reidville Drive, Waterbury, Connecticut,

Maguire Group Inc, July 11, 2001.

- Task 210 – Surficial Site Investigation, 624-636 Plank Road East, Waterbury, Connecticut, Maguire Group Inc, July 12, 2001.
- Task 210 – Surficial Site Investigation, 666 Plank Road East, Waterbury, Connecticut, Maguire Group Inc, July 2, 2001.
- Task 210 – Surficial Site Investigation, 696 Plank Road East, Waterbury, Connecticut, Maguire Group Inc, June 22, 2001.
- Task 210 – Subsurface Site Investigation, Additional Groundwater Investigation, Interstate 84 Improvements, Waterbury, Connecticut, Maguire Group Inc., April 24, 2006.
- Task 210 – Subsurface Site Investigation Report, Reconstruction of I-84, Wetland Mitigation Area, Waterbury, Connecticut. Maguire Group Inc., January 24, 2012.
- Task 210 – Subsurface Site Investigation Report, Reconstruction of I-84, Potential Wetland Mitigation Areas – Sites #1 through #6, Waterbury, Connecticut. CDR Maguire Inc., November 27, 2012.
- Task 210 – Subsurface Site Investigation Report, Reconstruction of I-84, Waterbury, Connecticut, CDR Maguire Inc., May 23, 2014.

NOTICE TO CONTRACTOR - NCHRP 350 REQ. FOR WORK ZONE TRAFFIC CONTROL DEVICES

CATEGORY 1 DEVICES (traffic cones, traffic drums, tubular markers, flexible delineator posts)

Prior to using the Category 1 Devices on the project, the Contractor shall submit to the Engineer a copy of the manufacturer's self-certification that the devices conform to the requirements in National Cooperative Highway Research Program (NCHRP) Report 350 or the AASHTO Manual for Assessing Safety Hardware (MASH), as appropriate.

CATEGORY 2 DEVICES (construction barricades, construction signs and portable sign supports)

Prior to using Category 2 Devices on the project, the Contractor shall submit to the Engineer a copy of the Letter of Acceptance issued by the FHWA to the manufacturer documenting that the devices (both sign and portable support tested together) have been crash tested and have approval in writing from FHWA conforming to the requirements in National Cooperative Highway Research Program (NCHRP) Report 350 or the AASHTO Manual for Assessing Safety Hardware (MASH), as appropriate.

Specific requirements for these devices are included in the Special Provisions.

Information regarding NCHRP Report 350 and AASHTO Manual for Assessing Safety Hardware (MASH) may be found at the following web sites:

FHWA: http://safety.fhwa.dot.gov/roadway_dept/Policy_guide/road_hardware/

ATSSA: http://www.atssa.com/resources.aspx

NOTE: The portable wooden sign supports that have been traditionally used by most contractors in the State of Connecticut do NOT meet NCHRP Report 350 criteria and shall not be utilized on any project advertised after October 01, 2000.

CATEGORY 3 DEVICES (Truck-Mounted Attenuators & Work Zone Crash Cushions)

Prior to using Category 3 Devices on the project, the Contractor shall submit to the Engineer a copy of the Letter of Acceptance issued by the FHWA to the manufacturer documenting that the devices have been crash tested and have approval in writing from FHWA conforming to the requirements in National Cooperative Highway Research Program (NCHRP) Report 350 or the AASHTO Manual for Assessing Safety Hardware (MASH), as appropriate.

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

January 2013

I. ABBREVIATIONS AND DEFINITIONS AS USED IN THIS SPECIAL PROVISION

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

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

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

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

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

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

1. That is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and

2. Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it; and

3. Certified by CTDOT under Title 49 of the Code of Federal Regulations, Part 26, (Title 49 CFR Part 23 of the Code of Federal Regulations for Participation of Disadvantaged Business Enterprise in Airport Concessions)

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

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

I. *Small Business Concern* means, with respect to firms seeking to participate as DBEs in USDOT-assisted Contracts, a small business concern as defined pursuant to Section 3 of the Small Business Act and Small Business Administration ("SBA") regulations implementing it (13 CFR Part 121) that also does not exceed the cap on average annual gross receipts in 49 CFR Part 26, Section 26.65(b).

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

1. Any individual who CTDOT finds, on a case-by-case basis, to be a socially and economically disadvantaged individual.

2. Any individuals in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:

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

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

II. ADMINISTRATIVE REQUIREMENTS

A. General Requirements

A DBE goal percentage equaling **Nine and One Half Percent (9.5%)** of the Contract value has been established for this Contract. This DBE goal percentage will be applied to the final Contract value to ultimately determine the required DBE goal. If additional work is required, DBE firms should be provided the appropriate opportunities to achieve the required DBE goal.

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

All DBEs shall perform a CUF for the work that is assigned to them. The Contractor shall monitor and ensure that the DBE is in compliance with this requirement. The Connecticut DBE UPC Directory of certified firms can

be found on the CTDOT website http://www.ct.gov/dot. The directory lists certified DBE firms with a description of services that they are certified to perform. Only work identified in this listing may be counted towards the project's DBE goal. A DBE firm may request to have services added at any time by contacting CTDOT's Office of Contract Compliance. No credit shall be counted for any DBE firm found not to be performing a CUF.

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

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

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

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

In addition, the report shall include:

1. A projected time frame of when the remaining work is to be completed for each DBE.

2. A statement by the Contractor either confirming that the approved DBEs are on schedule to meet the Contract goal, or that the Contractor is actively pursuing a GFE.

3. If retainage is specified in the Contract specifications, then a statement of certification that the subcontractors' retainage is being released in accordance with 1.08.01 (Revised or supplemented).

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

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

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

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

B. Subcontract Requirements

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

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

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

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

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

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

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

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

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

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

C. Modification to Pre-Award Commitment

Contractors may not terminate for convenience any DBE subcontractor or supplier that was listed on the pre-award DBE commitment without prior written approval of the OOC. This includes, but is not limited to, instances

in which a Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Prior to approval, the Contractor must demonstrate to the satisfaction of the OOC, that it has good cause, as found in 49CFR Part 26.53 (f)(3), for termination of the DBE firm.

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

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

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

1. If the change is due to a scope of work revision or non-routine quantity revision by CTDOT, the Contractor must notify CTDOT's OOC in writing or via electronic mail that their DBE participation on the project may be impacted as soon as they are aware of the change. In this case, a release of work from the DBE firm may not be required; however the Contractor must concurrently notify the DBE firm in writing, and copy the OOC for inclusion in the project DBE file. This does not relieve the Contractor of its obligation to meet the Contract specified DBE goal, or of any other responsibility found in this specification.

2. If the change is due to a factor other than a CTDOT directive, a request for approval in writing or via electronic mail of the modification from the OOC must be submitted, along with an explanation of the change(s), prior to the commencement of work. The Contractor must also obtain a letter of release from the originally named DBE indicating their concurrence with the change, and the reason(s) for their inability to perform the work. In the event a release cannot be obtained, the Contractor must document all efforts made to obtain it.

3. In the event a DBE firm that was listed in the pre-award documents is **unable** or **unwilling** to perform the work assigned, the Contractor shall:

    - Notify the OOC Division Chief immediately and make efforts to obtain a release of work from the firm.

    - Submit documentation that will provide a basis for the change to the OOC for review and approval prior to the implementation of the change.

    - Use the DBE Directory to identify and contact firms certified to perform the type of work that was assigned to the unable or unwilling DBE firm. The Contractor should also contact CTDOT's Office of Contract Compliance for assistance in locating additional DBE firms to the extent needed to meet the contract goal.

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

If the Contractor is unable to find a DBE replacement:

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

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

III. GOOD FAITH EFFORTS

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

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

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

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

1. A detailed statement of the efforts made to replace an unable or unwilling DBE firm, and a description of any additional subcontracting opportunities that were identified and offered to DBE firms in order to increase the likelihood of achieving the stated goal.

2. A detailed statement, including documentation of the efforts made to contact and solicit bids from certified DBEs, including the names, addresses, and telephone numbers of each DBE firm contacted; the date of contact and a description of the information provided to each DBE regarding the scope of services and anticipated time schedule of work items proposed to be subcontracted and the response from firms contacted.

3. Provide a detailed explanation for each DBE that submitted a subcontract proposal which the Contractor considered to be unacceptable stating the reason(s) for this conclusion.

4. Provide documentation, if any, to support contacts made with CTDOT requesting assistance in satisfying the specified Contract goal.

5. Provide documentation of all other efforts undertaken by the Contractor to meet the defined goal. Additional documentation of efforts made to obtain DBE firms may include but will not be limited to:
   - Negotiations held in good faith with interested DBE firms, not rejecting them without sound reasons.
   - Written notice provided to a reasonable number of specific DBE firms in sufficient time to allow effective participation.
   - Those portions of work that could be performed by readily available DBE firms.

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

IV. PROJECT COMPLETION

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

1. Submit a final report to CTDOT`s unit administering the Contract indicating the work done by, and the dollars paid to DBEs.

2. Submit verified payments made to all DBE subcontractors for the work that was completed.

3. Submit documentation detailing any changes to the DBE pre-award subcontractors that have not met the original DBE pre-award commitment, including copies of the Department's approvals of those changes.

4. Retain all records for a period of three (3) years following acceptance by CTDOT of the Contract and those records shall be available at reasonable times and places for inspection by authorized representatives of CTDOT and Federal agencies. If any litigation, claim, or audit is started before the expiration of the three (3) year period, the records shall be retained until all litigation, claims, or audit findings involving the records are resolved.

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

V. SHORTFALLS

A. Failure to meet DBE goals

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

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

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

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

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

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

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

B. Administrative Remedies for Non-Compliance:

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

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

2. A reduction in Contract payments to the Contractor determined by CTDOT, not to exceed the shortfall amount of the **pre-award commitment**. The maximum shortfall will be calculated by subtracting any verified final payments made by the Contractor to each DBE subcontractor from the amount originally committed to that subcontractor in the pre-award commitment.

3. A reduction in Contract payments to the Contractor determined by CTDOT for any pre-award DBE subcontractor who has not obtained the dollar value of work identified in the DBE pre-award commitment and has not followed the requirements of Section II-C or for any DBE firm submitted for DBE credit that has not performed a CUF.

4. The Contractor being required to submit a written DBE Program Corrective Action Plan to CTDOT for review and approval, which is aimed at ensuring compliance on future projects.

5. The Contractor being required to attend a Non-Responsibility Meeting on the next contract where it is the apparent low bidder.

6. The Contractor being suspended from bidding on contracts for a period not to exceed six (6) months.

VI. CLASSIFICATIONS OTHER THAN SUBCONTRACTORS

A. Material Manufacturers

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

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

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

B. Material Suppliers (Dealers)

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

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

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

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

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

C. Brokering

- Brokering of work for DBE firms who have been listed by the Department as certified brokers is allowed. Credit for those firms shall be applied following the procedures in Section VI-D.

- Brokering of work by DBEs who have been approved to perform subcontract work with their own workforce and equipment is not allowed, and is a Contract violation.

- Firms involved in the brokering of work, whether they are DBEs and/or majority firms who engage in willful falsification, distortion or misrepresentation with respect to any facts related to the project shall be referred to the U.S. DOT, Office of the Inspector General for prosecution under Title 18, U.S. Code, Part I, Chapter 47, Section 1020.

D. Non-Manufacturing or Non-Supplier DBE Credit

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

- Reasonable fees or commissions charged for providing a bona fide service such as professional, technical, consultant or managerial services and assistance in the procurement of essential personnel, facilities, equipment materials or supplies necessary for the performance of the Contract, provided that the fee or commission is determined by the OOC to be reasonable and consistent with fees customarily allowed for similar services.

- The fees charged only for delivery of materials and supplies required on a job site when the hauler, trucker, or delivery service is a DBE, and not the manufacturer, or regular dealer of the materials and supplies, and provided that the fees are determined by the OOC to be reasonable and not excessive as compared with fees customarily allowed for similar services.

- The fees or commissions charged for providing bonds or insurance specifically required for the performance of the Contract, provided that the fees or commissions are determined by CTDOT to be reasonable and not excessive as compared with fees customarily allowed for similar services.

E. Trucking

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

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

VII. Suspected DBE Fraud

In appropriate cases, CTDOT will bring to the attention of the USDOT any appearance of false, fraudulent, or dishonest conduct in connection with the DBE program, so that USDOT can take the steps, e.g. referral to the

Department of Justice for criminal prosecution, referral to USDOT Inspector General, action under suspension and debarment or Program Fraud and Civil Penalties rules provided in 49 CFR Part 31.

CONNECTICUT DEPARTMENT OF TRANSPORTATION
(OFFICE OF CONSTRUCTION)
BUREAU OF ENGINEERING AND CONSTRUCTION

This affidavit must be completed by the State Contractor's DBE notarized and attached to the contractor's request to utilize a DBE supplier or manufacturer as a credit towards its DBE contract requirements; failure to do so will result in not receiving credit towards the contract DBE requirement.

State Contract No.

Federal Aid Project No.

Description of Project

I, _____, acting in behalf of _____,
(Name of person signing Affidavit) (DBE person, firm, association or corporation)
of which I am the _____ certify and affirm that _____
(Title of Person) (DBE person, firm, association or corporation)
is a certified Connecticut Department of Transportation DBE. I further certify and affirm that I have read and understand 49 CFR, Sec. 26.55(e)(2), as the same may be revised.

I further certify and affirm that _____ will assume the actual and
(DBE person, firm, association or Corporation)
for the provision of the materials and/or supplies sought by _____ .

If a manufacturer, I operate or maintain a factory or establishment that produces, on the premises, the materials, supplies, articles or equipment required under the contract an of the general character described by the specifications.

If a supplier, I perform a commercially useful function in the supply process. As a regular dealer, I, at a minimum, own and operate the distribution equipment for bulk items. Any supplementing of my distribution equipment shall be by long-term lease agreement, and not on an ad hoc or contract-by-contract basis.

I understand that false statements made herein are punishable by Law (Sec. 53a-157), CGS, as revised).

(Name of Corporation or Firm)

(Signature & Title of Official making the Affidavit)

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

Notary Public (Commissioner of the Superior Court)

My Commission Expires_____

CERTIFICATE OF CORPORATION

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

_____ _____
(Signature of Person Certifying) (Date)

ITEM #0020801A – ASBESTOS ABATEMENT

Description:

Work under this item shall include the abatement of asbestos containing materials (ACM) and associated work by persons who are knowledgeable, qualified, trained and licensed in the removal, treatment, handling, and disposal of ACM and the subsequent cleaning of the affected environment. ACM shall include material composed of any type of asbestos in amounts greater than one percent (1%) by weight. The Contractor performing this work shall possess a valid Asbestos Abatement Contractor license issued by the Connecticut Department of Public Health (CTDPH).

These Specifications govern all work activities that disturb asbestos containing materials. All activities shall be performed in accordance with, but not limited to, the current revision of the OSHA General Industry Standard for Asbestos (29 CFR 1926.1001), the OSHA Asbestos in Construction Regulations (29 CFR 1926.1101), the USEPA Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) Regulations (40 CFR Part 61 Subpart M), the CTDPH Standards for Asbestos Abatement, Licensure and Training (19a-332a-1 through 16, 20-440-1 through 9 & 20-441), and the CTDEEP Special Waste Disposal Regulations (22a-209-8(i)).

The asbestos abatement work shall include the removal and disposal of all ACM as identified on the Contract Plans and Specifications prior to the planned renovation/demolition project.

Deviations from these Specifications require the written approval of the Engineer.

The Contractor may elect to utilize an Alternative Work Practice (AWP), if approved by the CTDPH and the Engineer prior to the initiation of the abatement activities. An AWP is a variance from certain CTDPH asbestos regulatory requirements, which must provide the equivalent or a greater measure of asbestos emission control than the standard work practices prescribed by the CTDPH.

Materials:

All materials shall be delivered to the job site in the original packages, containers, or bundles bearing the name of the manufacturer, the brand name and product technical description.

No damaged or deteriorating materials shall be used. If material becomes contaminated with asbestos, the material shall be decontaminated or disposed of as asbestos-containing waste material. The cost to decontaminate and dispose of this material shall be at the expense of the Contractor.

Fire retardant polyethylene sheet shall be in roll size to minimize the frequency of joints, with factory label indicating four (4) or six (6) mil thickness.

Six (6) mil polyethylene disposable bags shall have pre-printed OSHA/EPA/DOT labels and shall be transparent.

Tape (or equivalent) capable of sealing joints in adjacent polyethylene sheets and for the attachment of polyethylene sheets to finished or unfinished surfaces must be capable of adhering under both dry and wet conditions.

Surfactant is a chemical wetting agent added to water to improve penetration and shall consist of fifty (50) percent polyoxyethylene ether and fifty (50) percent polyoxyethylene ester, or equivalent. The surfactant shall be mixed with water to provide a concentration one (1) ounce surfactant to five (5) gallons of water, or as directed by the manufacturer.

Spray equipment must be capable of mixing necessary chemical agents with water, generating sufficient pressure and volume; and equipped with adequate hose length to access all necessary work areas.

Sanders, grinders, wire brushes and needle-gun type removal equipment shall be equipped with a High Efficiency Particulate Air (HEPA) filtered vacuum dust collection system.

Containers for storage, transportation and disposal of asbestos containing waste material shall be impermeable and both air and watertight.

Labels and warning signs shall conform to OSHA 29 CFR 1926.1101, USEPA 40 CFR Part 61.152, and USDOT 49 CFR Part 172 as appropriate.

Encapsulant, a material used to chemically entrap asbestos fibers to prevent these fibers from becoming airborne, shall be of the type which has been approved by the Engineer. Use shall be in accordance with manufacturer's printed technical data. The encapsulant shall be clear and must be compatible with new materials being installed, if any.

Glovebag assembly shall be manufactured of six (6) mil transparent polyethylene or PVC with two (2) inward projecting long sleeve gloves, an internal pouch for tools, and an attached labeled receptacle for waste.

Mastic removal chemicals shall be low odor and non-citrus based, with a flash point in excess of 140° F.

Any planking, bracing, shoring, barricades and/or temporary sheet piling, necessary to appropriately perform work activities shall conform to all applicable federal, state and local regulations.

Air filtration devices and vacuum units shall be equipped with HEPA filters.

Construction Methods:

(1) Pre-Abatement Submittals and Notices

(a) The Contractor shall submit, in accordance with CTDPH Standard 19a-332a-3, proper notification using the prescribed form, to the Commissioner, State of Connecticut, Department of Public Health not fewer than ten (10) days prior to the commencement of work as follows:

1. **The asbestos to be removed is exterior NESHAP Category II Non-Friable ACM, and it is not expected that the abatement procedures will render the Category II asbestos friable; thereby not categorizing it as NESHAP Regulated ACM (RACM); therefore not defining the removal as a CTDPH "abatement"; and as such the CT licensed Asbestos Abatement Contractor will not be required to file an Asbestos Abatement notification so long as no more than 10 linear feet (LF)/25 square feet (SF) of ACM is rendered friable.**

(b) Fifteen (15) working days prior to the commencement of asbestos abatement work, the Contractor shall submit to the Engineer for review and acceptance and/or acknowledgment of the following:

1. Permits and licenses for the removal, transport, and disposal of asbestos-containing or contaminated materials, including a CTDPH valid asbestos removal contractor's license.

2. Documentation dated within the previous twelve (12) months, certifying that all employees have received USEPA Model Accreditation Plan approved asbestos worker/supervisor training in the proper handling of materials that contain asbestos; understand the health implications and risks involved, including the illnesses possible from exposure to airborne asbestos fibers; understands the use and limits of respiratory equipment to be used; and understands the results of monitoring of airborne quantities of asbestos as related to health and respiratory equipment as indicated in 29 CFR 1926.1101 on an initial and annual basis, and copies of all employees CTDPH asbestos worker and/or supervisor licenses.

3. Documentation from the Contractor, typed on company letterhead and signed by the Contractor, certifying that all employees listed therein have received the following:

    a. medical monitoring within the previous twelve (12) months, as required in 29 CFR 1926.1101;
    b. respirator fit testing within the previous twelve (12) months as detailed in 29 CFR 1910.134 (for all employees who must also don a tight-fitting face piece respirator).

4. Copies of the EPA/State-approved certificates for the proposed asbestos landfill.

(c) No abatement shall commence until a copy of all required submittals have been received and found acceptable to the Engineer. Those employees added to the Contractor's original list will be allowed to perform work only upon submittal to, and receipt of, all required paperwork by the Engineer.

(2) Asbestos Abatement Provisions:

(a) General Requirements

The Abatement Contractor/Subcontractor shall possess a valid State of Connecticut Asbestos Contractor License. Should any portion of the work be subcontracted, the subcontractor must also possess a valid State of Connecticut Asbestos Contractor License. The Asbestos Abatement Site Supervisor employed by the Contractor shall be in control on the job site at all times during asbestos abatement work. All employees of the Contractor who shall perform work (i.e. Asbestos Abatement Site Supervisor, Asbestos Abatement Worker) shall be properly certified/licensed by the State of Connecticut to perform such duties.

All labor, materials, tools, equipment, services, testing, insurance (with specific coverage for work on asbestos), and incidentals which are necessary or required to perform the work in accordance with applicable governmental regulations, industry standards and codes, and these Specifications shall be provided by the Contractor. The Contractor shall be prepared to work all shifts and weekends throughout the course of this project.

Prior to beginning work, the Engineer and Contractor shall perform a visual survey of each work area and review conditions at the site for safety reasons. In addition, the Contractor shall instruct all workers in all aspects of personnel protection, work procedures, emergency evacuation procedures and use of equipment including procedures unique to this project.

The Contractor shall:

Shut down and lock out electrical power, including all receptacles and light fixtures, when feasible. The use or isolation of electrical power will be coordinated with all other ongoing uses of electrical power at the site.

When necessary, provide temporary power and adequate lighting and ensure safe installation of electrical equipment, including ground fault protection and power cables, in compliance with applicable electrical codes and OSHA requirements. The Contractor is responsible for proper connection and installation of electrical wiring.

Water service may not be available at the site. Contractor shall supply sufficient water for each shift to operate the decontamination shower units as well as to maintain the work areas adequately wet.

Ladders and/or scaffolds shall be in compliance with OSHA requirements, and of adequate length, strength and sufficient quantity to support the scope of work. Use of ladders/scaffolds shall be in conformance with OSHA 29 CFR 1926 Subpart L and X requirements.

Work performed at heights exceeding six feet (6') shall be performed in accordance with the OSHA Fall Protection Standard 29 CFR 1926 Subpart M including the use of fall arrest systems as applicable.

Data provided regarding asbestos sampling conducted throughout the structure(s) is for informational purposes only. Under no circumstances shall this information be the sole means used by the Contractor for determining the presence and location of all asbestos containing materials. The Contractor shall verify all field conditions affecting performance of the work as described in these Specifications in accordance with OSHA, USEPA, USDOT, DEP standards. Compliance with the applicable requirements is solely the responsibility of the Contractor.

The Engineer will provide a Project Monitor to oversee the activities of the Contractor. No asbestos work shall be performed until the Project Monitor is on-site. Pre-abatement, during abatement and post-abatement air sampling will be conducted as deemed necessary by the Project Monitor. Waste stream testing will be performed, as necessary, by the Project Monitor prior to waste disposal.

(b) Set-Up

The Contractor shall establish contiguous to the Regulated Area, a Worker Decontamination Enclosure System consisting of Equipment Room, Shower Room and Clean Room in series, as detailed below. Access to the Regulated Area shall only be through this enclosure.

Access between rooms in the Worker Decontamination Enclosure System shall be through airlocks. Other effective designs are permissible. The Clean Room, Shower Room and Equipment Room located within the Worker Decontamination Enclosure, shall be contiguously connected with taped airtight edges, thus ensuring the sole source of airflow originates from outside the regulated areas, once the negative pressure differential within the Regulated Area is established.

The Clean Room shall be adequately sized to accommodate workers and shall be equipped with a suitable number of hooks, lockers, shelves, etc., for workers to store personal articles and clothing. Changing areas of the Clean Room shall be suitably screened from areas occupied by the public.

The Shower Room shall be of sufficient capacity to accommodate the number of workers. One shower stall shall be provided for each eight (8) workers. Showers shall be equipped with hot and cold or warm running water through the use of electric hot water heaters supplied by the Contractor. No worker or other person shall leave a Regulated Area without showering. Shower water shall be collected and filtered using best available technology and dumped down an

approved sanitary drain. Shower stalls and plumbing shall include sufficient hose length and drain system or an acceptable alternate.

The Contractor shall ensure that no personnel or equipment be permitted to leave the Regulated Area until proper decontamination procedures (including HEPA vacuuming, wet wiping and showering) to remove all asbestos debris have occurred. No asbestos-contaminated materials or persons shall enter the Clean Room.

Post warning signs meeting the specifications of OSHA 29 CFR 1910.1001 and 29 CFR 1926.1101 at each Regulated Area. In addition, signs shall be posted at all approaches to Regulated Areas so that an employee or building occupant may read the sign and take the necessary protective steps before entering the area. Additional signs may require posting following construction of workplace enclosure barriers.

(c) **Alternate set up requirements for exterior non-friable asbestos abatement procedures**

In lieu of the establishment of a negative pressure enclosure (NPE) system as described by CTDPH Sections 19a-332a-5(c), 5(d), 5(e), and 5(h), non-friable ACM will be removed from exterior work areas within an outdoor Regulated Area(s). The regulated work area will be established by the use of appropriately labeled barrier tape and postings in compliance with CTDPH 19a-332a-5(a) as well as OSHA 29 CFR 1926.1101. A remote personnel decontamination unit as specified in Section 19a-332a-6 will be required. This method shall only be utilized provided exposure assessment air sampling data collected during the removal of the exterior non-friable materials indicates that the exposure levels during removal of such materials do not exceed 0.1 asbestos f/cc. Should exposure assessment air sampling data exceed this level, and engineering efforts to reduce the airborne fiber levels not be successful in reducing the levels to less than 0.1 f/cc, removal shall occur within these areas under full containment conditions.

(d) Personnel Protection

The Contractor shall utilize all appropriate engineering controls and safety and protective equipment while performing the work in accordance with OSHA, USEPA, USDOT, CTDEEP and CTDPH regulations.

The Contractor shall provide and require all workers to wear protective clothing in the Regulated Areas where asbestos fiber concentrations may reasonably be expected to exceed the OSHA established Permissible Exposure Limits (PEL) or where asbestos contamination exists. Protective clothing shall include impervious coveralls with elastic wrists and ankles, head covering, gloves and foot coverings.

Respiratory protection shall be provided and shall meet the requirements of OSHA as required in 29 CFR 1910.134, and 29 CFR 1926.1101 as well as the requirements of the CTDPH regulations. A formal respiratory protection program must be implemented in accordance with 29 CFR 1926.1101 and 29 CFR 1910.134. The Contractor shall provide respirators from among

those approved as being acceptable for protection by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part ll.

All other necessary personnel protective equipment (i.e. hardhat, work boots, safety glasses, hearing protection, etc.) required to perform the asbestos abatement work activities shall conform to all applicable federal, state and local regulations.

All other qualified and authorized persons entering into a Regulated Area (i.e. Project Monitor, Regulatory Agency Representative) shall adhere to the requirements of personnel protection as stated in this section.

(e) Asbestos Abatement Procedures

The Asbestos Abatement Site Supervisor, as the OSHA Competent Person shall be at the site at all times.

The Contractor shall not begin abatement work until authorized by the Project Monitor, following a pre-abatement visual inspection.

All workers and authorized persons shall enter and leave the Regulated Area through the Worker Decontamination Enclosure System, leaving contaminated protective clothing in the Equipment Room for reuse or disposal of as asbestos contaminated waste. No one shall eat, drink, smoke, chew gum or tobacco, or apply cosmetics while in a Regulated Area.

The following details the extent of each phase of operation designated for this project. Phase areas may be combined or divided at the direction of the Engineer. Proceed through the sequencing of the work phases under the direction of the Engineer.

Phase 1 - Bridge No. 01224, I-84 over Mud River, Waterbury

Phase 1 includes the removal of:

- **Black asphalt expansion joint material (EJ5) – located at expansion joints of central pier and on east and west abutments/wing walls.**

A regulated area(s) shall be established at the perimeter of the work area(s), and access shall be controlled by the Contractor. A remote personnel decontamination unit shall be utilized. Removal shall be undertaken in accordance with OSHA Class II and USEPA Asbestos NESHAP requirements.

Phase 2 - Bridge No. 01226, I-84 Harper Ferry Overpass, Waterbury

Phase 2 includes the removal of:

- **White brittle caulk around original bridge metal railing support base (BRC1) – located on sixteen (16) railing/concrete parapet interface.**

- **Black asphalt expansion joint material (EJ3) – west side of bridge at wing wall expansions.**

A regulated area(s) shall be established at the perimeter of the work area(s), and access shall be controlled by the Contractor. A remote personnel decontamination unit shall be utilized. Removal shall be undertaken in accordance with OSHA Class II and USEPA Asbestos NESHAP requirements.

Phase 3 - Bridge No. 01228, I-84 Scott Road Overpass, Waterbury

Phase 3 includes the removal of:

- **Light grey brittle caulk on top of expansion joint/abutment (EC2) – located at northeast abutment/wing wall expansion joint.**

- **Black tar coating/dark brown fibrous insulation (PC2) – on 8" metal pipe on underside of bridge.**

- **Transite pipes (TP1) – eight (8) transite pipes on the underside of the bridge.**

- **Tan brittle caulk around metal railway support base (BRC2) – located on all railing/concrete parapet interface.**

A regulated area(s) shall be established at the perimeter of the work area(s), and access shall be controlled by the Contractor. A remote personnel decontamination unit shall be utilized. Removal shall be undertaken in accordance with OSHA Class II and USEPA Asbestos NESHAP requirements.

Phase 4 - Bridge No. 04321, I-84 Hamilton Avenue Overpass, Waterbury

Phase 4 includes the removal of:

- **Black asphalt expansion joint material (EJ6) – located on the west side of bridge on concrete parapet wall sections.**

A regulated area(s) shall be established at the perimeter of the work area(s), and access shall be controlled by the Contractor. A remote personnel decontamination unit shall be utilized. Removal shall be undertaken in accordance with OSHA Class II and USEPA Asbestos NESHAP requirements.

During removal, the Contractor shall spray asbestos materials with amended water using airless spray equipment capable of providing a "mist" application to reduce the release of airborne fibers. Spray equipment shall be capable of mixing wetting agent with water and capable of generating sufficient pressure and volume. Hose length shall be sufficient to reach all of the Regulated Area. Do not “flood” the area with hose type water supply equipment with the potential to create water releases from the regulated area.

The Contractor shall continue to spray the asbestos materials with amended water, as necessary, throughout removal activities to ensure the asbestos materials remain adequately wet. The asbestos materials shall not be allowed to dry out.

In order to minimize airborne asbestos concentrations inside the Regulated Area, the Contractor shall remove the adequately wetted asbestos in manageable sections. In addition, asbestos materials removed from any elevated level shall be carefully lowered to the floor.

The Contractor shall promptly place the adequately wet asbestos material in disposal containers (six (6) mil polyethylene bags/fiber drum/poly-lined dumpsters, etc.) as it is removed. Large components removed intact may be wrapped in two (2) layers of six (6) mil polyethylene sheeting secured with tape. As the disposal containers are filled, the Contractor shall promptly seal the containers, apply caution labels and clean the containers before transportation to the equipment decontamination area. Bags shall be securely sealed to prevent accidental opening and leakage by taping in gooseneck fashion. Small components and asbestos-containing waste with sharp-edged components (e.g. nails, screws, metal lath, tin sheeting) which could tear polyethylene bags and sheeting shall be placed in clean drums and sealed with locking ring tops. All waste containers shall be leak-tight, (typically consisting of two layers of 6 mil poly (or bags)), and shall be properly labeled and placarded with OSHA Danger labels, DOT shipping labels, markings and placards and USEPA NESHAP generators labels. Containers shall be decontaminated by wet cleaning and HEPA vacuuming within the equipment decontamination area prior to exiting the regulated area. Wet clean each container thoroughly before moving to Holding Area.

If at any time during asbestos removal, the Project Monitor should suspect contamination of areas outside the Regulated Area, the Contractor shall immediately stop all abatement work and take steps to decontaminate these areas and eliminate causes of such contamination. Unprotected individuals shall be prohibited from entering contaminated areas until air sampling and/or visual inspections determine decontamination.

After completion of abatement work, all surfaces from which asbestos has been removed shall be wet brushed, using a nylon brush, wet wiped and sponged or cleaned by an equivalent method to remove all visible material (wire brushes are not permitted). During this work the surfaces being cleaned shall be kept wet. Cleaning shall also include the use of HEPA filtered vacuum equipment.

The Contractor shall also remove and containerize all visible accumulations of asbestos-containing and/or asbestos-contaminated debris which may have splattered or collected on the polyethylene engineering controls/barriers.

Once the Regulated Area surfaces have dried, the Project Monitor shall perform a thorough post abatement visual inspection utilizing protocols from the ASTM Standard E1368-90 *Standard Practice for Visual Inspection of Asbestos Abatement Projects*. All surfaces within the Regulated Area, including but not limited to ledges, beams, and hidden locations shall be inspected for visible residue. Evidence of asbestos contamination identified during this inspection will necessitate further cleaning as heretofore specified. The area shall be re-cleaned at the Contractor's expense, until the standard of cleaning is achieved.

Once the area has received a satisfactory post-abatement visual inspection, any equipment, tools or materials not required for completion of the work, shall be removed by the Contractor from the Regulated Area.

(f) Air Monitoring Requirements

1. The Contractor shall:

    a. Provide air monitoring equipment including sample filter cassettes of the type and quantity required to properly monitor operations and personnel exposure surveillance throughout the duration of the project.

    b. Conduct personnel exposure assessment air sampling, as necessary, to assure that workers are using appropriate respiratory protection in accordance with OSHA Standard 1926.1101. Documentation of air sampling results must be recorded at the work site within twenty-four (24) hours and shall be available for review until the job is complete.

2. The Project Monitor, acting as the representative of the Engineer during abatement activities, will:

    a. Collect air samples in accordance with the current revision of the NIOSH 7400 Method of Air Sampling for Airborne Asbestos Fibers while overseeing the activities of the Abatement Contractor. Frequency and duration of the air sampling during abatement will be representative of the actual conditions at the abatement site. The size and configuration of the asbestos project will be a factor in the number of samples required to monitor the abatement activities and shall be determined by the Project Monitor. The following schedule of samples may be collected by the Project Monitor:

        1. Pre-Abatement (Optional)
            a. Background areas

b. Area(s) adjacent to Work Area(s)
c. Work Area(s)

2. During Abatement (Optional)
   a. At the exhaust of air filtering device
   b. Within Regulated Area(s)
   c. Area(s) adjacent to Regulated Areas(s) (exterior to critical barriers)
   d. At the Decontamination Enclosure System

Abatement Activity	Pre-Abatement	During Abatement	Post-Abatement
Exterior Friable/Non-Friable	---	PCM	---

If air samples collected outside of the Regulated Area during abatement activities indicate airborne fiber concentrations greater than original background levels, or greater than 0.1 f/cc, as determined by Phase Contrast Microscopy, whichever is larger, an examination of the Regulated Area perimeter shall be conducted and the integrity of barriers shall be restored. Cleanup of surfaces outside the Regulated Area using HEPA vacuum equipment or wet cleaning techniques shall be done prior to resuming abatement activities.

(g) Post Abatement Work Area Deregulation

The Contractor shall remove all remaining polyethylene, including critical barriers, and Decontamination Enclosure Systems. HEPA vacuum and/or wet wipe any visible residue which is uncovered during this process. All waste generated during this disassembly process shall be discarded as ACM waste.

A final visual inspection of the work area shall be conducted by the Competent Person and the Project Monitor to ensure that all visible accumulations of suspect materials have been removed and that no equipment or materials associated with the abatement project remain.

The Contractor shall restore all work areas and auxiliary areas utilized during work to conditions equal to or better than original. Any damage caused during the performance of the work activity shall be repaired by the Contractor at no additional expense to the Engineer.

(h) Waste Disposal

Unless otherwise specified, all removed materials and debris resulting from execution of this project shall become the responsibility of the Contractor and removed from the premises. Materials not scheduled for reuse shall be removed from the site and disposed of in accordance with all applicable Federal, State and Local requirements.

Waste removal dumpsters and cargo areas of transport vehicles shall be lined with a layer of six (6) mil polyethylene sheeting to prevent contamination from leaking or spilled containers. Floor sheeting shall be installed first, and shall be extended up sidewalls 12-inches. Wall sheeting shall overlap floor sheeting 24-inches and shall be taped into place.

OSHA "Danger" signs must be attached to vehicles used to transport asbestos-containing waste prior to loading ACM waste. The signs must be posted so that they are plainly visible.

Waste haulers and disposal facilities utilized shall match those indicated on the submitted CTDPH notification.

Ensure all waste containers (bags, drums, etc.) are properly packed, sealed and labeled with USEPA NESHAP generator labels, OSHA danger labels and DOT shipping labels. For each shipment of ACM waste, the Contractor shall complete an EPA-approved asbestos waste shipment record.

Authorized representatives signing waste shipment records on behalf of the generator must have USDOT Shipper Certification training in accordance with HMR 49 CFR Parts 171-180.

Transport vehicles hauling ACM waste shall have appropriate USDOT placards visible on all four (4) sides of the vehicle.

The Contractor shall dispose of asbestos-containing and/or asbestos contaminated material at an EPA authorized site and must be in compliance with the requirements of the Special Waste Provisions of the Office of Solid Waste Management, Department of Environmental Protection, State of Connecticut, or other designated agency having jurisdiction over solid waste disposal.

Any asbestos-containing and/or asbestos-contaminated waste materials which also contain other hazardous contaminants shall be disposed of in accordance with the EPA's Resource Conservation and Recovery Act (RCRA), CTDEEP and ConnDOT requirements. Materials may be required to be stored on-site and tested by the Project Monitor to determine proper waste disposal requirements.

(i) Project Closeout Data:

1. Provide the Engineer, within 30 days of completion of asbestos abatement, a compliance package; which shall include, but not be limited to, the following:

    a. Asbestos Abatement Site Supervisor job log;
    b. OSHA personnel air sampling data;
    c. Completed waste shipment records.

The Contractor shall submit the original completed waste shipment records to the Engineer.

Method of Measurement:

No measurement will be made for the work in this Section. The completed work shall be paid as a lump sum.

Basis of Payment:

The lump sum bid price for this item shall include the specialty services of the Asbestos Removal Contractor including: labor, materials, equipment, insurance, permits, notifications, submittals, personal air sampling, personal protection equipment, temporary enclosures, utility costs, incidentals, fees and labor incidental to the removal, transport and disposal of ACM, including close out documentation.

Final payment for asbestos abatement will not be made until all the project closeout data submittals have been completed (including waste shipment record(s) signed by an authorized disposal facility representative) and provided to the Engineer. Once the completed package has been received in its entirety, the Engineer will make the final payment to the Contractor.

Pay Item	Pay Unit
Asbestos Abatement	Lump Sum

ITEM #0020903A – LEAD COMPLIANCE FOR MISCELLANEOUS EXTERIOR TASKS

Description:

Work under this item shall include the special handling measures and work practices required for miscellaneous exterior tasks that impact materials containing or covered by lead paint. Lead paint includes paint found to contain **any** detectable amount of lead by Atomic Absorption Spectrophotometry (AAS) or X-Ray Fluorescence (XRF). Examples of typical miscellaneous exterior tasks includes; work impacting signs, guiderails, minor bridge rehabilitation, catenary structures, canopy structures, spot/localized paint removal, etc.

All activities shall be performed in accordance with the OSHA Lead in Construction Regulations (29 CFR 1926.62), the USEPA RCRA Hazardous Waste Regulations (40 CFR Parts 260 through 274), and the CTDEEP Hazardous Waste Regulations (RCSA 22a-209-1 and 22a-449(c)).

All activities shall be performed by individuals with appropriate levels of OSHA lead awareness and hazard communication training and shall supervised by the Contractors Competent Person on the job site at all times. The Contractors Competent Person is one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Deviations from these Specifications require the written approval of the Engineer.

Materials:

All materials shall be delivered to the job site in the original packages, containers, or bundles bearing the name of the manufacturer, the brand name and product technical description, with MSDS sheets as applicable.

No damaged or deteriorating materials shall be used. If material becomes contaminated with lead, the material shall be decontaminated or disposed of as lead-containing waste material. The cost to decontaminate and dispose of this material shall be at the expense of the Contractor.

The following material requirements are to be met if to be used during the work:

Fire retardant polyethylene sheet shall be in roll size to minimize the frequency of joints, with factory label indicating minimum six (6) mil thickness.

Polyethylene disposable bags shall be minimum six (6) mils thick.

Tape (or equivalent) product capable of sealing joints in adjacent polyethylene sheets and for the attachment of polyethylene sheets to finished or unfinished surfaces must be capable of adhering under both dry and wet conditions.

Cleaning Agents and detergent shall be lead specific, such as TriSodium Phosphate (TSP).

Chemical strippers and chemical neutralizers shall be compatible with the substrate as well as with each other. Such chemical stripper shall contain less than 50% Volatile Organic Compounds (VOCs) by weight in accordance with RCSA 22a-174-40 Table 40-1.

Labels and warning signs shall conform to 29 CFR 1926.62, 40 CFR 260 through 274 and 49 CFR 172 as appropriate.

Air filtration devices and vacuum units shall be equipped with High-Efficiency Particulate Air (HEPA) filters.

Construction Methods:

(1) Pre-Abatement Submittals and Notices

A. Prior to the start of **any** work on a contiguous per site basis that will generate hazardous lead waste above conditionally exempt small quantities (greater than 100 kg/month or greater than 1000 kg at any time), the Contractor shall obtain from the Engineer on a contiguous per site basis a temporary EPA Hazardous Waste Generators ID number, unless otherwise directed by the Engineer.

B. Fifteen (15) working days prior to beginning work that impacts lead paint, the Contractor shall submit the following to the Engineer:

1. Work plan for work impacting lead paint including engineering controls, methods of containment of debris and work practices to be employed, as needed, to minimize employee exposure and prevent the spread of lead contamination outside the Regulated Area.

2. Copies of all employee certificates, dated within the previous twelve (12) months, relating to OSHA lead awareness and hazard communication training and training in the use of lead-safe work practices. SSPC training programs may be accepted as meeting these requirements if it can be demonstrated that such training addressed all required topics.

   This information shall be updated and resubmitted annually, or as information changes, for the duration of the activities impacting lead to verify continued compliance.

3. Name and qualifications of Contractor's OSHA Competent Person under 29 CFR 1926.62.

4. Documentation from the Contractor, typed on company letterhead and signed by the Contractor, certifying that all employees listed therein have received the following:

   a. medical monitoring within the previous twelve (12) months, as required in 29 CFR 1926.62;
   b. biological monitoring within the previous six (6) months, as required in 29 CFR 1926.62;
   c. respirator fit testing within the previous twelve (12) months, as required in 29 CFR 1910.134 (for those who don a tight-fitting face piece respirator)

   This information shall be updated and resubmitted annually, or as information changes, for the duration of the activities impacting lead to verify continued compliance.

5. Names of the proposed non-hazardous construction and demolition (C&D) lead debris bulky waste disposal facility (CTDEEP-permitted Solid Waste landfill).

6. Names of the proposed concrete, brick, stone batch processing/recycling facility.

7. Names of the proposed scrap metal recycling facilities. The Contractor shall submit to the Engineer all documentation necessary to demonstrate the selected facility is able to accept lead-painted scrap metal.

8. Names of the proposed hazardous waste disposal facility (selected from the Department approved list provided herein), and copies of each facilities acceptance criteria and sampling frequency requirements.

9. Copies of the proposed hazardous waste transporters current USDOT Certificate of Registration for Hazardous Materials Transport, and the proposed transporters current Hazardous Waste Transporter Permits for the State of Connecticut and the waste destination State.

10. Negative exposure assessments conducted within the previous 12 months documenting that employee exposure to lead for each task is below the OSHA Action Level of 30 $\mu g/m^3$. If a negative exposure assessment has not been conducted, the Contractor shall submit its air monitoring program for the work tasks as part of the Work Plan. Until a negative exposure assessment is developed for each task impacting lead paint, the Contractor shall ensure that all workers and authorized persons entering the Regulated Area wear protective clothing and respirators in accordance with OSHA 29 CFR 1926.62.

No activity shall commence until all required submittals have been received and found acceptable to the Engineer. Those employees added to the Contractor's original list will be allowed to perform work only upon submittal of acceptable documentation to, and review by, the Engineer.

Contractor shall provide the Engineer with a minimum of 48 hours notice in advance of scheduling, changing or canceling work activities.

(2) Lead Abatement Provisions

A. General Requirements:

All employees of the Contractor who perform work impacting lead paint shall be properly trained to perform such duties. In addition, the Contractor shall instruct all workers in all aspects of personnel protection, work procedures, emergency evacuation procedures and use of equipment including procedures unique to this project.

Contractor shall provide all labor, materials, tools, equipment, services, testing, and incidentals which are necessary or required to perform the work in accordance with applicable governmental regulations, industry standards and codes, and these Specifications.

Prior to beginning work, the Engineer and Contractor shall perform a visual survey of each work area and review conditions.

As necessary, the Contractor shall:

> Shut down and lock out electrical power, including all receptacles and light fixtures, where feasible. The use or isolation of electrical power will be coordinated with all other ongoing uses of electrical power at the site.

If adequate electrical supply is not available at the site, the Contractor shall supply temporary power. Such temporary power shall be sufficient to provide adequate lighting and power the Contractor’s equipment. The Contractor is responsible for proper connection and installation of electrical wiring and shall ensure safe installation of electrical equipment in compliance with applicable electrical codes and OSHA requirements.

If water is not available at the site for the Contractor’s use, the Contractor shall supply sufficient water for each shift to operate the wash facility/decontamination shower units in addition to the water needed at the work area.

The Engineer may provide a Project Monitor to monitor compliance of the Contractor and protect the interests of the Department. In such cases, no activity impacting lead paint shall be performed until the Project Monitor is on-site. Where no Project Monitor will be provided, Contractor shall proceed at the direction of the Engineer. Environmental sampling, including ambient air sampling, TCLP waste stream sampling, and dust wipe sampling, will be conducted

by the State as it deems necessary throughout the project. Air monitoring to comply with the Contractor's obligations under OSHA remains solely responsibility of the Contractor.

If at any time, procedures for engineering, work practice, administrative controls or other topics are anticipated to deviate from those documented in the submitted and accepted Lead Work Plan, the Contractor shall submit a modification of its existing plan for review and acceptance by the Engineer prior to implementing the change.

If air samples collected outside of the Regulated Area during activities impacting lead paint indicate airborne lead concentrations greater than original background levels or 30 ug/m^3, whichever is larger, or if at any time visible emissions of lead paint extend out from the Regulated Area, an examination of the Regulated Area shall be conducted and the cause of such emissions corrected. Cleanup of surfaces outside the Regulated Area using HEPA vacuum equipment or wet cleaning techniques shall be done prior to resuming work.

Work outside the initial designated area(s) will not be paid for by the Engineer. The Contractor will be responsible for all costs incurred from these activities including repair of any damage.

B. Regulated Area

The Contractor shall establish a Regulated Area through the use of appropriate barrier tape or other means to control unauthorized access into the area where activities impacting lead paint are occurring. Warning signs meeting the requirements of 29 CFR 1926.62 shall be posted at all approaches to Regulated Areas. These signs shall read:

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING

The Contractor shall implement appropriate engineering controls such as poly drop cloths, local exhaust ventilation, wet dust suppression methods, etc. as necessary, and as approved by the Engineer, to prevent the spread of lead contamination beyond the Regulated Area in accordance with the Contractor's approved work plan. Should the previously submitted work plan prove to be insufficient to contain the contamination, the Contractor shall modify its plan and submit it for review by the Engineer.

C. Wash Facilities:

The Contractor shall provide handwash facilities in compliance with 29 CFR 1926.51(f) and 29 CFR 1926.62 <u>regardless of airborne lead exposure</u>.

If employee exposure to airborne lead exceeds the OSHA Permissible Exposure Limit of 50 micrograms per cubic meter (μg/m^3), shower rooms must be provided. The Shower Room shall

be of sufficient capacity to accommodate the number of workers. One shower stall shall be provided for each eight (8) workers. Showers shall be equipped with hot and cold or warm running water. Shower water shall be collected and filtered using best available technology and disposed of in accordance with all Federal, State and local laws, regulations and ordinances.

D. Personal Protection:

The Contractor shall initially determine if any employee performing construction tasks impacting lead paint may be exposed to lead at or above the OSHA Action Level of 30 $\mu g/m^3$. Assessments shall be based on initial air monitoring results as well as other relevant information. The Contractor may rely on historical air monitoring data obtained within the past 12 months under workplace conditions closely resembling the process, type of material, control methods, work practices and environmental conditions used and prevailing in the Contractors current operations to satisfy the exposure assessment requirements. Monitoring shall continue as specified in the OSHA standard until a negative exposure assessment is developed.

Until a negative exposure assessment is developed for each task impacting lead paint, the Contractor shall ensure that all workers and authorized person entering the Regulated Area wear protective clothing and respirators in accordance with OSHA 29 CFR 1926.62. Protective clothing shall include impervious coveralls with elastic wrists and ankles, head covering, gloves and foot coverings. Sufficient quantities shall be provided to last throughout the duration of the project.

Protective clothing provided by the Contractor and used during chemical removal operations shall be impervious to caustic materials. Gloves provided by the Contractor and used during chemical removal shall be of neoprene composition with glove extenders.

Respiratory protective equipment shall be provided and selection shall conform to 42 CFR Part 84, 29 CFR Part 1910.134, and 29 CFR Part 1926.62. A formal respiratory protection program must be implemented in accordance with 29 CFR Part 1926.62 and Part 1910.134.

E. Air Monitoring Requirements

The Contractor shall:

1. Provide air monitoring equipment including sample filter cassettes of the type and quantity required to properly monitor operations and personnel exposure surveillance throughout the duration of the project.

2. Conduct initial exposure monitoring to determine if any employee performing construction tasks impacting lead paint may be exposed to lead at or above the OSHA Action Level of 30 micrograms per cubic meter. Monitoring shall continue as specified in the OSHA standard until a negative exposure assessment is developed.

3. Conduct personnel exposure assessment air sampling, as necessary, to assure that workers are using appropriate respiratory protection in accordance with OSHA Standard 1926.62. Documentation of air sampling results must be recorded at the work site within twenty-four (24) hours and shall be available for review until the job is complete.

F. Lead Abatement Procedures

The Contractor's Competent Person shall be at the job site at all times during work impacting lead.

Work impacting lead paint shall not begin until authorized by the Engineer, following a pre-work visual inspection by the Project Monitor or Engineer to verify existing conditions.

Any activity impacting lead painted surfaces shall be performed in a manner which minimizes the spread of lead dust contamination and generation of airborne lead.

The Contractor shall conduct exposure assessments for all tasks which impact lead paint in accordance with 29 CFR 1926.62(d) and shall implement appropriate personal protective equipment until negative exposure assessments are developed.

All work impacting the materials identified below shall be conducted within an established Regulated Area with a remote wash facility/decontamination system in accordance with "C. Wash Facilities" and the OSHA Lead in Construction Standard. In accordance with 29 CFR 1926.62, engineering controls and work practices shall be utilized to prevent the spread of lead dust and debris beyond the Regulated Area and limit the generation of airborne lead. All wastes containing lead paint shall be properly contained and secured for storage, transportation and disposal.

The Contractor shall ensure proper entry and exit procedures for workers and authorized persons who enter and leave the Regulated Area. All workers and authorized persons shall leave the Regulated Area and proceed directly to the wash or shower facilities where they will HEPA vacuum gross debris from work suit, remove and dispose of work suit, wash and dry face and hands, and vacuum clothes. Lead chips and dust must not be removed by blowing or shaking of clothing. Wash water shall be collected, filtered, and disposed of in accordance with Federal, State and local water discharge standards. Any permit required for such discharge shall be the responsibility of the Contractor.

No one shall eat, drink, smoke, chew gum or tobacco, or apply cosmetics while in the Regulated Area.

Data from the limited lead testing performed by the Engineer is documented in the reports listed in the "Notice to Contractor – Hazardous Materials Investigations" or is presented herein. Under no circumstances shall this information be the sole means used by the Contractor for determining the extent of lead painted materials. The Contractor shall be responsible for verification of all

field conditions affecting performance of the work as described in these Specifications in accordance with OSHA, USEPA, USDOT and CTDEEP standards. Compliance with the applicable requirements is solely the responsibility of the Contractor.

The following details the extent of each phase of operation designated for this project. Phase areas may be combined or divided at the direction of the Engineer. Proceed through the sequencing of the work phases under the direction of the Engineer.

Bridge No. 01224, I-84 over Mud River, Waterbury

- **Lead paint was identified on the painted steel/metal surfaces of Bridge No. 01224. XRF readings showed the paint to be lead based.**

- **No lead paint was identified on the painted concrete surfaces on the abutments of Bridge No. 01224. XRF readings did not identified detectable lead.**

Girders, Bearings, Rockers, Cross Beams, Beam Ends, etc.	**Metal**	**Grey**	**2.5-18.6 mg/cm^2**
Abutment walls	**Concrete**	**Grey**	**0.0 mg/cm^2**

- **TCLP waste stream sampling/analysis of the paint associated with the steel/metal bridge components of Bridge No. 01224 characterized the paint waste as RCRA Hazardous waste.**

Paint debris	**280 mg/l**

- **Since the painted concrete surfaces on the abutments of Bridge No. 01224 were not identified as having detectable amounts of lead, any projected waste paint debris stream is characterized as Non-Hazardous for lead.**

- **Since the painted concrete surfaces on the abutments of Bridge No. 01224 were not identified as having detectable amounts of lead, the concrete can be recycled at the Contractor's previously submitted recycling facility.**

Bridge No. 01226, I-84, Harper Ferry Overpass, Waterbury

- **Lead paint was identified on the painted steel/metal surfaces of Bridge No. 01226. XRF readings showed the paint to be lead based.**

- **No lead paint was identified on the painted concrete surfaces on the abutments of Bridge No. 01226. XRF readings did not identified detectable lead.**

Girders, Bearings, Rockers, Cross Beams, Beam Ends, Railings etc.	**Metal**	**Blue**	**0.1-13.8 mg/cm^2**

Railings	**Metal**	**Silver**	**3.2-3.9 mg/cm^2**
Abutment walls	**Concrete**	**Tan**	**0.0 mg/cm^2**

- **TCLP waste stream sampling/analysis of the paint associated with the steel/metal bridge components of Bridge No. 01226 characterized the paint waste as <u>RCRA Hazardous waste</u>.**

Paint debris	**400 mg/l**

- **Since the painted concrete surfaces on the abutments of Bridge No. 01226 were not identified as having detectable amounts of lead, any projected waste paint debris stream is characterized as <u>Non-Hazardous</u> for lead.**

- **Since the painted concrete surfaces on the abutments of Bridge No. 01226 were not identified as having detectable amounts of lead, the concrete can be recycled at the Contractor's previously submitted recycling facility.**

<u>Bridge No. 01228, I-84, Scott Road Overpass, Waterbury</u>

- **Lead paint was identified on the painted steel/metal surfaces of Bridge No. 01228. XRF readings showed the paint to be lead based.**

- **No lead paint was identified on the painted concrete surfaces on the abutments of Bridge No. 01228. XRF readings did not identified detectable lead.**

Girders, Bearings, Rockers, Cross Beams, Beam Ends, Railings etc.	**Metal**	**Grey**	**3.2-24.9 mg/cm^2**
Railings	**Metal**	**Silver**	**2.4-12.7 mg/cm^2**
Abutment walls	**Concrete**	**Tan**	**0.0 mg/cm^2**

- **TCLP waste stream sampling/analysis of the paint associated with the steel/metal bridge components of Bridge No. 01228 characterized the paint waste as <u>RCRA Hazardous waste</u>.**

Paint debris	**660 mg/l**

- **Since the painted concrete surfaces on the abutments of Bridge No. 01228 were not identified as having detectable amounts of lead, any projected waste paint debris stream is characterized as <u>Non-Hazardous</u> for lead.**

- **Since the painted concrete surfaces on the abutments of Bridge No. 01228 were not identified as having detectable amounts of lead, the concrete can be recycled at the Contractor's previously submitted recycling facility.**

Bridge No. 04321, I-84, Hamilton Avenue Overpass, Waterbury

- **Lead paint was identified on the painted metal railing of Bridge No. 04321. XRF readings showed the paint to be lead based.**

- **The painted metal surfaces of the structural steel and metal pipes on the underside of Bridge No. 04321 were inaccessible and therefore not sampled. The surfaces are assumed to have lead paint.**

Railings	**Metal**	**Silver**	**1.6-4.5 mg/cm^2**

- **Any paint waste generated from the painted metal surfaces of the structural steel, metal pipes and/or railings at Bridge No. 04321 are assumed to be RCRA hazardous waste.**

Bridge No. 06284, I-84 Interchange, Danbury

- **No lead paint was identified on the painted steel/metal surfaces of Bridge No. 06284. XRF readings and AAS results identified no detectable lead.**

Girders, Bearings, Cross Beams, Beam Ends, etc.	**Metal**	**Blue**	**0.0 mg/cm^2 ND<0.10% by weight**

- **Since the painted steel/metal surfaces of Bridge No. 06284 were not identified as having detectable amounts of lead, any projected waste paint debris stream is characterized as Non-Hazardous for lead.**

While conducting work to demolish the bridges, where it is necessary to impact the painted steel/metal surfaces, the Contractor shall either:

a. **Remove the paint to be impacted prior to impacting the steel/metal in accordance with OSHA Lead in Construction Standard 29CFR 1926.62, or**

b. **Impact the steel/metal using mechanical means with the paint in place in accordance with OSHA Lead in Construction Standard 29CFR 1926.62.**

The Contractor shall submit a Work Plan to ConnDOT outlining the exact procedures that will be used to perform the work, contain the spread of lead debris and protect the

employees performing the required renovation work impacting the lead paint. No work shall be started by the Contractor until the Work Plan is approved by the Engineer.

All work impacting the lead paint materials shall be conducted within an established Regulated Area with a remote wash facility/decontamination system in accordance with "C. Wash Facilities" and the OSHA Lead in Construction Standard. In accordance with 29 CFR 1926.62, engineering controls and work practices shall be utilized to prevent the spread of lead dust and debris beyond the Regulated Area and limit the generation of airborne lead. All wastes containing lead paint shall be properly contained and secured for storage, transportation and disposal.

On Bridge Nos. 01224, 01226, and 01228, the Engineer has previously characterized the projected paint waste stream associated with the steel/metal bridge components as RCRA Hazardous waste. If the paint is removed from the metal, the paint shall be handled and disposed of in accordance with USEPA/CTDEEP Hazardous Waste Regulations as described under this Item 0020903A.

On Bridge No. 06284, the painted steel/metal surfaces were not identified as having detectable amounts of lead. Any projected waste paint debris stream is characterized as Non-Hazardous for lead and shall be disposed of as C&D bulky waste at the Contractor's previously submitted facility.

On Bridge No. 04321, the paint waste is presently presumed to be hazardous waste. Should the paint be removed from the components, the Engineer will conduct TCLP testing or mass balance calculations on a representative sample of the lead paint waste materials to confirm if it is classified as a RCRA/CTDEEP hazardous waste or as non-hazardous C&D waste. Should the waste material be determined to be hazardous, it shall be handled and disposed of in accordance with USEPA/CTDEEP Hazardous Waste Regulations as described under this Item 0020903A. If the waste material is determined to be non-hazardous, it shall be disposed of as non-hazardous C&D bulky waste at the Contractor's previously submitted facility.

All steel and metal components generated from the miscellaneous exterior work tasks (painted or not) shall be segregated and recycled as scrap metal. The recycling of scrap metal (regardless of lead paint concentration) is exempt from USEPA RCRA and CTDEEP Hazardous Waste Regulation.

Should lead contamination be discovered outside of the Regulated Area, the Contractor shall immediately stop all work in the Regulated Area, eliminate causes of such contamination and take steps to decontaminate non-work areas.

Special Requirements:

1. Demolition/Renovation:

a. Demolish/renovate in a manner which minimizes the spread of lead contamination and generation of lead dust.
b. Implement dust suppression controls, such as misters, local exhaust ventilation, etc. to minimize the generation of airborne lead dust.
c. Segregate work areas from non-work areas through the use or barrier tape, drop cloths, etc.
d. Clean up immediately after renovation/demolition has been completed

2. Chemical Removal:

a. Apply chemical stripper in quantities and for durations specified by manufacturer.
b. Where necessary, scrape lead paint from surface down to required level of removal (i.e. stabilized surface, bare substrate with no trace of residual pigment, etc.). Use sanding, hand scraping, and dental picks to supplement chemical methods as necessary.

c. Apply neutralizer compatible with substrate and chemical agent to substrate following removal in accordance with manufacturer's instructions.
d. Protect adjacent surfaces from damage from chemical removal.
e. Maintain a portable eyewash station in the work area.
f. Wear respirators that will protect workers from chemical vapors.
g. Do not apply caustic agents to aluminum surfaces.

3. Mechanical Paint Removal:

a. Provide sanders, grinders, rotary wire brushes, or needle gun removers equipped with a HEPA filtered vacuum dust collection system. Cowling on the dust collection system for orbital-type tools must be capable of maintaining a continuous tight seal with the surface being abated. Cowling on the dust collection system for reciprocating-type tools shall promote an effective vacuum flow of loosened dust and debris. Inflexible cowlings may be used on flat surfaces only. Flexible contoured cowlings are required for curved or irregular surfaces.
b. Provide HEPA vacuums that are high performance designed to provide maximum static lift and maximum vacuum system flow at the actual operating vacuum condition with the shroud in use. The HEPA vacuum shall be equipped with a pivoting vacuum head.
c. Remove lead paint from surface down to required level of removal (i.e. stabilized surface, bare substrate with no trace of residual pigment, etc.). Use chemical methods, hand scraping, and dental picks to supplement abrasive removal methods as necessary.
d. Protect adjacent surfaces from damage from abrasive removal techniques.
e. “Sandblasting” type removal techniques shall not be allowed.

4. Component Removal/Replacement:

a. Wet down components which are to be removed to reduce the amount of dust generated during the removal process.
b. Remove components utilizing hand tools, and follow appropriate safety procedures during removal. Remove the components by approved methods which will provide the least disturbance to the substrate material. Do not damage adjacent surfaces.
c. Clean up immediately after component removals have been completed. Remove any dust located behind the component removed.

G. Prohibited Removal Methods:

The use of heat guns in excess of 700 degrees Fahrenheit to remove lead paint is prohibited.

The use of sand, steel grit, air, CO_2, baking soda, or any other blasting media to remove lead or lead paint without the use of a HEPA ventilated contained negative pressure enclosure is prohibited.

Power/pressure washing shall not be used to remove lead paint.

Compressed air shall not be utilized to remove lead paint.

Chemical strippers containing Methylene Chloride are prohibited. Any chemical stripping may be prohibited on a project by project basis.

Power tool assisted grinding, sanding, cutting, or wire brushing of lead paint without the use of cowled HEPA vacuum dust collection systems is prohibited.

Lead paint burning, busting of rivets painted with lead paint, welding of materials painted with lead paint, and torch cutting of materials painted with lead paint is prohibited. Where cutting, welding, busting, or torch cutting of materials is required, lead paint in the affected area must be removed first.

Chemical stripping of coatings from bridge components is generally prohibited unless specifically allowed on a project by project basis.

H. Clean-up and Visual Inspection:

The Contractor shall remove and containerize all lead waste material and visible accumulations of debris, paint chips and associated items.

During clean-up the Contractor shall utilize rags and sponges wetted with lead-specific detergent and water as well as HEPA filtered vacuum equipment.

The Engineer will conduct a visual inspection of the work areas in order to document that all surfaces have been maintained as free as practicable of accumulations of lead in accordance with 29 CFR 1926.62(h). If visible accumulations of waste, debris, lead paint chips or dust are found in the work area, the Contractor shall repeat the cleaning, at the Contractor's expense, until the area is in compliance. The visual inspection will detect incomplete work, damage caused by the abatement activity, and inadequate clean up of the work site.

I. Post-Work Regulated Area Deregulation:

Following an acceptable visual inspection, any engineering controls implemented may be removed.

A final visual inspection of the work area shall be conducted by the Competent Person and the Project Monitor or Engineer to ensure that all visible accumulations of suspect materials have been removed and that no equipment or materials associated with the lead paint removal remain. If this final visual inspection is acceptable, the Contractor will reopen the Regulated Area and remove all signage.

The Contractor shall restore all work areas and auxiliary areas utilized during work to conditions equal to or better than original. Any damage caused during the performance of the work activity shall be repaired by the Contractor at no additional expense to the State.

J. Waste Disposal/Recycling:

Non-metallic building debris waste materials tested and found to be non-hazardous Construction and Demolition (C&D) bulky waste shall be disposed of properly at a CTDEEP approved Solid Waste landfill as described under this Item 0020903A.

Metallic debris shall be segregated and recycled as scrap metal at an approved metal recycling facility.

Concrete, brick, etc. coated with <u>any amount of lead paint</u> cannot be crushed, recycled or buried on-site to minimize waste disposal unless tested and found to meet the RSR GA/Residential standards.

Hazardous lead debris shall be disposed of as described under this Item 0020903A.

The Contractor shall comply with the latest requirements of the USEPA RCRA Hazardous Waste Regulations 40 CFR 260-274 and the DEEP Hazardous/Solid Waste Management Standards 22a-449(c).

Hazardous lead debris shall be transported from the Project by a licensed hazardous waste transporter approved by the Department and disposed of at an EPA-permitted and Department-approved hazardous waste landfill within 90 days from the date of generation.

The Contractor must use one or more of the following Department-approved disposal facilities for the disposal of hazardous waste:

Clean Earth of North Jersey, Inc., (CENJ) 115 Jacobus Avenue, South Kearny, NJ 07105 Phone: (973) 344-4004; Fax: (973) 344-8652	Clean Harbors Environmental Services, Inc. 2247 South Highway 71, Kimball, NE 69145 Phone: (308) 235-8212; Fax: (308) 235-4307
Clean Harbors of Braintree, Inc. 1 Hill Avenue, Braintree, MA 02184 Phone: (781) 380-7134; Fax: (781) 380-7193	Cycle Chem (General Chemical Corp.) 217 South First Street, Elizabeth, NJ 07206 Phone: (908) 355-5800; Fax (908) 355-0562
EnviroSafe Corporation Northeast (former Jones Environmental Services (NE), Inc.) 263 Howard Street, Lowell, MA 01852 Phone: (978) 453-7772; Fax: (978) 453-7775	Environmental Quality Detroit, Inc. 1923 Frederick Street, Detroit, MI 48211 Phone: (800) 495-6059; Fax: (313) 923-3375
Republic Environmental Systems 2869 Sandstone Drive, Hatfield, PA 19440 Phone: (215) 822-8995; Fax: (215) 997-1293	Chemical Waste Management of New York 1550 Balmer Rd., Model City, NY 14107 Phone: (800) 843-3604; Fax: (716) 754-0211
Environmental Quality Company: Wayne Disposal Facility 49350 North I-94 Service Drive Belleville, MI 48111 Phone: (800) 592-5489; Fax: (800) 592-5329	Northland Environmental, Inc. (PSC Environmental Systems) 275 Allens Avenue, Providence, RI 02905 Phone: (401) 781-6340; Fax: (401) 781-9710

The apparent low bidder shall submit in writing, within fourteen days after Bid opening, (1) a letter listing the names of the hazardous waste disposal facilities (from the above list) that the bidder, if it is awarded the Contract, will use to receive hazardous material from this Project, and (2) a copy of each facility's acceptance criteria and sampling frequency requirements.

Any other Contractor which the Department may subsequently designate as the apparent low bidder shall make the aforementioned submissions within fourteen (14) days from the date on which the Department notifies the Contractor that it has become the apparent low bidder. If, however, the Department deems it is necessary for such a subsequent-designated Contractor to make said submissions within a shorter period of time, the Contractor shall make those submissions within the time designated by the Department.

Failure to comply with all of the above requirements may result in the rejection of the bid.

No facility may be substituted for the one(s) designated in the Contractor's submittal without the Engineer's prior approval. If the material cannot be accepted by any of the Contractor's designated facilities, the Department will supply the Contractor with the name(s) of other acceptable facilities.

Prior to the generation of any hazardous waste, the Contractor shall notify the Engineer of its selected hazardous waste transporter and disposal facility. The Contractor must submit to the Engineer (1) the transporter's current US DOT Certificate of Registration and (2) the

transporter's current Hazardous Waste Transporter Permits for the State of Connecticut, the hazardous waste destination state and any other applicable states. The Engineer will then obtain on a contiguous per site basis a temporary EPA Generators ID number for the site that he will forward to the Contractor. Any changes in transporter or facility shall be immediately forwarded to the Engineer for review.

Handling, storage, transportation and disposal of hazardous waste materials generated as a result of execution of this project shall comply with all Federal, State and Local regulations including the USEPA RCRA Hazardous Waste Regulations (40 CFR Parts 260-271), the CTDEEP Hazardous Waste Regulations (22a-209 and 22a-449(c)), and the USDOT Hazardous Materials Regulations (49 CFR Part 171-180).

All debris shall be contained and collected daily or more frequently as directed by the Engineer, due to debris buildup. Debris shall be removed by HEPA vacuum collection. Such debris and paint chips shall be stored in leak-proof storage containers in the secured storage site, or as directed by the Engineer. The storage containers and storage locations shall be reviewed by the Engineer and shall be located in areas not subject to ponding. Storage containers shall be placed on pallets and closed and covered with tarps at all times except during placement, sampling and disposal of the debris.

Hazardous waste materials are to be properly packed and labeled for transport by the Contractor is accordance with EPA, CTDEEP and USDOT regulations. The disposal of debris characterized as hazardous waste shall be completed within 90 calendar days of the date on which it began to be accumulated in the lined containers. Storage of containers shall be in accordance with current DEEP/EPA procedures.

The Contractor shall label hazardous waste storage containers with a 6-inch square, yellow, weatherproof, Hazardous Waste sticker in accordance with USDOT regulations.

Materials other than direct paint related debris which are incidental to the paint removal work activities (tarps, poly, plywood, PPE, gloves, decontamination materials, etc.) which may be contaminated with lead, shall be stored separately from the direct paint debris, and shall be sampled by the Engineer for waste disposal characterization testing. Such materials characterized as hazardous shall be handled/disposed of as described herein, while materials characterized as non-hazardous shall be disposed of as non-hazardous CTDEEP Solid Waste.

Direct paint related debris materials not previously sampled and characterized for disposal, which may be originally presumed to be hazardous waste, shall also be stored separately and sampled by the Engineer for ultimate waste disposal characterization testing and handled/disposed of based on that testing.

Project construction waste materials unrelated to the paint removal operations shall NOT be combined/stored with paint debris waste and/or incidental paint removal materials as they are not lead contaminated and shall NOT be disposed of as hazardous waste. The Engineer's on-site Inspectors shall conduct inspections to verify materials remain segregated.

The Contractor shall obtain and complete all paperwork necessary to arrange for material disposal, including disposal facility waste profile sheets. It is solely the Contractor's responsibility to co-ordinate the disposal of hazardous materials with its selected treatment/recycling/disposal facility(s). Upon receipt of the final approval from the facility, the Contractor shall arrange for the loading, transport and treatment/recycling/disposal of the materials in accordance with all Federal and State regulations. **No claim will be considered based on the failure of the Contractor's disposal facility(s) to meet the Contractor's production rate or for the Contractor's failure to select sufficient facilities to meet its production rate.**

The Contractor shall process the hazardous waste such that the material conforms with the requirements of the selected treatment/disposal facility, including but not limited to specified size and dimension. Refusal on the part of the treatment/disposal facility to accept said material solely on the basis of non-conformance of the material to the facility's physical requirements is the responsibility of the Contractor and no claim for extra work shall be accepted for reprocessing of said materials to meet these requirements.

All DOT shipping documents, including the Uniform Hazardous Waste Manifests utilized to accompany the transportation of the hazardous waste material shall be prepared by the Contractor and reviewed/signed by an authorized agent representing ConnDOT, as Generator, for each load of hazardous material that is packed to leave the site. The Contractor shall not sign manifests on behalf of the State as Generator. The Contractor shall forward the appropriate original copies of all manifests to the Engineer the same day the material leaves the Project site.

Materials not related to lead paint removal and/or characterized as non-hazardous waste shall NOT be shipped for hazardous waste disposal in accordance with USEPA RCRA hazardous waste minimization requirements.

A load-specific certificate of disposal, signed by the authorized agent representing the waste disposal facility, shall be obtained by the Contractor and promptly delivered to the Engineer for each load.

In addition to all pertinent Federal, State and local laws or regulatory agency polices, the Contractor shall adhere to the following precautions during the transport of hazardous materials off-site:

- All vehicles departing the site are to be properly logged to show the vehicle identification, driver's name, time of departure, destination, and approximate volume, and contents of materials carried. Vehicles shall display the proper USDOT placards for the type and quantity of waste;
- No materials shall leave the site unless a disposal facility willing to accept all of the material being transported has agreed to accept the type and quantity of waste;
- Documentation must be maintained indicating that all applicable laws have been satisfied and that the materials have been successfully transported and received at the

disposal facility; and,

- The Contractor shall segregate the waste streams (i.e. concrete, wood, etc.) as directed by the receiving disposal facility.

Any spillage of debris during disposal operations during loading, transport and unloading shall be cleaned up in accordance with EPA 40 CFR 265 Subparts C & D, at the Contractor's expense.

The Contractor is liable for any fines, costs or remediation costs incurred as a result of their failure to be in compliance with this Item and all Federal, State and Local laws.

K. Project Closeout Data:

Provide the Engineer, within thirty (30) days of completion of the project site work, a compliance package; which shall include, but not be limited to, the following:

1. Competent persons (supervisor) job log;
2. OSHA-compliant personnel air sampling data;
3. Completed waste shipment papers for non-hazardous lead construction and demolition (C&D) waste disposal or recycling and scrap metal recycling.
4. Copies of completed Hazardous Waste Manifests (signed by authorized disposal facility representative).

Method of Measurement:
The completed work shall be paid as a lump sum. This item will include all noted services, equipment, facilities, testing and other associated work for up to three (3) ConnDOT project representatives. Services provided to any ConnDOT project representatives in excess of three (3) representatives will be measured for payment in accordance with Article 1.09.04 – "Extra and Cost-Plus Work."

Basis of Payment:
The lump sum price bid for this item shall include: services, materials, equipment, all permits, notifications, submittals, personal air sampling, personal protection equipment, temporary enclosures, incidentals, fees and labor incidental to activities impacting lead removal, treatment and handling of lead contaminated materials, and the transport and disposal of any hazardous and/or non-hazardous lead construction and demolition (C&D) bulky waste.

Final payment will not be made until all project closeout data submittals have been completed and provided to the Engineer. Once the completed package has been received in its entirety and accepted by the Engineer, final payment will be made to the Contractor.

Pay Item	Pay Unit
Lead Compliance for Miscellaneous Exterior Tasks	Lump Sum

END OF SECTION

ITEM #0101117A - CONTROLLED MATERIALS HANDLING

Description:

Work under this Item is intended to provide specific procedural requirements to be followed by the Contractor for management and storage of excavated controlled materials. This supplements Specifications Section 2.02, 2.03, 2.05, and 2.06 and Contract Special Provisions for excavation. Work under this item shall include transporting and stockpiling materials from the AORRs and excess sediment to the Waste Stockpile Areas (WSAs); transporting and stockpiling materials (soil) from outside the clean material area (CMA), HAZ-AOECs and AORRs to the Temporary Reuse Stockpile Areas (TRSAs) or WSAs as directed by the Engineer, and covering, securing, and maintaining the stockpiled materials throughout the duration of the Project. All excavated materials (soil and sediment), excluding the existing pavement structure (asphalt and subbase), rock, ledge, concrete and material removed from the CMA and HAZ-AOECs are considered controlled materials. If the vertical limits of the existing subbase cannot be determined visually, subbase will be presumed to extend 30 cm below the bottom of the existing pavement.

Controlled materials consisting of non-hazardous levels of regulated substances have been documented to exist within the Project. Such contamination is documented in the reports listed in the "Notice to Contractor – Environmental Investigations". Where contaminated soils are excavated, such soil will require special handling, disposal and documentation procedures.

Materials:

The required materials are detailed on the Project Plans. All materials shall conform to the requirements of the Contract.

Plastic Sheet: Polyethylene plastic sheeting for underlayment shall be at least 0.76 millimeter thick. Polyethylene plastic sheeting for covering excavated material shall be a thickness of 0.25 millimeter. Both shall be at least 3 meters wide.

Covers for roll-off/storage containers shall be made of polyethylene plastic, or similar water-tight material, that is of sufficient size to completely cover top opening and can be securely fastened to the container.

Sand Bags: Sandbags used to secure polyethylene covers shall be at least 15 kilograms.

Sorbent Boom: Shall be 200 millimeters in diameter and 3 meters long and possess petrophilic and hydrophilic properties. Sorbent booms shall also have devices (i.e. clips, clasps, etc.) for connection to additional lengths of boom.

Construction Methods:

A. General

When controlled materials are encountered during the course of the work, health and safety provisions shall conform to the appropriate sections of the Contract. Provisions may include implementation of engineering controls, air and personal monitoring, the use of chemical protective clothing (CPC), personal protective equipment (PPE), implementation of engineering controls, air and personal monitoring, and decontamination procedures.

To the extent possible, excavated material shall be re-used within the project limits at locations shown on the plans or designated by the Engineer provided such soil is deemed to be structurally suitable for the intended use by the Engineer and it is not placed below the water table or in an area subject to erosion.

Excavated soil which cannot be re-used as it is generated shall be transported and stockpiled at the Temporary Reuse Stockpile Areas (TRSAs) or Waste Stockpile Areas (WSAs) within the project limits as directed by the Engineer.

Excavated sediment which cannot be re-used as it is generated shall be transported to the Waste Stockpile Areas (WSAs) for characterization prior to off-site disposal.

Excavated material from the Areas of Restricted Reuse (AORR's) shall not be re-used within the project limits and shall be transported directly to the Waste Stockpile Areas (WSAs) for characterization prior to off-site disposal.

The stockpiles of excavated controlled materials at the TRSAs and WSAs shall be maintained as shown on the Project Plans. The Contractor shall plan excavation activities in consideration of the capacity of TRSAs and WSAs, and the material testing and disposal requirements of the applicable Contract item. **No claims for delay shall be considered based on the Contractor's failure to coordinate excavation activities as specified herein.**

The Engineer will sample the stockpiled controlled materials at the WSAs at a frequency and for the constituents to meet the acceptance criteria of the treatment/recycling/disposal facilities of the Contractor's selected facility. The Contractor is hereby notified that laboratory turnaround time is expected to be fifteen (15) working days. Turnaround time is the period of time beginning when the Contractor notifies the Engineer which facility it intends to use and that the stockpile is ready for sampling and ending with the Contractor's receipt of the laboratory analytical results. Any change of intended treatment/recycling/disposal facility may prompt the need to resample and will therefore restart the time required for laboratory turnaround. The laboratory will furnish such results to the Engineer. Upon receipt, the Engineer will make available to the Contractor the results of the final waste characterization determinations. **No delay claim will be considered based upon the Contractor's failure to accommodate the laboratory turnaround time as identified above.**

B. Transportation and Stockpiling

In addition to following all pertinent Federal, State and local laws or regulatory agency policies, the Contractor shall adhere to the following precautions during transport of non-hazardous materials:

- Transported controlled materials are to be covered prior to leaving the point of generation and are to remain covered until the arrival at the WSAs or TRSAs;

- All vehicles departing the site are properly logged to show the vehicle identification, driver's name, time of departure, destination, and approximate volume and content of materials carried;

- All vehicles shall have secure, watertight containers free of defects for material transportation;

- No material shall leave the site until there is adequate lay down area prepared in the WSAs or TRSAs; and,

- Documentation must be maintained indicating that all applicable laws have been satisfied and that the materials have been successfully transported and received at the WSAs or TRSAs.

Construction of the WSAs shall be completed prior to the initiation of construction activities. Plastic polyethylene sheeting and bedding sand or existing/new pavement shall underlay all excavated materials at the WSAs as shown on the Contract Plans. Measures shall be implemented to divert rainfall away from the WSAs.

Preparation of the Temporary Reuse Stockpile Areas (TRSAs) shall be completed prior to the initiation of construction activities. Note: Only one (1) TRSA site shall be utilized by the Contractor at any given time. A new TRSA site shall be opened only when the previous site has reached its capacity or as directed by the Engineer.

No materials shall be excavated or transported to the WSAs until registration under the General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer) has been obtained for the WSAs by ConnDOT.

Placement of sorbent boom along the perimeter of the WSAs shall be conducted when soil is saturated with petroleum product.

Excavated materials shall be staged at the WSAs in stockpiles not exceeding 190 cubic meters as shown on the Project Plans or as directed by the Engineer.

C. WSAs Maintenance

The Contractor shall provide all necessary materials, equipment, tools and labor for anticipated activities within the WSAs. Such activities include, but are not limited to, handling and management of stockpiles and drummed CPC/PPE; uncovering and recovering stockpiles; maintenance of WSAs; replacement of damaged components (i.e. sand bags, plastic polyethylene sheeting, etc.); and waste inventory record management. The Contractor shall manage all materials in the WSAs in such a way as to minimize tracking of potential contaminated materials across the site and off-site, and minimize dust generation.

Each stockpile shall be securely covered when not in active use with a cover of sufficient size to prevent generation of dust and infiltration of precipitation.

The staged stockpiles shall be inspected at least daily by the Contractor to ensure that the cover and containment have not been damaged and that there is no apparent leakage from the pile. If the cover has been damaged, or there is evidence of leakage from the piles, the Contractor shall immediately replace the cover or containment as needed to prevent the release of materials to the environment from the piles.

An inventory of stockpiled materials and drummed CPC/PPE shall be conducted on a daily basis. Inventory records shall indicate the approximate volume of material/drums stockpiled per day; the approximate volume of material/drums stockpiled to date; material/drums loaded and transported off-site for disposal; any materials loaded and transported for on-site reuse; and identification of stockpiles relative to their points of generation.

Following the removal of all stockpiled controlled materials, residuals shall be removed from surfaces of the WSAs as directed by the Engineer. This operation shall be accomplished using dry methods such as shovels, brooms, mechanical sweepers or a combination thereof. Residuals shall be disposed of as Controlled Materials.

D. TRSAs Maintenance

The Contractor shall provide all necessary materials, equipment, tools and labor for the anticipated activities with the TRSAs. The Contractor shall maintain the sedimentation and erosion control around the perimeter of the TRSAs. The Contractor shall minimize wind erosion and dust transport as detailed in “G. Dust Control” below and maintain anti-tracking measures to ensure that vehicles do not track soil from the TRSAs onto a public roadway at any time. The Contractor shall establish temporary seeding on the slopes when the vertical height reaches 3 meters or when the TRSA will not be in use for more than a one month period. The Contractor shall prevent unauthorized entry into the TRSAs by the maintaining the fences, gates, or other natural or artificial barriers during all construction operations.

E. Dewatering

Dewatering activities shall conform to Items in pertinent articles of the Contract.

F. Decontamination

All equipment shall be provided to the work site free of contamination. The Engineer may prohibit from the site any equipment that in his opinion has not been thoroughly decontaminated prior to arrival. Any decontamination of the Contractor's equipment prior to arrival at the site shall be at the expense of the Contractor. The Contractor is prohibited from decontaminating equipment on the Project that has not been thoroughly decontaminated prior to arrival.

The Contractor shall furnish labor, materials, tools and equipment for decontamination of all equipment and supplies that are used to handle Controlled Materials. Decontamination shall be conducted at an area designated by the Engineer and may be required prior to equipment and supplies leaving the Project, between stages of the work, or between work in different AORRs and the AOEC.

Dry decontamination procedures are recommended. Residuals from dry decontamination activities shall be collected and managed as Controlled Materials. If dry methods are unsatisfactory as determined by the Engineer, the Contractor shall modify decontamination procedures as required subject to the Engineer's approval.

G. Dust Control

The Contractor shall implement a fugitive dust suppression program in accordance with the Contract to prevent the off-site migration of particulate matter and/or dust resulting from excavation, loading and operations associated with Controlled Materials. It shall be the Contractor's responsibility to supervise fugitive dust control measures and to monitor airborne particulate matter. The Contractor shall:

1. Employ reasonable fugitive dust suppression techniques.
2. Visually observe the amounts of particulate and/or fugitive dust generated during the handling of controlled materials. If the apparent amount of fugitive dust and/or particulate matter is not acceptable to the Engineer, the Engineer may direct the Contractor to implement corrective measures at his discretion, including, but not limited to, the following:
    (a) apply water to pavement surfaces
    (b) apply water to equipment and excavation faces; and
    (c) apply water during excavation, loading and dumping.

H. Waste Stockpile Areas (WSAs) Permit Compliance

The Contractor shall comply with the terms and conditions of the DEEP "General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer)" obtained for the Waste Stockpile Areas (WSAs), including the General Operating Conditions and the Specific Operating Conditions, except that the Engineer will conduct all soil/sediment characterization and perform all record keeping. In particular, the Contractor shall:

1. Operate, maintain and repair the WSAs in conformance with the requirements of the General Permit.
2. Maintain a communications system capable of summoning fire, police, and/or other emergency service personnel.
3. Prevent unauthorized entry onto the stockpiles by the use of fences, gates, or other natural or artificial barriers.
4. Separate incidental excavation waste to the satisfaction of the receiving facility or to an extent that renders the contaminated soil and/or sediment suitable for its intended reuse or acceptance at the disposal facility.
5. Isolate and temporarily store incidental waste in a safe manner prior to off-site transport to a facility lawfully authorized to accept such waste.
6. Not store more than 76 cubic meters of incidental waste at any one time.
7. Sort, separate and isolate all hazardous waste from contaminated soil and/or sediment.
8. Prevent or minimize the transfer or infiltration of contaminants from the stockpiles to the ground as detailed in "B. Transportation and Stockpiling" above.
9. Securely cover each stockpile of soil as detailed in "C. WSAs Maintenance" above.
10. Minimize wind erosion and dust transport as detailed in "G. Dust Control" above.
11. Use anti-tracking measures at the WSAs to ensure the vehicles do not track soil from the WSAs onto a public roadway at any time.
12. Instruct the transporters of contaminated soil and/or sediment of best management practices for the transportation of such soil (properly covered loads, removing loose material from dump body, etc.).
13. Control all traffic related to the operation of the facility in such a way as to mitigate the queuing of vehicles off-site and excessive or unsafe traffic impact in the area where the facility is located.
14. Ensure that except as allowed in section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies, trucks are not left idling for more than three (3) consecutive minutes.

Method of Measurement:

The work of Controlled Material Handling will be measured for payment by the number of cubic meters of controlled material excavated within the project limits and taken to the WSAs or TRSAs, subject to the rules below.

1. AORR: material will be brought directly to the WSAs and measured for payment.

2. Sediment that is not re-used within the project limits will be brought to the WSAs as directed by the Engineer and measured for payment.

3. Other contaminated soil: soil unable to be immediately reused within the project corridor will be brought to the TRSAs or WSAs as directed by the Engineer and measured for payment.

4. Material reused as it is generated will not be measured for payment.

5. Material excavated from the CMA cannot be reused within the project limits and does not require special handling and disposal. This material and will not be measured for payment and shall be managed as surplus material in accordance with the Contract Documents.

This measurement shall be in accordance with and in addition to the quantity measured for payment of the applicable excavation item in Specification Sections 2.02, 2.03, 2.05, 2.06, or the Contract Special Provisions for foundation excavation, as applicable. Excess excavations made by the Contractor beyond the payment limits specified in the Contract will not be measured for payment and the Contractor assumes all costs associated with the appropriate handling, management and disposal of this material.

Equipment decontamination, the collection of residuals, and the collection and disposal of liquids generated during equipment decontamination activities will not be measured separately for payment.

Basis of Payment:

This work shall be paid for at the Contract unit price, which shall include all transportation from the excavation site to the WSAs or TRSAs, including any intermediate handling steps; stockpiling controlled materials at the WSAs and TRSAs; covering, securing, and maintaining the individual stockpiles within the WSAs throughout the duration of the Project; maintenance of the elements of TRSAs, including fencing and gates, sedimentation and erosion controls, anti-tracking measures, and temporary seeding, and all tools, equipment, material and labor incidental to this work.

This price shall also include equipment decontamination; the collection of residuals generated during decontamination and placement of such material in the WSAs; and the collection and disposal of liquids generated during equipment decontamination activities.

All materials, labor and equipment associated with compliance with the General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer) will not be measured separately, but will be considered incidental to the item "Controlled Materials Handling".

Securing, construction and dismantling of the WSAs and preparation of the TRSAs shall be paid for under Item 0101128A.

Pay Item	Pay Unit
Controlled Materials Handling	C.M.

ITEM #0202223A – J-HOOK VANE

Description: Work under this item shall consist of furnishing and placing individual J-Hook Vanes/Rock Vanes along Mad River using boulder/rounded and Footer Rock stone material. This work shall be done in accordance with the dimension and details shown on the plans/permit plans, at locations indicated on the plans/permit or as directed by personnel from the Office of Environmental Planning (OEP), an OEP approved representative, or a representative of the Department of Energy and Environmental Protection (DEEP) Inland Fisheries Division. The intent of the J-Hook Vane/Rock Vane and Footer Rock is to improve/create aquatic habitat by enhancing flow diversity through the formation of scour pools.

Materials: Boulder/Rounded Stone shall consist of sound, durable rock, resistant to the action of air and water. Either field stone or rough, unhewn quarry stone may be used. The boulder/rounded stone shall be similar in mineral composition and color to the adjacent existing or proposed channel bed.

Boulder/Rounded Stone with visible cracks or spalling will not be permitted. Rock excavated from ledge (bedrock) formations, or broken from larger boulders, will not be accepted. Broken concrete will not be accepted. Stones consisting of sandstone, shale, or other rock material prone to disintegration will not be permitted.

Footer Rocks shall serve as the foundation for top layer of boulder/rounded stone. These rocks shall have reasonable flat tops and bottoms to enable top layer placement of boulder/rounded material. Cut rock excavated from ledge (bedrock) formations is acceptable. Broken concrete will not be accepted. Stones consisting of sandstone, shale, or other rock material prone to disintegration will not be permitted.

Material the Contractor proposes to use must be inspected and approved by the OEP prior to the excavation of material on-site or hauling of the material from an off-site source. A minimum notice of 2 weeks must be given to the OEP for inspection and approval.

Construction Methods: The Engineer shall ensure that the areas for the J-Hook/Rock Vane and Footer Rock placement are to be clear of construction material, equipment, cofferdams, and/or water-handling devices, unless specifically required to be left in place during the installation as indicated in the contract plans or permit.

Prior to installation, the Contractor shall stake out the location of the J-Hook/Rock Vane and Footer Rock, by placing stakes at each end and shall notify the Engineer in the field for review. Final location will be at the discretion of OEP or approved representative.

All erosion and sedimentation control devices, including dewatering basins, shall be implemented prior to beginning the installation of J-Hook/Rock Vane and Footer Rock.

Notify the OEP at least 2 weeks prior to initiating the placement of J-Hook Vane/Rock Vane and Footer Rock. Any and all coordination with the DEEP Inland Fisheries Division will be done

through the OEP. The Contractor shall react accordingly to this requirement by giving the Engineer sufficient time to fulfill the Engineer's obligation. Placement of the J-Hook Vane/Rock Vane and Footer Rock should proceed during periods of low flow whenever possible to ensure proper placement and as directed by the OEP or an OEP approved representative. No work shall be performed without a DEEP Inland Fisheries Division representative on site, unless specifically requested otherwise.

The placement of the J-Hook Vane/Rock Vane and Footer Rock shall be in accordance with the locations indicated on the plans/permit. The final location may deviate from plans/permit at the discretion of OEP or an OEP approved representative.

If in the opinion of the OEP, DEEP Inland Fisheries Division or an approved OEP representative that the J-Hook Vane/Rock Vane and Footer Rock material is too large or small for the hydraulic opening or may affect habitat conditions at any location in the work area, the Contractor shall furnish and place alternative material as directed.

Equipment: When placing and maneuvering J-Hook/Rock Vane and Footer Rock material within the channel bed or embedding boulder/rounded stones into the streambank, the Contractor shall use an excavator with an articulated bucket (with thumb). Any other equipment proposed to be used shall be reviewed and approved in advance by OEP or an OEP approved representative.

All disturbed areas as a result of the placement of J-Hook/Rock Vane and Footer Rock shall be permanently stabilized using approved sediment and erosion control measures.

Method of Measurement: This work will be measured for payment for each J-Hook/Rock Vane and Footer Rock installed and accepted at the locations called for on the plans or as directed by OEP or an OEP approved representative, within the limits of the proposed work.

Basis of Payment: This work will be paid for at the contract unit price each for the item "J-Hook Vane", complete in place, including all erosion & sedimentation controls, water handling, excavations, materials, equipment, tools and labor incidental thereto, as necessary to complete this work.

Pay Item	**Pay Unit**
J-Hook Vane	EA.

ITEM #0202315A - DISPOSAL OF CONTROLLED MATERIALS

Description:

Work under this item shall consist of the loading, transportation and final off-site disposal/ recycling/treatment of controlled materials (excluding dewatering fluids) stored at the Waste Stockpile Areas (WSAs) that have been determined to be contaminated with regulated substances at non-hazardous levels. Contamination previously documented to exist on the site can be found in the reports listed in the "Notice to Contractor – Environmental Investigations". The controlled materials, after proper characterization by the Engineer, shall be taken from the WSAs, loaded, transported to and treated/recycled/disposed of at a permitted treatment/recycle/disposal facility listed herein.

The Contractor must use one or more of the following Department-approved treatment/recycle/disposal facilities for the disposal of non-hazardous materials:

	Northampton Landfill 170 Glendale Road Florence, MA 01062 413-498-0099
ESMI of New York 304 Towpath Road Fort Edward, New York 12828 (800) 511-3764; Peter Hanson	Waste Management of New Hampshire P.O. Box 27065 97 Rochester Neck Road Gonic, NH 03839 (603) 330-2170; Ellen Bellio
Ted Ondrick Company, LLC 58 Industrial Road Chicopee, MA 01020 (413) 592-2566; Alan Desrosiers	ESMI of New Hampshire 67 International Drive Loudon, NH 03307 (603) 783-0228; Stephen Raper
The Southbridge Recycling and Disposal Park 165 Barefoot Road Southbridge, MA 508-765-9723	South Hadley Landfill, LLC 12 Industrial Drive South Hadley, MA 01075 413-535-3095
Waste Management – Chicopee Sanitary Landfill 161 New Lombard Road Chicopee, MA 01020 413-534-8741	Waste Management – Granby Sanitary Landfill 11 New Ludlow Road Granby, MA 01033 413-467-3200

Moretown Landfill 187 Palisades Park Waterbury, VT 05676 802-244-1100 x 226	Allied Waste Niagra Fall Landfill, LLC 5600 Niagra Falls Blvd. Niagra, NY 14304 716-285-3398; David Hanson
Clean Earth of Philadelphia 3201 S. 61 Street Philadelphia, PA 19153 215-724-5520; Mike Kelly	Clean Earth of Carteret 24 Middlesex Avenue Carteret, NJ 07008 732-541-8909; Cheryl Coffee
Cranston Sanitary Landfill 1690 Pontiac Avenue Cranston, RI 02920 413-552-3688; Paul Mahoney	

Construction Methods:

A. Submittals

The apparent low bidder shall submit in writing, within fourteen days after Bid opening, (1) a letter listing the names of the treatment/recycle/disposal facilities (from the list above) which the bidder, if it is awarded the Contract, will use to receive controlled material from this Project, (2) a copy of the attached "Disposal Facility Material Acceptance Certification" form from each facility, which shall be signed by an authorized representative of each treatment/recycle/disposal facility, and (3) a copy of the facility acceptance criteria and facility sampling frequency requirements from each facility.

Any other Contractor which the Department may subsequently designate as the apparent low bidder shall make the aforementioned submissions within fourteen (14) days from the date on which the Department notifies the Contractor that it has become the apparent low bidder. If, however, the Department deems it is necessary for such a subsequent-designated Contractor to make said submissions within a shorter period of time, the Contractor shall make those submissions within the time designated by the Department.

Failure to comply with all of the above requirements may result in the rejection of the bid.

No facility may be substituted for the one(s) designated in the Contractor's submittal without the Engineer's prior approval. If the material cannot be accepted by any of the Contractor's designated facilities, the Department will supply the Contractor with the name(s) of other acceptable facilities.

Disposal Facility Materials Acceptance Certification

Project Number _____

Project Location_____

Facility Name_____ Telephone_____

Facility Address_____ Fax_____

_____

_____

The Contractor has supplied the analytical data contained in the report concerning the site investigation performed by the Designer. I have personally reviewed this data and intend to accept the following:

Controlled materials as described in Item # 0202315A Disposal of Controlled Materials for the subject Project at a cost of $_____ per metric ton for treatment/disposal and an additional $_____ per metric ton for transportation from the Project to the facility (if applicable).

This intent to accept the material will be subject to and dependent upon the facility's subsequent evaluation of waste characterization determination documentation to be provided to the Contractor by the Engineer.

Authorized Facility
Representative_____/_____
Printed/Typed Name Title

_____/_____
Signature Date

Note: The facility shall attach the acceptance criteria and facility sampling frequency requirements to this document.

DO NOT ALTER FORM IN ANY WAY. FORM MUST BE COMPLETED IN ENTIRETY.

B. Material Disposal

The Engineer will sample materials stored at the WSAs at a frequency established by the selected treatment/recycling/disposal facilities. The Contractor shall designate to the Engineer which facility it intends to use prior to samples being taken. The Contractor is hereby notified that laboratory turnaround time is expected to be fifteen (15) working days. Turnaround time is the period of time beginning when the Contractor notifies the Engineer which facility it intends to use and that the bin within the WSAs is full and ready for sampling and ending with the Contractor's receipt of the laboratory analytical results. Any change of intended treatment/recycling/disposal facility may prompt the need to resample and will therefore restart the time required for laboratory turnaround. The laboratory will furnish such results to the Engineer. Upon receipt, the Engineer will make available to the Contractor the results of the final waste characterization determinations. **No delay claim will be considered based upon the Contractor′s failure to accommodate the laboratory turnaround time as identified above.**

The Contractor shall obtain and complete all paperwork necessary to arrange for material disposal (such as disposal facility waste profile sheets). It is solely the Contractor's responsibility to co-ordinate the disposal of controlled materials with its selected treatment/recycling/disposal facility(s). Upon receipt of the final approval from the facility, the Contractor shall arrange for the loading, transport and treatment/recycling/disposal of the materials in accordance with all Federal and State regulations. **No claim will be considered based on the failure of the Contractor's selected disposal facility(s) to meet the Contractor's production rate or for the Contractor's failure to select sufficient facilities to meet its production rate.**

All manifests or bills of lading utilized to accompany the transportation of the material shall be prepared by the Contractor and signed by an authorized Department representative, as Generator, for each truck load of material that leaves the site. The Contractor shall forward the appropriate original copies of all manifests or bills of lading to the Engineer the same day the material leaves the Project.

A load-specific certificate of treatment/recycling/disposal, signed by the authorized agent representing the disposal facility, shall be obtained by the Contractor and promptly delivered to the Engineer for each load.

C. Material Transportation

In addition to all pertinent Federal, State and local laws or regulatory agency polices, the Contractor shall adhere to the following precautions during the transport of controlled materials off-site:

· Transported controlled materials are to be covered sufficiently to preclude the loss of material during transport prior to leaving the site and are to remain covered until the arrival at the selected treatment/recycling/disposal facility.

- All vehicles departing the site are to be properly logged to show the vehicle identification, driver's name, time of departure, destination, and approximate volume, and contents of materials carried.

- No materials shall leave the site unless a treatment/recycling/disposal facility willing to accept all of the material being transported has agreed to accept the type and quantity of waste.

D. Equipment Decontamination

All equipment shall be provided to the work site free of gross contamination. The Engineer may prohibit from the site any equipment that in his opinion has not been thoroughly decontaminated prior to arrival. Any decontamination of the Contractor's equipment prior to arrival at the site shall be at the expense of the Contractor. The Contractor is prohibited from decontaminating equipment on the Project that has not been thoroughly decontaminated prior to arrival.

The Contractor shall furnish labor, materials, tools and equipment for decontamination of all equipment and supplies that are used to handle Controlled Materials. Decontamination shall be conducted at an area designated by the Engineer and shall be required prior to equipment and supplies leaving the Project, between stages of the work, and between work in different AORRs and the AOEC.

The Contractor shall use dry decontamination procedures. Residuals from dry decontamination activities shall be collected and managed as Controlled Materials. If the results from dry methods are unsatisfactory to the Engineer, the Contractor shall modify decontamination procedures as required.

The Contractor shall be responsible for the collection and treatment/recycling/disposal of any liquid wastes that may be generated by its decontamination activities in accordance with applicable regulations.

Method of Measurement:

The work of "DISPOSAL OF CONTROLLED MATERIALS" will be measured for payment as the actual net weight in metric tons of material delivered to the treatment/recycling/disposal facility. Such determinations shall be made by measuring each hauling vehicle on the certified permanent scales at the treatment/recycling/disposal facility. Total weight will be the summation of weight bills issued by the facility specific to this Project. Excess excavations made by the Contractor beyond the payment limits specified in Specification Sections 2.02, 2.03, 2.05, 2.06, or the Contract Special Provisions for foundation excavation (as appropriate) will not be measured for payment and the Contractor assumes responsibility for all costs associated with the appropriate handling, management and disposal of this material.

The disposal of excavated materials, originally anticipated to be controlled materials, but determined by characterization sampling not to contain concentrations of regulated chemicals (i.e. non-polluted, clean fill, or natural soil) will not be measured for payment under this item but will be considered as surplus excavated materials and will be paid in accordance with Article 1.04.05.

Equipment decontamination, the collection of residuals, and the collection and disposal of liquids generated during equipment decontamination activities will not be measured separately for payment.

Basis of Payment:

This work will be paid for at the Contract unit price, which shall include the loading and transportation of controlled materials from the WSAs to the treatment/recycling/disposal facility; the fees paid to the facility for treatment/recycling/disposal; the preparation of all related paperwork; and all equipment, materials, tools, and labor incidental to this work. **This unit price will be applicable to all of the listed disposal facilities and will not change for the duration of the Project.**

This price shall also include equipment decontamination; the collection of residuals generated during decontamination and placement of such material in the WSAs; and the collection and disposal of liquids generated during equipment decontamination activities.

Pay Item	Pay Unit
Disposal of Controlled Materials	t

ITEM #0507171A - HYDRODYNAMIC SEPARATOR (SITE NO. 1)
ITEM #0507172A - HYDRODYNAMIC SEPARATOR (SITE NO. 2)
ITEM #0507173A - HYDRODYNAMIC SEPARATOR (SITE NO. 3)
ITEM #0507174A - HYDRODYNAMIC SEPARATOR (SITE NO. 4)
ITEM #0507175A - HYDRODYNAMIC SEPARATOR (SITE NO. 5)
ITEM #0507176A - HYDRODYNAMIC SEPARATOR (SITE NO. 6)
ITEM #0507177A - HYDRODYNAMIC SEPARATOR (SITE NO. 7)
ITEM #0507178A - HYDRODYNAMIC SEPARATOR (SITE NO. 8)

Description: Hydrodynamic separators are proprietary devices manufactured for stormwater treatment. The hydrodynamic separator shall be a precast concrete structure and include an internal chamber with features that induce a swirling, circular, or spiraling flow pattern in the stormwater flow that separate and trap sediment and pollutants in a chamber that can be accessed for later removal.

This item will consist of furnishing and construction of a hydrodynamic separator, a flow diversion structure, manholes and pipes in the location, grades, treatment capacity and to the dimensions and details shown on the contract drawings, and in accordance with these specifications or as directed by the Engineer. The work also includes the preparation of hydraulic design calculations for the hydrodynamic separator(s) and flow diversion structure(s) as specified herein.

The hydrodynamic separator shall be assembled and installed in strict compliance with the Manufacturer's instructions unless otherwise directed by these specifications or by the Engineer. Internal flow controls / diversion components, external appurtenances, concrete manhole riser sections, manhole frames and covers, reinforcing, threaded inserts, lifting and seating fixtures, non-shrink grout, and all other necessary materials and equipment to complete the work shall be included.

This item shall also include the cleaning of the hydrodynamic separator of all sediment and debris every 90 days, or as needed, from when they are put into service, until final acceptance of the project.

Approved Products and Manufacturer Information: Proprietary hydrodynamic separators currently approved by the Department are listed in Table 1 "**CONNDOT LIST OF APPROVED HYDRODYNAMIC SEPARATORS**". Company contact information is provided for convenience. *As the company information frequently changes, the Department is not responsible for its accuracy.*

The Engineer will reject any proposed hydrodynamic separator that is not listed in Table 1.

The listed products have been approved for use on Department projects based on only a general review of the product's construction, function and treatment capabilities. **Therefore, the approved list shall not be construed to mean that all products appearing on the list are suitable to any specific project site or drainage design.**

Performance: The stormwater treatment performance of the selected hydrodynamic separator shall be based on the water quality flow (WQF) as defined and calculated in accordance with the Department's current version of the Drainage Manual.

The hydrodynamic separator shall be designed to treat the entire WQF as indicated on the contract drawings or specifications, without bypass, either through the separator's internal components or at the flow diversion structure.

TABLE 1 – CONNDOT LIST OF APPROVED HYDRODYNAMIC SEPARATORS

HYDRODYNAMIC SEPARATOR PRODUCT NAME	COMPANY INFORMATION
Downstream Defender	Hydro International 94 Hutchins Drive Portland, Maine 04102 (207) 756-6200 http://www.hydrointernational.biz/us/index_us.php
FloGard Dual-Vortex Hydrodynamic Separator	KriStar Enterprises, Inc. 4020 Riverclub Drive Cumming, Georgia 30041 (770)-889-4338 http://www.kristar.com/
High Efficiency CDS	Contech Stormwater Solutions 200 Enterprise Drive Scarborough, Maine 04074 (800)-925-5240 http://www.contech-cpi.com/stormwater/13
Vortechs	
Vortsentry	
Hydroguard	Hydroworks, LLC 525Boulevard Kenilworth, NJ 07033 (888)-290-7900 / (908)-272-4411 http://www.hydroworks.org/
Stormceptor OSR	Rinker Materials – Stormceptor 69 Neck Road Westfield, MA 01085 (800)-909-7763 / (413) 246-7144 www.rinkerstormceptor.com
Stormceptor STC	
V2B1	Environment 21 8713 Read Road, P.O. Box 55 East Pembroke, New York 14056-0055 (800)-809-2801 / (585)-815-4700 www.env21.com

Hydrodynamic separator systems and models that have been pre-approved for use on Department projects and their corresponding maximum allowable WQF's for stormwater treatment are shown in **Table 2**, "**PERFORMANCE MATRIX FOR CONNDOT APPROVED HYDRODYNAMIC SEPARATORS**". The Engineer will reject any proposed hydrodynamic separator system/model that is not listed in Table 2.

For more severe storm events that produce flows up to and including the drainage design flow (DDF) and which result in flows greater than the WQF being directed to the hydrodynamic separator from the flow diversion structure, the hydrodynamic separator shall be capable of conveying the portion of the DDF directed to it without surcharging the upstream storm drainage system and re-suspending previously trapped sediment.

The WQF to be treated and the portion of the DDF directed to the hydrodynamic separator when the drainage system is operating at its design flow are shown on the Hydrodynamic Separator

Design Data Sheets (Form A - Design). A separate form for each hydrodynamic separator site on the project is attached to this specification.

Sediment Storage Capacity: Settleable solids shall accumulate in a location within the hydrodynamic separator structure that is accessible for cleaning and maintenance but not susceptible to resuspension. Direct access through openings in the precast concrete unit shall be provided to the sediment storage chamber and all other chambers to facilitate maintenance.

The standard sediment storage capacities for Department pre-approved hydrodynamic separator systems/models are shown in **Table 3**, "**STANDARD SEDIMENT STORAGE CAPACITY FOR CONNDOT APPROVED HYDRODYNAMIC SEPARATORS***"*. The sediment storage capacities listed in Table 3 are values based on standard structure dimensions and anticipated maintenance requirements.

Some standard hydrodynamic separator models may be modified as determined by the Manufacturer to increase the sediment storage capacity. When a modification is proposed by increasing the depth of the standard structure, the sediment storage capacity of the proposed structure shall be determined in accordance with **Table 4, "SEDIMENT STORAGE CAPACITY CALCULATION"**.

The Contractor shall be responsible for verifying the standard sediment storage capacity of the hydrodynamic separator unit(s) and coordinating any proposed modifications to increase sediment storage capacity with the Manufacturer(s). All proposed modifications and revised sediment storage capacity determinations shall be clearly documented in the working drawing submission to the Department.

The minimum sediment storage capacities required for each hydrodynamic separator site on the project are shown on the Hydrodynamic Separator Design Data Sheets (Form A – Design) attached to this specification.

Hydraulic Design: The Contractor shall prepare or have prepared a hydraulic grade line (HGL) analysis for an evaluation of the selected hydrodynamic separator and the design of the flow diversion structure as described in this section. The HGL analysis shall be performed for both the WQF and the DDF. The analysis shall be consistent with the methodology described in Section 11.12 of the Department's Drainage Manual.

Head loss coefficients, to be used in the HGL analysis, shall be determined in accordance with Section 11.12.6 for all structures except the hydrodynamic separator, which shall be obtained from the Manufacturer. Documentation shall be submitted demonstrating how the coefficient was derived either through calculation and/or testing data. A benching factor of 1.0 shall be applied to the flow diversion structure.

The HGL analysis (or portion of) that was performed for the design of the storm drainage systems and preparation of the construction plans, including the design of the flow diversion structure and evaluation of a "generic" hydrodynamic separator, is shown on the Hydrodynamic Separator Design Data Forms (Form A – Design) attached to this specification.

TABLE 2 - PERFORMANCE MATRIX FOR CONNDOT APPROVED HYDRODYNAMIC SEPARATORS

Maximum WQF (cfs)	Product Model								
	Downstream Defender	*Flogard*	*High Eff. CDS*	*Hydroguard*	*Stormceptor OSR*	*Stormceptor STC*	*Vortechs*	*Vortsentry*	*V2B1*
0.4	4-ft	DVS-36	2015-4G; 2015-4	HG 4	065	450	1000	VS30	2
0.5	4-ft	DVS-36	2015-4G; 2015-4	HG 4	065	900	1000	VS30	2
0.6	4-ft	DVS-36	2015-4G; 2015-4	HG 4	065	900	1000	VS40	2
0.7	4-ft	DVS-48	2015-4G; 2015-4	HG 4	140	900	1000	VS40	2
0.8	4-ft	DVS-48	2015-4G; 2015-4	HG 4	140	900	1000	VS40	2
0.9	4-ft	DVS-48	2015-4G; 2015-4	HG 4	140	1200	1000	VS40	3
1.0	4-ft	DVS-48	2015-4G; 2015-4	HG 4	140	1800	1000	VS40	3
1.1	4-ft	DVS-48	2015-4G; 2015-4	HG 4	140	1800	1000	VS40	4
1.2	6-ft	DVS-48	2015	HG 5	140	2400	1000	VS50	4
1.3	6-ft	DVS-60	2015	HG 5	140	2400	1000	VS50	4
1.4	6-ft	DVS-60	2015	HG 5	140	2400	2000	VS50	4
1.5	6-ft	DVS-60	2020	HG 5	140	2400	2000	VS50	6
1.6	6-ft	DVS-60	2020	HG 5	140	2400	2000	VS50	6
1.7	6-ft	DVS-60	2020	HG 5	250	2400	2000	VS50	6
1.8	6-ft	DVS-60	2020	HG 6	250	2400	2000	VS50	7
1.9	6-ft	DVS-60	2020	HG 6	250	3600	2000	VS60	7
2.0	6-ft	DVS-60	2020	HG 6	250	3600	2000	VS60	7
2.1	6-ft	DVS-60	2020	HG 6	250	3600	2000	VS60	9
2.2	6-ft	DVS-72	2025	HG 6	250	3600	2000	VS60	8
2.3	6-ft	DVS-72	3020, 3020-D	HG 6	250	3600	2000	VS60	8
2.4	6-ft	DVS-72	3035; 3035-D	HG 6	250	4800	2000	VS60	8
2.5	6-ft	DVS-72	3035; 3035-D	HG 6	250	4800	3000	VS60	10
2.6	6-ft	DVS-72	3035; 3035-D	HG 6	250	4800	3000	VS60	11
2.7	6-ft	DVS-72	3035; 3035-D	HG 7	250	4800	3000	VS60	11
2.8	6-ft	DVS-72	3035; 3035-D	HG 7	250	4800	3000	VS70	11
2.9	6-ft	DVS-72	3035; 3035-D	HG 7	250	4800	3000	VS70	12
3.0	6-ft	DVS-72	3035; 3035-D	HG 7	390	4800	3000	VS70	12

TABLE 2 - PERFORMANCE MATRIX FOR CONNDOT APPROVED HYDRODYNAMIC SEPARATORS (continued)

Maximum WQF (cfs)	Product Model								
	Downstream Defender	*Flogard*	*High Eff. CDS*	*Hydroguard*	*Stormceptor OSR*	*Stormceptor STC*	*Vortechs*	*Vortsentry*	*V2B1*
3.1	8-ft	DVS-72	3035; 3035-D	HG 7	390	4800	3000	VS70	12
3.2	8-ft	DVS-72	3035; 3035-D	HG 7	390	4800	3000	VS70	12
3.3	8-ft	DVS-72	3035; 3035-D	HG 7	390	4800	3000	VS70	14
3.4	8-ft	DVS-72	3035; 3035-D	HG 7	390	6000	3000	VS70	14
3.5	8-ft	DVS-72	3030; 3030-DV, 3030-D; 4030-D	HG 7	390	6000	3000	VS70	14
3.6	8-ft	DVS-72	4030	HG 7	390	6000	3000	VS70	14
3.7	8-ft	DVS-84	4030	HG 8	390	6000	3000	VS70	14
3.8	8-ft	DVS-84	4030	HG 8	390	6000	4000	VS70	13
3.9	8-ft	DVS-84	4030	HG 8	390	7200	4000	VS70	15
4.0	8-ft	DVS-84	4030	HG 8	390	7200	4000	VS80	15
4.1	8-ft	DVS-84	4030	HG 8	390	7200	4000	VS80	15
4.2	8-ft	DVS-84	4030	HG 8	390	7200	4000	VS80	16
4.3	8-ft	DVS-84	4030	HG 8	390	7200	4000	VS80	16
4.4	8-ft	DVS-84	4030	HG 8	390	7200	4000	VS80	16
4.5	8-ft	DVS-84	4030	HG 8	390	7200	4000	VS80	16
4.6	8-ft	DVS-84	5640-D	HG 8	390	7200	4000	VS80	17
4.7	8-ft	DVS-84	5640-D	HG 8	390	7200	4000	VS80	17
4.8	8-ft	DVS-84	5640-D	HG 8	390	7200	4000	VS80	17
4.9	8-ft	DVS-84	5640-D	HG 8	390	11000s	4000	VS80	17
5.0	8-ft	DVS-84	5640-D	HG 9	390	11000s	4000	VS80	19
5.2	8-ft	DVS-84	4040-D	HG 9	390	11000s	4000	VS80	20
5.4	8-ft	DVS-96	4040-D	HG 9	390	11000s	4000	VS100	20
5.5	8-ft	DVS-96	4045-D	HG 9	390	11000s	5000	VS100	18
5.6	8-ft	DVS-96	4045-D	HG 9	560	11000s	5000	VS100	18
6.0	8-ft	DVS-96	4040	HG 9	560	11000s	5000	VS100	18
6.1	8-ft	DVS-96	4040	HG 9	560	11000s	5000	VS100	21

TABLE 2 - PERFORMANCE MATRIX FOR CONNDOT APPROVED HYDRODYNAMIC SEPARATORS (continued)

Maximum WQF (cfs)	Product Model								
	Downstream Defender	*Flogard*	*High Eff. CDS*	*Hydroguard*	*Stormceptor OSR*	*Stormceptor STC*	*Vortechs*	*Vortsentry*	*V2B1*
6.3	8-ft	DVS-96	4040	HG 9	560	11000s	5000	VS100	25
6.4	10-ft	DVS-96	4040	HG 9	560	11000s	5000	VS100	25
6.5	10-ft	DVS-96	4040	HG 10	560	11000s	5000	VS100	25
6.9	10-ft	DVS-96	4040	HG 10	560	11000s	5000	VS100	25
7.0	10-ft	DVS-96	4040	HG 10	560	11000s	5000	VS100	22
7.1	10-ft	DVS-96	5042-D	HG 10	560	11000s	5000	VS100	22
7.2	10-ft	DVS-96	5042-D	HG 10	560	13000s	5000	VS100	22
7.3	10-ft	DVS-96	4045	HG 10	560	13000s	5000	VS100	22
7.5	10-ft	DVS-96	5653-D	HG 10	560	13000s	7000	VS100	22
7.7	10-ft	DVS-120	5653-D	HG 10	560	13000s	7000	VS100	22
7.8	10-ft	DVS-120	5653-D	HG 10	560	13000s	7000	VS100	50
7.9	10-ft	DVS-120	5653-D	HG 10	780	13000s	7000	VS100	50
8.0	10-ft	DVS-120	5658-D	HG 10	780	13000s	7000	VS100	50
8.2	10-ft	DVS-120	5658-D	HG 10	780	16000s	7000	VS100	50
8.5	10-ft	DVS-120	5658-D	HG 12	780	16000s	7000	VS100	50
8.6	10-ft	DVS-120	5658-D	HG 12	780	16000s	7000	VS100	50
8.9	10-ft	DVS-120	5678-D	HG 12	780	16000s	7000	VS100	50
9.0	10-ft	DVS-120	5678-D	HG 12	780	16000s	7000	VS120	50
9.2	10-ft	DVS-120	5678-D	HG 12	780	16000s	7000	VS120	50
9.5	10-ft	DVS-120	5050-DV	HG 12	780	16000s	7000	VS120	50
9.6	10-ft	DVS-120	5050-DV	HG 12	780	16000s	7000	VS120	50
10.0	10-ft	DVS-120	5050-DV	HG 12	780	16000s	9000	VS120	50
10.1	10-ft	DVS-120	5050-DV	HG 12	780	16000s	9000	VS120	50
10.5	10-ft	DVS-120	5050-DV	HG 12	780		9000	VS120	50
10.9	10-ft	DVS-120	5050-DV	HG 12	780		9000	VS120	50
11.0	10-ft	DVS-120	7070-DV	HG 12	780		9000	VS120	50
11.2	10-ft	DVS-120	7070-DV	HG 12	1125		9000	VS120	50

TABLE 2 - PERFORMANCE MATRIX FOR CONNDOT APPROVED HYDRODYNAMIC SEPARATORS (continued)

Maximum WQF (cfs)	Product Model								
	Downstream Defender	*Flogard*	*High Eff. CDS*	*Hydroguard*	*Stormceptor OSR*	*Stormceptor STC*	*Vortechs*	*Vortsentry*	*V2B1*
11.5		DVS-120	7070-DV	HG 12	1125		9000	VS120	50
11.8		DVS-120	7070-DV	HG 12	1125		9000	VS120	50
11.9		DVS-120	7070-DV	HG 12	1125		9000	VS120	60
12.0		DVS-120	7070-DV	HG 12	1125		9000	VS120	60
12.1		DVS-120	7070-DV	HG 12	1125		9000	VS120	60
12.5		DVS-120	7070-DV	HG 12	1125		11000	VS120	60
13.0		DVS-120	7070-DV		1125		11000	VS120	60
13.5		DVS-120	7070-DV		1125		11000	VS120	60
13.6		DVS-120	7070-DV		1125		11000	VS120	60
14.0		DVS-144	7070-DV		1125		11000	VS120	60
14.5		DVS-144	7070-DV		1125		11000		60
14.9		DVS-144	7070-DV		1125		11000		60
15.0		DVS-144	7070-DV		1125		16000		60
15.5		DVS-144	7070-DV		1125		16000		60
15.7		DVS-144	7070-DV		1125		16000		60
16.0		DVS-144	7070-DV				16000		60
16.5		DVS-144	7070-DV				16000		60
17.0		DVS-144	7070-DV				16000		
17.5		DVS-144	7070-DV				16000		
18.0		DVS-144	7070-DV				16000		
18.5		DVS-144	7070-DV				16000		
19.0		DVS-144	7070-DV				16000		
19.7		DVS-144	7070-DV				16000		
20.0		DVS-144	10060-DV				16000		
21.5		DVS-144	10060-DV				16000		
22.3		DVS-144	10060-DV				1319		
25.0			10060-DV				1319		
25.2			10060-DV				1319		

TABLE 2 - PERFORMANCE MATRIX FOR CONNDOT APPROVED HYDRODYNAMIC SEPARATORS (continued)

Maximum WQF (cfs)	Product Model								
	Downstream Defender	*Flogard*	*High Eff. CDS*	*Hydroguard*	*Stormceptor OSR*	*Stormceptor STC*	*Vortechs*	*Vortsentry*	*V2B1*
27.6			10060-DV				1421		
29.3			10080-DV				1421		
30.0			10080-DV				1522		
31.2			10080-DV				1522		
33.6			100100-DV				1522		
35.0			100100-DV				1624		
38.2			100100-DV				1624		
40.0			100100-DV				1726		
43.2			100100-DV				1726		
49.3			100100-DV						

TABLE 3 - STANDARD SEDIMENT STORAGE CAPACITY FOR CONNDOT APPROVED HYDRODYNAMIC SEPARATORS

Sediment Storage (cubic yards)	**Product Model**								
	Downstream Defender	*Flogard*	*High Eff. CDS*	*Hydroguard*	*Stormceptor OSR*	*Stormceptor STC*	*Vortechs*	*Vortsentry*	*V2B1*
0.3		DVS-36					1000		
0.5	4-ft								
0.6							2000		
0.7		DVS-48		HG 4					
0.8					065	450		VS30	2; 3
0.9			2015-4G; 2015-4						
1.0 (minimum)							3000		
1.1					140	900			
1.2				HG 5					
1.3		DVS-60							
1.4							4000	VS40	
1.5			2015; 2020; 2025						
1.6									4
1.7				HG 6					
1.8	6-ft					1200			
1.9							5000		
2.0									
2.1									
2.2		DVS-72						VS50	
2.3				HG 7					
2.4									6; 7
2.5							7000		
2.6			3020, 3020-D; 3030, 3030-DV, 3030-D; 3035, 3035-D						
2.9					250	2400			

TABLE 3 - STANDARD SEDIMENT STORAGE CAPACITY FOR CONNDOT APPROVED HYDRODYNAMIC SEPARATORS (continued)

Sediment Storage (cubic yards)	Product Model								
	Downstream Defender	*Flogard*	*High Eff. CDS*	*Hydroguard*	*Stormceptor OSR*	*Stormceptor STC*	*Vortechs*	*Vortsentry*	*V2B1*
3.0				HG 8					
3.1							9000	VS60	
3.2									8; 9
3.3						1800			
3.4									
3.5		DVS-84							
3.6									
3.7	8-ft		5640-D						
3.8				HG 9					
3.9							11000		
4.0									
4.2									10; 11; 12
4.3			4030-D; 4040-D; 4045-D					VS70	
4.5									
4.6									
4.7									13
5.0				HG 10					
5.1									
5.3		DVS-96	5042-DV; 5050-DV						
5.5									
5.6			4030; 4040; 4045; 5653-D; 5658-D; 5678-D				16000	VS80	
5.7									
6.0						3600			
6.5									

TABLE 3 - STANDARD SEDIMENT STORAGE CAPACITY FOR CONNDOT APPROVED HYDRODYNAMIC SEPARATORS (continued)

Sediment Storage (cubic yards)	Product Model								
	Downstream Defender	*Flogard*	*High Eff. CDS*	*Hydroguard*	*Stormceptor OSR*	*Stormceptor STC*	*Vortechs*	*Vortsentry*	*V2B1*
6.6							1319		
6.9									
7.0									
7.1									
7.2									
7.3									14; 15; 16; 17; 18
7.5				HG 12					
7.6							1421		
7.7									
8.0									
8.3									
8.4			7070-DV						
8.6						4800			
8.7	10-ft				390		1522	VS100	
9.0									
9.5									
9.6									
9.9							1624		
10.0									
10.3		DVS-120							
10.5									19; 20
11.0									
11.2							1726		
11.3						6000			
11.5									21; 22
11.8									

TABLE 3 - STANDARD SEDIMENT STORAGE CAPACITY FOR CONNDOT APPROVED HYDRODYNAMIC SEPARATORS (continued)

Sediment Storage (cubic yards)	Product Model								
	Downstream Defender	*Flogard*	*High Eff. CDS*	*Hydroguard*	*Stormceptor OSR*	*Stormceptor STC*	*Vortechs*	*Vortsentry*	*V2B1*
12.0									
12.6								VS120	25
12.9					560				
13.0									
13.4						7200			
15.0									
17.5					780				
17.8		DVS-144	10060-DV;10080-DV; 100100-DV						
20.0									
22.3									50
25.0									
25.8					1125				
26.1						11000s			
26.2									
30.0									
34.1						13000s			
34.9									60
35.0									
38.7									
40.0									
40.7						16000s			

TABLE 4 - SEDIMENT STORAGE CAPACITY CALCULATION

Product	Sediment Storage Capacity (Volume) Calculation (cubic feet)
Downstream Defender	Inside Diameter (ft^2) of Structure x Distance (ft) from Bottom of Benching Skirt to Inside Floor of Structure
FloGard® Dual-Vortex	Inside Diameter (ft^2) of Structure x 1/2 Distance (ft) from Bottom of Vortex Tube to Inside Floor of Structure
High Efficiency CDS	Inside Diameter (ft^2) of Structure x Depth (ft) of Solids Storage Sump
Hydroguard	Inside Diameter (ft^2) of Structure x 1/2 Depth (ft) Below Outer Baffle Wall
Stormceptor STC	Inside Diameter (ft^2) of Structure x 1/2 Depth (ft) Below Drop Tee Inlet Pipe
Stormceptor OSR	Inside Diameter (ft^2) of Structure x 1/2 Depth (ft) Below Drop Tee Inlet Pipe
Vortechs	Inside Diameter (ft^2) of Grit Chamber x 1/2 Depth (ft) Below Opening in Swirl Wall
Vortsentry	Inside Diameter (ft^2) of Structure x Depth (ft) of Sediment Storage Sump
V2B1	Inside Diameter (ft^2) of Structure (D1) x 1/2 Depth (ft) Below Pipe Invert
Note: 1 cubic foot = 0.037 cubic yard or 1 cubic yard = 27 cubic feet	

Since the selected hydrodynamic separator and associated connecting pipes and structures may be different in type, configuration and performance than the one assumed in the design phase of the project, the hydraulic calculations performed for the drainage design must be replicated and revised to reflect any adjustments necessary to the drainage design for installation of the selected system, such as different flow-line elevations, head loss coefficient, pipe sizes, etc. The selected hydrodynamic separator shall be designed so as not to change the drainage system upstream of the flow diversion structure or to increase the HGL elevation upstream of the flow diversion structure. Any modifications necessary to the overall drainage design as a result of the Contractor selected hydrodynamic separator shall be the responsibility of the Contractor.

The new HGL analysis must demonstrate the following conditions:

1. The hydrodynamic separator can treat the WQF with no bypass. The HGL elevation at the flow diversion structure for the WQF shall be below the weir elevation and/or elevation of flow bypass that is listed in the design data form or shown in the plans, so that all of the WQF is directed to the hydrodynamic separator for treatment. The HGL elevation in the hydrodynamic separator at the WQF shall be below the elevation of internal bypass so that all of the WQF is treated by the system.

2. When the drainage system is operating at the DDF, the hydraulic computations must show that the HGL elevation at the flow diversion structure is lower than or equal to the HGL elevation shown on Form A for the DDF and the HGL elevation in the hydrodynamic separator must be a minimum of one foot below the top (ground) elevation of the structure. A HGL elevation in the flow diversion structure for the DDF which is higher than the corresponding HGL elevation shown on Form A may be approved by the Engineer only if hydraulic computations are submitted showing that the higher HGL elevation will provide a minimum of one foot of freeboard below the top (ground) elevation of the flow diversion structure and the upstream drainage structures, satisfying the design criteria stated in the Connecticut Department of Transportation Drainage Manual. To demonstrate compliance, the hydraulic analysis shall be extended to a point upstream in the drainage system that is not influenced by the proposed changes and where the results converge with the previous design analysis. In such a case, the Contractor shall request a copy of the design analysis from the Department. A freeboard less than one foot may be accepted by the Engineer on a case by case basis provided that a justification of the reason has been included with the HGL analysis.

3. When the drainage system is operating at the DDF, the resulting HGL elevation and flow split at the flow diversion structure has been designed such that the portion of the DDF directed to the hydrodynamic separator does not exceed the maximum flow shown on the Hydrodynamic Separator Design Data Sheets (Form A - Design). Documentation, however, must be provided that the flow in excess of the WQF can pass through the device without washout of the previously captured sediment or the device is equipped with an internal bypass to route the excess flow around the treatment chamber.

Upon conclusion of the HGL analysis, the Hydrodynamic Separator Design Data Sheets (Form B – Contractor Proposal) shall be completed by entering the HGL analysis data and other required information.

Hydrodynamic Separator Selection: To ensure compliance with the special provision, the selection process of a proprietary hydrodynamic separator for installation on a Department project is outlined by the following steps:

1. First, select the available product(s) from Table 2 (**PERFORMANCE MATRIX FOR CONNDOT APPROVED HYDRODYNAMIC SEPARATORS**) that meet or exceed the WQF treatment specified on the Hydrodynamic Separator Design Data Sheets (Form A - Design) attached to this specification. **The Engineer shall reject any proposed hydrodynamic separator system/model that is not listed in Table 2.**

2. Using Table 3 (**STANDARD SEDIMENT STORAGE CAPACITY FOR CONNDOT APPROVED HYDRODYNAMIC SEPARATORS**), check whether the initially selected product(s) in Step 1, meet or exceed the minimum sediment storage requirement specified on the Hydrodynamic Separator Design Data Sheets (Form A - Design). In some cases, the required sediment storage capacity will govern the model size required for the project. In lieu of selecting a larger model to accommodate the sediment storage requirement, the Contractor may submit working drawings as recommended by the Manufacturer, showing how a standard model has been modified to satisfy the sediment storage requirement. When a modification is proposed by increasing the depth of the standard structure, **Table 4 (SEDIMENT STORAGE CAPACITY CALCULATION)** shall be utilized to determine the sediment storage capacity of the proposed structure.

3. **Hydrodynamic separator system/models pre-approval by the Department shall not be construed to mean that all products appearing on Tables 2 and 3 are suitable to any specific project site or drainage design.** The Contractor shall verify the constructability of the selected hydrodynamic separator in relation to dimensional, structural, geotechnical and right-of-way constraints at each installation site. If revisions to the drainage design, including the system layout, are required to accommodate the selected separator, the Contractor shall provide working drawings showing the revised layout, including the position of the hydrodynamic separator and the number, positions and types of connecting structures, the design of the flow diversion structure, and any other components of the system within the pay limits. The working drawings shall be prepared in sufficient detail to perform a hydraulic analysis and confirm that the layout will fit the constraints of each site.

4. Upon determination that the WQF, sediment storage and constructability requirements have been met, the Contractor shall prepare or have prepared, a HGL analysis in accordance with the hydraulic requirements of this special provision, that includes the selected hydrodynamic separator and any revisions to the drainage design needed for the installation.

5. The Hydrodynamic Separator Design Data Sheets (Form B – Contractor Proposal) shall be completed and signed by a professional engineer licensed by the State of Connecticut.

6. *Acceptance of the computations by the Engineer must be obtained by the Contractor prior to the purchase or installation of any units.*

Materials: Materials utilized to fabricate, construct and install the precast concrete hydrodynamic separator including but not limited to precast concrete units, brick, concrete masonry units, manhole frames and covers shall meet the requirements specified in the Standard Specifications, Form 816, Article M.08.02, except that the 28 day compressive strength specified in Subarticle M.08.02-4, shall be a minimum of 4000 psi (27.6 MPa).

The Contractor shall provide a Materials Certificate in accordance with 1.06.07 for each unit delivered to the project. Upon request, the Contractor shall also provide Certified Test Reports for the fine and coarse aggregates and all cementitious materials, and the concrete mix design indicating the weight of each component, used in the construction of the precast units for review. The structures shall not be shipped until released by the Contractor's Quality Control Manager or designee.

The wall and slabs of the precast concrete units shall be designed to sustain HS20-44 (MS18) loading requirements.

Manholes and Catch Basins shall conform to Section 5.07 of Form 816.

Granular fill shall conform to the requirements of Article M.02.01 of Form 816.

Non-shrink grout shall conform to the requirements of Subarticle M.03 of Form 816.

Drainage pipe, sealant and gaskets shall conform to the requirements of Article M.08.01 of Form 816.

Mortar shall conform to the requirements of Article M.11.04 of Form 816.

Sealant used for the hydrodynamic separator unit(s) shall be resistant to oil and other hydrocarbons and conform to the requirements of ASTM C-443.

Working Drawings: Working drawings in accordance with Article 1.05.02 – 2 shall be required for the system selected by the Contractor. The working drawings shall include the HGL analysis and all other computations in strict accordance with the "Hydraulic Design" section of this special provision, including a completed Form B – Contractor Proposal.

If revisions to the layout of the system within the payment limits of this item are required to accommodate the selected separator, the working drawings shall also include plans that show the required revisions. These plans shall show the revised position of the hydrodynamic separator unit(s), and all revisions to connecting structures, pipes, elevations, and details, including the design within the flow diversion structure. The revised plans shall also include the pay limit showing all the components of the system that are included in this lump sum pay item.
Working drawings shall also show details for construction, reinforcing joints, internal and external components, any cast-in-place appurtenances, locations and elevations of pipe openings, access manhole locations and elevations, and type / method of sealing pipe entrances.

Working drawings for each hydrodynamic separator on the project shall have all appropriate vertical dimensions referenced with elevations that are consistent with the project plans. In addition to any other structural, material or installation requirements, the working drawings shall clearly indicate the following information:

1. The elevation and flow rate when internal flow bypass would occur within the device.

2. The location, dimensions and volume (capacity) of the sediment storage area within the device.

The working drawings shall be sealed by a professional engineer licensed in the state where the devices are manufactured and that said engineer shall certify the device meets the minimum requirements of the ConnDOT Standards.

The working drawing submission by the Contractor shall consist of the following documents:

1. Working drawings for each hydrodynamic separator proposed for installation on the project.

2. Hydraulic design calculations including the head loss documentation and completed Hydrodynamic Separator Design Data Sheets (Form B – Contractor Proposal) with professional engineer signature for each hydrodynamic separator.

3. Copies of the pertinent construction plan, profile, cross section and detail sheets that have been annotated with any proposed drainage revisions that are required for the installation of the proposed hydrodynamic separator(s). If no changes are required, the submittal shall note same.

4. An Operations and Maintenance Manual for each hydrodynamic separator describing operations, inspection, maintenance procedures and any applicable warranty information.

Acceptance of the working drawing submission by the Engineer must be obtained by the Contractor prior to the fabrication of each hydrodynamic separator and diversion structure.

Construction Methods: The Contractor shall inspect the hydrodynamic separator and any accessory equipment upon delivery for general appearance, dimensions, soundness or damage in a manner acceptable to the Engineer. If any defects or damage are identified by the inspection, the unit shall be rejected by the Contractor and a new undamaged hydrodynamic separator shall be supplied. Any required adjustments of the separator shall be completed in accordance with Manufacturer's recommendations. A Manufacturer's representative and the Engineer will inspect the hydrodynamic separator before installation.

The Contractor shall install the hydrodynamic separator structure in accordance with the Manufacturer's recommendations unless otherwise directed by this specification or by the Engineer. The hydrodynamic separator shall be installed plumb, level and aligned both vertically and horizontally with the inlet and outlet piping. The hydrodynamic separator shall be placed on a compacted granular fill base in accordance with the Manufacturer's specifications or a minimum thickness of 6" (150mm) whichever is larger. Anchoring systems shall be installed, where needed, to resist buoyancy forces. Care shall be taken not to damage the hydrodynamic separator during backfill and compaction.

Pipe openings in the hydrodynamic separator shall be sized to accept pipes of the specified size(s) and material(s) as shown on the contract drawings and shall be sealed by the Contractor in accordance with the requirements of this specification. The inlet and outlet pipe connections shall be watertight. The hydrodynamic separator shall be tested for leakage according to the Manufacturer's specifications and to the satisfaction of the Engineer. Any leaks must be found and corrected to the satisfaction of the Engineer prior to acceptance of the structure.

Access openings with manhole frames and covers shall be provided to all chambers of the hydrodynamic separator. The access openings and pipe openings shall be detailed on the working drawings to be submitted by the Contractor for review and acceptance by the Engineer.

All connecting structures and pipes included within the payment limits for this work shall be constructed in accordance with the applicable requirements of Article 5.07.03 and Article 6.51.03.

Method of Measurement: Design, construction, furnishing, installation and cleaning of the hydrodynamic separator, the flow diversion structure, manholes and pipes as shown on the contract drawings, including all internal and external appurtenances and materials used, will be paid for on a basis of "each" per site.

Basis of Payment: This work will be paid for at the contract unit "each" for "HYDRODYNAMIC SEPARATOR", complete in place, which price shall include all work within the pay limits shown on the contract drawings for hydrodynamic separator. If revisions to the layout of the system within the payment limits for this item are required to accommodate the selected separator, the lump sum price shall also include all additional or revised connecting structures and pipes. The contract lump sum shall include, but not be limited to, the following:

1. Design, preparation, revisions of working drawings and hydraulic computations.

2. Concrete and reinforcing steel, sealant, cement, mortar, flexible rubber sleeves, internal and external components, brick and masonry, frames and covers used to construct access manholes.

3. Flow diversion structure, manholes and pipes as shown on the contract drawings, or as revised and shown on submitted working drawings accepted by the Engineer.

4. Structure excavation, back fill, and disposal of surplus material.

5. Compacted granular fill.

6. Trench excavation and bedding material.

7. Cleaning of the Hydrodynamic Separator, flow diversion structure, manholes and pipes as shown on the contract drawings (of all debris every 90 days, or as needed), during the duration of the project, shall also be included in the price of this item.

8. The Operations and Maintenance Manual for each hydrodynamic separator.

The price shall include but not be limited to all materials, testing, equipment, tools and labor incidental thereto.

Attachments: For each Site No. 1 (Outfall No. 5) through 8 (Outfall No. 71) the following documents are attached to this specification:

1. Hydrodynamic Separator Design Data Sheets (Form A – Design), Sheets 1 & 2 of 2.

2. Hydrodynamic Separator Design Data Sheets (Form B – Contractor Proposal), Sheets 1 & 2 of 2 (blank), to be completed and submitted with the working drawings.

ITEM #0703023A – INSTREAM STRUCTURE TYPE A

Description: The work under this item shall consist of installing Cross Vanes and Vortex Weirs along the Mad River at the locations shown on the plans or as directed by the Engineer.

Materials: Materials for this item shall consist of sound, tough, durable and angular rock, free from decomposed stones or other defects impairing its durability. The size of a stone as specified on the plans shall be its least dimension. Broken concrete or rounded stones shall not be acceptable. The stone shall be similar in mineral composition and color to the on-site rock.

Material the Contractor proposes to bring to the site from another off-site source must be inspected and approved by the OEP at the source prior to the excavation or hauling of the material. A minimum notice of 2 weeks must be given to the OEP for inspection and approval.

Construction Methods: The area shall be accurately shaped prior to placing of any stones. The Cross Vanes and Vortex Weirs shall be installed to the dimensions shown on the plans. Rearranging of individual stones by mechanical or hand methods will be required to the extent necessary to obtain the specified configuration. The structures shall be installed so that the cross sectional geometry resists movement of the rocks during normal river flow conditions. The downstream ends of the structures shall be tied and integrated into the adjacent riprapped streambanks to provide structural support for the structure.

Before placing any material, notify the OEP at least 10 days in advance to ensure proper personnel is on-site. Any and all coordination with the Department of Energy and Environmental Protection (DEEP) Fisheries Division or District Environmental Coordinator will be done through the OEP.

Method of Measurement: This item will be measured for payment by the number of Cross Vanes and Vortex Weirs installed along the Mad River, complete and accepted. The item does not include payment for Riprap or Gravel Streambed Material. The installation of these items will be paid for under the appropriate contract unit price for those materials. Grade Control Structures will be paid for under the contract unit price for Rounded Stone Riprap. Constructed Scour Holes will be included under the contract unit price for Channel Earth Excavation. Water handling will be paid for under the contract unit price for Handling Water.

Basis of Payment: This item will be paid for at the contract unit price each for "Instream Structure Type A", complete in place, including all materials, equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Instream Structure Type A	EA.

ITEM #0703024A – INSTREAM STRUCTURE TYPE C

Description: The work under this item shall consist of installing Cross Vanes and Vortex Weirs along Beaver Pond Brook at the locations shown on the plans or as directed by the Engineer.

Materials: Materials for this item shall consist of sound, tough, durable and angular rock, free from decomposed stones or other defects impairing its durability. The size of a stone as specified on the plans shall be its least dimension. Broken concrete or rounded stones shall not be acceptable. The stone shall be similar in mineral composition and color to the on-site rock.

Material the Contractor proposes to bring to the site from another off-site source must be inspected and approved by the OEP at the source prior to the excavation or hauling of the material. A minimum notice of 2 weeks must be given to the OEP for inspection and approval.

Construction Methods: The area shall be accurately shaped prior to placing of any stones. The Cross Vanes and Vortex Weirs shall be installed to the dimensions shown on the plans. Rearranging of individual stones by mechanical or hand methods will be required to the extent necessary to obtain the specified configuration. The structures shall be installed so that the cross sectional geometry resists movement of the rocks during normal river flow conditions. The downstream ends of the structures shall be tied and integrated into the adjacent riprapped streambanks to provide structural support for the structure.

Before placing any material, notify the OEP at least 10 days in advance to ensure proper personnel is on-site. Any and all coordination with the Department of Energy and Environmental Protection (DEEP) Fisheries Division or District Environmental Coordinator will be done through the OEP.

Method of Measurement: This item will be measured for payment by the number of Cross Vanes and Vortex Weirs installed along Beaver Pond Brook, complete and accepted. The item does not include payment for Riprap or Gravel Streambed Material. The installation of these items will be paid for under the appropriate contract unit price for those materials. Grade Control Structures will be paid for under the contract unit price for Rounded Stone Riprap. Constructed Scour Holes will be included under the contract unit price for Channel Earth Excavation. Water handling will be paid for under the contract unit price for Handling Water.

Basis of Payment: This item will be paid for at the contract unit price each for "Instream Structure Type C", complete in place, including all materials, equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Instream Structure Type C	EA.

ITEM #0703025A – INSTREAM STRUCTURE TYPE D

Description: Work under this item shall consist of furnishing and placing individual J-Hook Vanes/Rock Vanes along Beaver Pond Brook using boulder/rounded and Footer Rock stone material. This work shall be done in accordance with the dimension and details shown on the plans/permit plans, at locations indicated on the plans/permit or as directed by personnel from the Office of Environmental Planning (OEP), an OEP approved representative, or a representative of the Department of Energy and Environmental Protection (DEEP) Inland Fisheries Division. The intent of the J-Hook Vane/Rock Vane and Footer Rock is to improve/create aquatic habitat by enhancing flow diversity through the formation of scour pools.

Materials: Boulder/Rounded Stone shall consist of sound, durable rock, resistant to the action of air and water. Either field stone or rough, unhewn quarry stone may be used. The boulder/rounded stone shall be similar in mineral composition and color to the adjacent existing or proposed channel bed.

Boulder/Rounded Stone with visible cracks or spalling will not be permitted. Rock excavated from ledge (bedrock) formations, or broken from larger boulders, will not be accepted. Broken concrete will not be accepted. Stones consisting of sandstone, shale, or other rock material prone to disintegration will not be permitted.

Footer Rocks shall serve as the foundation for top layer of boulder/rounded stone. These rocks shall have reasonable flat tops and bottoms to enable top layer placement of boulder/rounded material. Cut rock excavated from ledge (bedrock) formations is acceptable. Broken concrete will not be accepted. Stones consisting of sandstone, shale, or other rock material prone to disintegration will not be permitted.

Material the Contractor proposes to use must be inspected and approved by the OEP prior to the excavation of material on-site or hauling of the material from an off-site source. A minimum notice of 2 weeks must be given to the OEP for inspection and approval.

Construction Methods: The Engineer shall ensure that the areas for the J-Hook/Rock Vane and Footer Rock placement are to be clear of construction material, equipment, cofferdams, and/or water-handling devices, unless specifically required to be left in place during the installation as indicated in the contract plans or permit.

Prior to installation, the Contractor shall stake out the location of the J-Hook/Rock Vane and Footer Rock, by placing stakes at each end and shall notify the Engineer in the field for review. Final location will be at the discretion of OEP or approved representative.

All erosion and sedimentation control devices, including dewatering basins, shall be implemented prior to beginning the installation of J-Hook/Rock Vane and Footer Rock.

Notify the OEP at least 2 weeks prior to initiating the placement of J-Hook Vane/Rock Vane and Footer Rock. Any and all coordination with the DEEP Inland Fisheries Division will be done through the OEP. The Contractor shall react accordingly to this requirement by giving the Engineer sufficient time to fulfill the Engineer's obligation. Placement of the J-Hook Vane/Rock Vane and Footer Rock should proceed during periods of low flow whenever possible to ensure proper placement and as directed by the OEP or an OEP approved representative. No work shall be performed without a DEEP Inland Fisheries Division representative on site, unless specifically requested otherwise.

The placement of the J-Hook Vane/Rock Vane and Footer Rock shall be in accordance with the locations indicated on the plans/permit. The final location may deviate from plans/permit at the discretion of OEP or an OEP approved representative.

If in the opinion of the OEP, DEEP Inland Fisheries Division or an approved OEP representative that the J-Hook Vane/Rock Vane and Footer Rock material is too large or small for the hydraulic opening or may affect habitat conditions at any location in the work area, the Contractor shall furnish and place alternative material as directed.

Equipment: When placing and maneuvering J-Hook/Rock Vane and Footer Rock material within the channel bed or embedding boulder/rounded stones into the stream bank, the Contractor shall use an excavator with an articulated bucket (with thumb). Any other equipment proposed to be used shall be reviewed and approved in advance by OEP or an OEP approved representative.

All disturbed areas as a result of the placement of J-Hook/Rock Vane and Footer Rock shall be permanently stabilized using approved sediment and erosion control measures.

Method of Measurement: This work will be measured for payment for each "Instream Structure Type D", installed and accepted at the locations called for on the plans or as directed by OEP or an OEP approved representative, within the limits of the proposed work.

Basis of Payment: This work will be paid for at the contract unit price each for the item "Instream Structure Type D", complete in place, including all erosion & sedimentation controls, water handling, excavations, materials, equipment, tools and labor incidental thereto, as necessary to complete this work.

Pay Item	**Pay Unit**
Instream Structure Type D	Ea

ITEM #0703026A – ROCK RAMP FISHWAY

Description: The work under this item shall consist of furnishing and constructing the Rock Ramp Fishway on the Mad River as shown on the plans or as directed by the Engineer.

Materials: Materials for this item shall be as indicated on the plans or as directed by the Engineer. Stone for this item shall consist of sound, tough, durable rock, free from decomposed rocks or other defects impairing its durability. The size of a stone as specified on the plans shall be its least dimension. Broken concrete shall not be acceptable. The stone shall be similar in mineral composition and color to the on-site rock. Within the limits of the existing concrete spillway apron, the riprap shall be Rounded Stone Riprap Gradation B except the gradation shall not include any stones smaller than 205mm.

Material the Contractor proposes to bring to the site from another off-site source must be inspected and approved by the OEP at the source prior to the excavation or hauling of the material. A minimum notice of 2 weeks must be given to the OEP for inspection and approval.

Construction Methods: The Rock Ramp Fishway shall be constructed as indicated on the plans or as directed by the Engineer.

Before placing any material, notify the OEP at least 10 days in advance to ensure proper personnel is on-site. Any and all coordination with the Department of Energy and Environmental Protection (DEEP) Fisheries Division or District Environmental Coordinator will be done through the OEP.

1-Riprap Placement: The area shall be accurately shaped prior to placing of any rocks. The riprap shall be placed to its full course thickness in one operation in such a manner as to produce a reasonably well-graded mass of rock without causing displacement of the underlying material. The finished surface shall be free from pockets of small stones and clusters of larger stones. Placing this material by methods likely to cause segregation of the various sizes of stone shall not be permitted. Rearranging of individual stones by mechanical or hand methods shall be required to the extent necessary to obtain a reasonably well-graded distribution of the specified stone sizes. The completed course shall be of the specified thickness and to the lines and grades as shown on the plans or as ordered by the Engineer.

2-Concrete Removal: The construction of the Rock Ramp Fishway shall include removal of portions of the existing concrete spillway and rocks embedded within the existing concrete spillway, as indicated on the plans. If excess rock removal occurs the Contractor, shall place Class “A” Concrete to achieve the spillway configuration indicated in the plans. The depth of this concrete shall be a minimum of 150mm.

3-Grouting: Within the limits of the existing concrete spillway apron, the Large Boulder Weir and all Rounded Stone Riprap shall be grouted into place using Class "A" Concrete, with a retarder admixture, in accordance with Section 6.01. The design intent is to grout the boulder

weir and riprap from the bottom, to the existing concrete spillway apron, so that a good bond is achieved between the new construction and the existing concrete. The final, top level of the grout shall be a minimum of 200mm below the exposed surface of the riprap. The Contractor shall submit to the Engineer, for approval, the proposed method of grouting prior to beginning of work.

Prior to grouting, the concrete spillway apron shall be cleaned with a pressure washer using clean water to remove all algal growth and loose materials. 200mm of concrete shall be placed over the concrete spillway apron, moistened with clean water, followed immediately by the placement of the boulder weir and then the riprap. The Contractor shall begin grouting at the outer spillway training walls and work towards the baseline. If the top level of concrete is less than 200mm below the exposed surface of the riprap, the depth of concrete for subsequent pours shall be adjusted accordingly as directed by the Engineer. A maximum of 90 minutes, or as approved by the Engineer, shall be allowed from the time that water is first added to the mix to the final positioning of the boulder weir and riprap. It is anticipated that to comply with this time limit, the grouting operation will be completed in multiple pours.

4-Large Boulder Weirs: The ends of the Large Boulder Weirs shall be tied and integrated into the existing streambanks to provide structural support for the Rock Ramp Fishway.

Method of Measurement: Rock Ramp Fishway will not be measured for payment and will be paid for on a lump sum basis, complete and accepted. Water handling shall be paid for under the contract unit price for Handling Water.

Basis of Payment: This item shall be paid for at the contract lump sum price for "Rock Ramp Fishway", complete in place, including all materials, excavations, equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Rock Ramp Fishway	L.S.

ITEM #0703027A – ROCK RAMP

Description: The work under this item shall consist of furnishing and constructing the Rock Ramp on Beaver Pond Brook as shown on the plans or as directed by the Engineer.

Materials: Materials for this item shall be as indicated on the plans or as directed by the Engineer. Stone for this item shall consist of sound, tough, durable rock, free from decomposed stones or other defects impairing its durability. The size of a stone as specified on the plans shall be its least dimension. Broken concrete shall not acceptable. The stone shall be similar in mineral composition and color to the on-site rock.

Material the Contractor proposes to bring to the site from another off-site source must be inspected and approved by the OEP at the source prior to the excavation or hauling of the material. A minimum notice of 2 weeks must be given to the OEP for inspection and approval.

Construction Methods: The Rock Ramp will be constructed as indicated on the plans or as directed by the Engineer.

Before placing any material, notify the OEP at least 10 days in advance to ensure proper personnel is on-site. Any and all coordination with the Department of Energy and Environmental Protection (DEEP) Fisheries Division or District Environmental Coordinator will be done through the OEP.

1-Rirap Placement: The area shall be accurately shaped prior to placing of any rocks. The riprap shall be placed to its full course thickness in one operation in such a manner as to produce a reasonably well-graded mass of rock without causing displacement of the underlying material. The finished surface shall be free from pockets of small stones and clusters of larger stones. Placing this material by methods likely to cause segregation of the various sizes of stone will not be permitted. Rearranging of individual stones by mechanical or hand methods will be required to the extent necessary to obtain a reasonably well-graded distribution of the specified stone sizes. The completed course shall be of the specified thickness and to the lines and grades as shown on the plans or as ordered by the Engineer.

2-Boulder Weirs: The ends of the Boulder Weirs shall be tied and integrated into the existing riprapped streambanks to provide structural support for the Rock Ramp.

Method of Measurement: Rock Ramp will not be measured for payment and will be paid for on a lump sum basis, complete and accepted. Water handling for the construction of the Rock Ramp will be included in the cost of handling water for Structure No. 02537. Standard Riprap will be paid for under the contract unit price for Standard Riprap.

Basis of Payment: This item will be paid for at the contract lump sum price for "Rock Ramp", complete in place, including all materials, excavations, equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Rock Ramp	L.S.

ITEM #0703030A – PLACEMENT OF CHANNEL BOULDER

Description: Work under this item shall consist of furnishing and placing individual boulders/rounded stone within an existing or proposed channel bed which may consist of rounded stone riprap, riprap or natural streambed material to improve/create aquatic habitat diversity through the proposed site. Furnishing and placement of individual boulders/rounded stone may also be required along streambanks to support slope stabilization efforts. This work shall be done in accordance with the dimension and details shown on the plans/permit, at locations indicated on the plans/permit or as directed by personnel from the Office of Environmental Planning (OEP), an OEP approved representative, and/or a representative of the Department of Energy and Environmental Protection (DEEP).

Materials: The individual boulder shall be of a size similar to boulders either within or proximate to the proposed site. The boulders shall be generally angular, but shall not have sharp corners or edges as a result of cutting or crushing operations. The boulders should be recessed 6 to 12 inches below the streambed/riverbed elevation.

Rounded stones may be permitted given the size is equal to the individual boulder. Stones consisting of sandstone, shale, or other rock material prone to disintegration will not be permitted.

Boulder/Rounded Stone shall consist of sound, durable rock, resistant to the action of air and water. Either field stone or rough, unhewn quarry stone may be used. The boulder/rounded stone shall be similar in mineral composition and color to the adjacent existing or proposed channel bed.

Boulder/Rounded Stone with visible cracks or spalling will not be permitted. Rock excavated from ledge (bedrock) formations, or broken from larger boulders, will not be accepted. Broken concrete will not be accepted.

Material the Contractor proposes to use must be inspected and approved by the OEP prior to the excavation of material on-site or hauling of the material from an off-site source. A minimum notice of 2 weeks must be given to the OEP for inspection and approval.

Specifically for the Mad River and Beaver Pond Brook, please use the following:

Parameter	Mad River	Beaver Pond Brook
Boulder Size Range (Average Dimension)	600-1000 mm	400-700 mm
Minimum Boulder Dimension	500 mm	300 mm
Maximum Boulder Dimension	1400 mm	800 mm
Minimum Boulder Weight	500 kg	150kg

Construction Methods: Prior to installation, the Engineer shall ensure that the areas for the boulder/rounded stone placement are to be clear of construction material, equipment, cofferdams, and/or water-handling devices, unless specifically required to be left in place during the installation as indicated in the contract plans or permit.

Notify the OEP at least 2 weeks prior to initiating the placement of boulder/rounded stone to ensure proper personnel is on-site. Any and all coordination with the DEEP will be done through the OEP. The Contractor shall react accordingly to this requirement by giving the Engineer sufficient time to fulfill the Engineer's obligation. Placement of the boulder/rounded stone should proceed during periods of low flow whenever possible to ensure proper placement and as directed by the OEP or an OEP approved representative. No work shall be performed without a DEEP representative on site, unless specifically requested otherwise.

The placement of the boulder/rounded stone shall be in accordance with the locations indicated on the plans/permit. The final location may deviate from plans/permit at the discretion of OEP or an OEP approved representative.

If in the opinion of an OEP, DEEP or an approved OEP representative a particular boulder or rounded stone is too large or small for the hydraulic opening or may affect habitat conditions at any location in the work area, the Contractor shall furnish and place alternative boulder/rounded stone as directed.

Equipment: When placing and maneuvering boulder/rounded stones within the channel bed or embedding boulder/rounded stones into the streambank, the Contractor shall use an excavator with an articulated bucket (with thumb). Any other equipment proposed to be used shall be reviewed and approved in advance by OEP or an OEP approved representative.

All disturbed areas as a result of the placement of boulder/rounded stones shall be permanently stabilized using approved sediment and erosion control measures.

Method of Measurement: This work will be measured for payment for each boulder/rounded stone installed and accepted at the locations called for on the plans or as directed by OEP or an OEP approved representative, within the limits of the proposed work.

Basis of Payment: This work will be paid for at the contract unit price each for "Placement of Channel Boulder", completed and accepted. This price shall include all materials, equipment, tools and labor incidental to the installation of each boulder/rounded stone. Channel diversion and dewatering shall be paid under item "Handling Water". Excavation of the channel bed will be paid under the item "Channel Excavation-Earth".

Pay Item	**Pay Unit**
Placement of Channel Boulder	EA.

ITEM #0916111A – NOISE BARRIER WALL (STRUCTURE)

Section 9.16 Noise Barrier Wall is hereby deleted in its entirety and replaced with the following:

Description:

Work under this item shall consist of designing, fabricating, furnishing and erecting a Noise Barrier Wall (Structure) to be supported by an appurtenant structure at the locations shown on the Contract Drawings, in this specification, or as directed by the Engineer.

Noise Barrier Wall (Structure) shall have a reinforced normal-weight concrete core and by virtue of its overall construction and composition, is impervious to the passage of light and has the ability to absorb noise.

The structural support system of the Noise Barrier Wall (Structure) may be attached, to either an existing structure or new construction, as indicated in the Contract Drawings. This specialized construction of a noise barrier wall shall be fully designed, detailed and manufactured taking into account its structural adequacy and integrity with the supporting structure.

Specific types of walls are indicated on the Contract Drawings and in this specification that are acceptable by the Connecticut Department of Transportation (Department) to be constructed on specific locations based on their conformance with the requirements in the project. The Contractor shall select the appropriate wall type from a list in the Contract Drawings and in this specification.

The Contractor is directed to verify at the site, all dimensions and information pertaining to the existing construction that are needed in the design, preparation of Working Drawings and in the overall execution of this project.

The Contract Drawings prepared by the Department for this project contain only conceptual and schematic interpretations for the general approach of design. The Contractor shall prepare its structural design calculations and Working Drawings based on the concept and scheme as presented in the Contract Drawings, and in conformance with this specification. **The structural design calculations and Working Drawings prepared by the Contractor shall be reviewed and approved by the Engineer prior to the start of fabrication of any element of the Noise Barrier Wall (Structure).**

Within seven (7) days after the bid opening, the Contractor shall identify by type, name and manufacturer, the specific type of noise barrier wall for each location upon which its bid is based. All noise barrier wall segments or panels selected for each location shall be furnished from the same manufacturer and shall be of the same type, pattern and color.

The Contractor is explicitly notified that no other types of Noise Barrier Wall (Structure) shall be approved to be constructed at each specific site other than the types shown in the Contract Drawings.

Materials:

The materials to be used for the various components of the Noise Barrier Wall (Structure), including all appurtenant support systems, shall be as specified in the Contract Drawings.

The Noise Barrier Wall (Structure) chosen shall be selected from a list of manufacturers provided on the Contract Drawings and in this Specification. This list identifies various manufactured types of noise barrier wall systems that are considered appropriate and acceptable for each specific location in the project, but does not guarantee that all of the listed proprietary noise barrier wall systems can be designed to meet all of the dimensional, structural, or geotechnical constraints at each site. **The Contractor shall not commence with the production of its proposed system of Noise Barrier Wall (Structure) without the Engineer's review and written approval.**

The General List shown in this Specification and on the Contract Drawings identifies the acceptable manufactured systems of Noise Barrier Wall (Structure) of the absorptive type, and their manufacturers, for use in all Connecticut Department of Transportation's projects:

1. **NB15**
Armtec Ltd. (formerly Durisol)
8270 Greensboro Drive
McLean, VA 22102
(860) 873-1737
www.armtec.com

2. Whisper Wall
Concrete Innovation Services
4212 Lafayette Center Drive Suite 1-A
Chantilly, VA 20151
(703) 222-9702
www.whisper-wall.com

3. Soundsorb
Concrete Solutions, Inc.
3300 Bee Cave Road, Suite 650
Austin, TX 78746
(512) 327-8481www.soundsorb.com

4. Acrylite Soundstop CT GSCC NBS
Armtec Ltd.
8270 Greensboro Drive
McLean, VA 22102
(860) 873-1737
www.armtec.com

5. Acousta Crete
Faddis Concrete Products
3515 Kings Highway
Downington, PA 19335
(610) 269-4685
www.faddis.com

6. Soundstop GSCC
Beck Sound Barrier Systems, Inc.
Offices of Peltier, Windfern L.L.C.
11603 Windfern, Houston, TX
(832) 266-8164 (Headquarters)
(415) 407-2092
www.beck-soundbarriers.com

Not all of the above-listed walls are suited for use at specific locations due to structural requirements and concerns or, that the environment or locality warrants a certain type or style of wall to be used. Refer to the Contract Drawings for the specific types of Noise Barrier Wall (Structure) that are acceptable for each specific location in the project.

The materials used for the types of noise barrier walls shall be durable, and not be prone to developing openings, cracks or gaps from loading, warping, splitting, shrinkage, expansion, delamination, weathering and other weather-related and climactic-induced deterioration. The noise barrier wall panels shall be U.V.-resistant, flame-retardant, and could resist degradation from ozone, hydrocarbons and freeze-thaw cycling.

The Noise Barrier Wall (Structure) shall be able to provide a minimum Sound Transmission Class (S.T.C.) rating of 34 measured by ASTM E90. The Noise Reduction Coefficient (N.R.C.) shall have a minimum rating of 0.70, as measured by ASTM C423 and E 795. The sound-absorbing portions of the wall shall be durable and resistant against deterioration of material and damage from moderate scratch and abrasion and shall have a minimum of 20-year life cycle free from peeling, rotting or visible deterioration.

The Noise Barrier Wall (Structure) shall have a textured surface pattern on both sides if not shown otherwise in the Contract drawings. Specific textured surface patterns have been approved for use by the Department. The selected pattern for each wall location shall be as shown or noted on the Contract Drawings, and other patterns will not be acceptable. If both sides of the Noise Barrier Wall (Structure) contain a textured surface pattern, the side of the panels covered with the sound-absorbing material shall consistently face the roadway throughout the project. The sound-absorbing material shall be installed on the entire wall face that is exposed to the roadway.
The color of the Noise Barrier Wall (Structure) exposed to traffic will be indicated on the Contract Plans, conforming to Federal Standard 595 Colors except if specified otherwise on the plans. Only one color may be used on the wall components to maintain uniformity, except where specified otherwise on the Contract plans.

Federal Standard 595 Color No.	Color
FS 36492	Gray
FS 34230	Green
FS 30215	Brown
FS 36622	Gray

The Noise Barrier Wall (Structure) panels shall be integrally-pigmented to a significant depth into its cross-section in conformance with the requirements of ASTM C979, in order to produce a uniform color should the panel become scratched, chipped or otherwise surface-damaged. Variation in color or shading from panel to panel shall not be acceptable. Field-staining or painting to achieve a uniform overall color is not allowed.

Individualized design panels may vary from standard wall colors, textures, and patterns, as depicted in the Contract Drawings.

The Noise Barrier Wall (Structure) shall have a suitable surface for repainting, staining, sandblasting or other acceptable method of returning the panels to their original color and texture should they become damaged after construction. Touching-up, re-staining, repainting, or sandblasting portions of the panels shall not result in visible color variation.

The manufacturer of the Noise Barrier Wall (Structure) shall provide to the Department, an Aesthetic Coating Warranty of its product that covers a minimum of ten (10) years.

The Contractor shall also supply the Department with two (2) full-panel sections of Noise Barrier Wall (Structure) measuring 4 feet high of similar length and width as the panels to be constructed. These panels of noise barrier walls shall be of the same color and pattern as the Noise Barrier Wall (Structure) to be constructed. These noise barrier wall panels shall be delivered and unloaded at a recommended D.O.T. Maintenance Facility that will be ultimately responsible for the maintenance of the Noise Barrier Walls.

Other:

All other materials shall conform to the requirements as indicated on the approved Working Drawings of the specific system of Noise Barrier Wall (Structure) selected for the project.

Construction Methods:

Design:

The Noise Barrier Wall (Structure), including all structural supports such as but not limited to, reinforced concrete parapets, barrier curbs, columns, piles, caissons and footings, anchor bolts, and structural steel columns, beams, bolts and plates for the framing and support of the noise barrier wall, shall be designed for the most severe combination of gravity and lateral loads in accordance with the AASHTO Guide Specifications for Structural Design of Sound Barriers (1989) including interim specifications dated 1992 and 2002 and the Standard Specifications for Highway Bridges (AASHTO – 2002 with Interim Specifications up to and including 2003).

At the specific locations shown on the Contract Drawings containing the concrete-type Noise Barrier Wall (Structure), the entire length of the wall must be fully supported along the bottom panel, with a structural steel beam that spans between steel columns. The steel beam on either side of the column must frame onto the column so as to impose a stabilizing dead load on the assembly against overturning from lateral loads. All steel components of the structural system supporting the Noise Barrier Wall (Structure), including but not limited to beams, columns, base plates and anchor bolts shall be galvanized after fabrication.

The visible sections of the Noise Barrier Wall (Structure) shall have the same color, pattern, texture and height of individual panels as that of the adjacent sections of Noise Barrier Wall in the Highway portions of the project, unless otherwise specified in the Contract Drawings or this Specification.

At a minimum, the top of the Noise Barrier Wall (Structure) shall be at the Top of the Wall Elevations shown on the Contract Drawings.

The bottom panel of the Noise Barrier Wall (Structure) shall have a minimum height of 4 feet.

The Noise Barrier Wall (Structure) shall also be designed in accordance with the manufacturer's requirements, details and specifications for the type of wall chosen if proved that such design parameters are consistent with, or more adequate and stringent than the design requirements established in this Specification or in the Contract Drawings, and if reviewed and approved by the Engineer.

The concrete Noise Barrier Wall (Structure) shall have an integral cap with a minimum height of 6" on the top panels. The caps shall not be cast with a sound-absorptive material.

The horizontal joint lines between panels in Noise Barrier Wall (Structure) shall match for a minimum distance of 60 feet. If steps-up are required in cases of significant changes in grade, the elevation difference between the horizontal joints of adjacent panels shall not be less than 3" or greater than 12". These requirements shall also apply to the top elevations of the

walls. Strict adherence to these requirements may be waived at angle breaks greater than 30 degrees or as approved by the Engineer.

When a particular type of noise barrier wall transitions into a different type, or when a segment of noise barrier wall transitions onto an adjacent segment as necessitated by geometric offset on plan and/or elevation or by the differences in the support structures, or as indicated in the Contract Drawings, the Contractor shall be responsible for the design of the transition and connection components of the noise barrier wall systems.

All longitudinal gaps between the noise barrier wall panels and the top of parapets must be provided with auxiliary members to close such gaps and prevent the escape of noise. The system or mechanism to prevent the escape of noise through these gaps must be designed by the manufacturers of Noise Barrier Wall (Structure), and be clearly detailed in the Contractor's Working Drawings. The design and detail drawings must take into account the relative movements between the noise barrier wall panels and parapets.

The structural design of Noise Barrier Wall (Structure) shall take into account any expansion and contraction movements of the various framing components and supporting structures due to changes in temperature, most especially at locations in proximity with expansion joints at the bridge deck and parapets. A thermal expansion and contraction of not less than 1 ½ inches of the bridge deck, bridge parapets and wingwall parapets at all existing expansion joints must be accounted for in the design. Provisions to account for the localized and global effects of these temperature-induced movements in the design of the various framing components and supporting structures must be explicitly detailed in the Contractor's Working Drawings.

Submittals:

The Contractor shall be fully responsible for the structural design, preparation of drawings and conformance to all additional specifications required for the selected Noise Barrier Wall (Structure). The Designer or Responsible Engineer shall have at least Five (5) years of professional experience in the structural design of the afore-mentioned types of noise barrier walls. All drawings to be submitted by the Contractor shall conform to Section 1.05.02 of Form 816 regarding Working Drawings with the following additions:

Preliminary Submissions for Proprietary Noise Barrier Wall (Structure): Prior to the start of fabrication or the construction of the Noise Barrier Wall (Structure), the Contractor shall submit to the Engineer a design package, which shall include six (6) sets of Working Drawings and four (4) sets of Structural Design Calculations for review and approval by the Engineer in accordance with Article 1.05.02 The design package shall include, but not be limited to the following:

Working Drawings and Structural Design Calculations:

1. Plans shall be submitted on 22" x 34" paper sheets.

2. All Plans and Computations to be submitted to the Engineer shall be stamped

by a licensed Professional Engineer in the State of Connecticut, who shall also be available for consultation in interpreting his computations and drawings, and in the resolution of any issues that may occur during the performance of his work.

3. Full Plan View, drawn to scale, of the Noise Barrier Wall. This view shall show:
    a. Beginning and end of the wall, as well as any angle points;
    b. Posts shall be identified, numbered and located with the proposed coordinates;
    c. Roadway baseline with 100-ft stations labeled;
    d. Location of existing and/or proposed cantilever and truss sign supports, if any;
    e. Location of existing and/or proposed utilities. (Any existing utilities which are shown on the plans should be verified in the field.)

4. Full Elevation View (Roadway side), drawn to scale, of the Noise Barrier Wall, and including:
    a. Elevations of the finished top and bottom of the Noise Barrier Wall panels at all locations;
    b. Panel sizes;
    c. Location of horizontal angle points;
    d. Post lengths.
    e. Transitions between different wall styles or types;
    f. The approximate locations of 100-ft. baseline stations (perpendicular);
    g. Location of access for fire hoses or other appurtenances as applicable.

5. Drawings shall include Plans, Details and Sections for the following:
    a. Representative wall panels showing the pattern, color, and texture of the proposed Noise Barrier Wall
    b. Any individualized design panel depicting pattern, dimensions, depth of pattern, textures, and colors
    c. Footings for all expected soil conditions (soil, rock, partial soil/rock)
    d. Attachment and anchorage of the Noise Barrier Wall gravity and lateral loads resisting systems onto the parapets of the existing bridge and wingwalls or onto new concrete columns, considering:
        i. Anchor bolts in sustained tension loading must not be installed in a chemical anchoring material.
        ii. Show arrangement of anchor bolts on plan and section.
        iii. Consideration of tolerances for the locations of Noise Barrier Wall posts relative to locations of expansion joints in the parapets.
        iv. Details and methods for eliminating gaps between the parapet top and side with the Noise Barrier Wall panels.
        v. Allowable installation tolerances for posts including allowable

variations of horizontal spacing and from plumb.

e. New columns and footings supporting the Noise Barrier Wall gravity and lateral loads resisting systems
f. Transition between different wall styles or types
g. Transition between walls at geometric offset on plan and elevation
h. Transition between walls on different supporting structures
i. Provisions for temperature expansion and contraction in the wall support systems.
j. Methods of protection of any existing utilities, facilities and sub-structures during the construction of the Noise Barrier Wall
k. Any false-work required to temporarily support the components during construction.
l. Construction and installation procedures
m. Allowable fabrication tolerances for wall panels and posts

6. Calculations shall include:
   a. Computations shall clearly comply with and reference applicable AASTHO provisions.
   b. Structural design for the footings/foundations for the Noise Barrier Wall, modeling all expected soil conditions (soil, rock, and partial soil/rock).
   c. Structural design for the support and framing systems of the Noise Barrier Wall for the combination of gravity and lateral loads (wind and seismic).
   d. Structural design for the attachment and anchorage of the support and framing systems of the Noise Barrier Wall for the combination of gravity and lateral loads (wind and seismic).
   e. Structural design for the gravity and lateral (wind and seismic) load resisting systems of the Noise Barrier Wall.
   f. Documentation of computer programs utilized, including all design parameters.

Final Submissions of Noise Barrier Wall (Structure) Drawings:

Once the Working Drawings for the Noise Barrier Wall (Structure) have been reviewed and accepted by the Department, the Contractor shall submit the Final Plans. The final submission shall be made within 14 days of acceptance by the Department. No work shall be performed on the walls until the final submission has been received. Acceptance of the final design shall not relieve the Contractor of his responsibility under the Contract for the successful completion of the work.

One CD containing the final approved drawings in pdf format and five (5) sets of full size paper copies shall be submitted for Final Working Drawings and Shop Drawings for the Department's use and permanent records. Submissions in electronic format shall be created on ANSI D (22’ x 34” full scale (1” electronic file = 1” paper) sheets. The purpose of creating these drawings on

ANSI D sheets is so that they may be printed/plotted at that size or smaller without loss of legibility.

Construction Specifications:

1. Construction tolerances, methods and material specifications specific to the noise barrier walls chosen shall be provided to the Department. Submittal requirements for materials such as certification, quality, and acceptance/rejection criteria should be included.

2. Any requirements from the Manufacturer specific to the noise barrier wall that are not stated herein shall also be included.

Tolerances:

All noise barrier wall components shall conform to the following:

Posts

Post Dimension Tolerances:

1. Post Height = $\pm$1/2”

Post Vertical Sweep:

1. Posts $\leq$ 16’ long = $\pm$1/8”
2. Posts > 16’ long = $\pm$1/4”

Post Installation:

1. In horizontal plane from plan location = $\pm$1”
2. In horizontal plane from center of cylindrical footing = $\pm$1”
3. In horizontal plane from adjacent post = $\pm$1/2”
4. Post plumb = $\pm {}^{1}/_{8}$” per 10’ of wall height

Panels

Panel Dimension Tolerances:

1. Panel Length and Height = $\pm$1/4”
2. Panel Structural Thickness = $\pm$1/4”
3. Panel Absorptive Material Thickness = $\pm$1/4”
4. Panel Horizontal Sweep = $\pm$1/8”
5. Panel Vertical Sweep = $\pm$1/8”

Position of Lifting Inserts:

1. Along Panel Length = $\pm$1”
2. Along Panel Thickness = $\pm$1/4”

Reinforcing Steel Tolerances:

1. Splice = +1” from Standard Lap Splice Requirement

2. Concrete Cover = +2”

Other

There shall be no openings in the wall or under the wall, which would allow sound transmission.

Fabrication of Panels:

Textured Surface Treatment: Formed surfaces other than the exposed face shall not require a textured finish. The textured surface finish shall be similar and consistent in material and construction with that of the Highway portion of Noise Barrier Wall in the project.

If the proposed noise barrier wall is being used to replace an existing noise barrier wall, the top of the proposed noise barrier wall shall be constructed to no lower than the top elevation of the existing wall or as shown on the Contract Plans, or unless specifically noted otherwise.

Unexpected Obstructions:

If during construction, the avoidance of unexpected or unforeseen obstructions requires the revision of portions of the original design, the Contractor shall provide a revised design of the affected portions for review and written approval by the Engineer.

The Contractor shall schedule its construction operations such that access to the areas behind the walls would not be required in the performance of the remainder of the work once access has been rendered difficult or inexpedient. The Contractor, having caused its own access to be restricted or limited, as a result of prioritizing to finish grades, stabilize slopes or establish turf ahead of the other work, shall not be permitted to use any of these circumstances as a reason to not perform or finish the required work. Should the Contractor need access to these areas, the additional work to re-establish grades, re-establish slopes, re-establish turf or any work to restore the ground to a finished condition as shown in the Contract Drawings, shall be performed at the sole expense of the Contractor.

The Contractor shall restore all ground beyond the established Limits of Disturbance, if disturbed by the construction of the noise barrier walls. The ground restoration shall be in accordance with the proposed finished condition shown in the Contract Drawings. The Contractor shall remove all excess materials from the site.

Prior to any excavation, the Contractor shall field-verify the location of all existing utilities, sewers and culverts shown on the Contract Plans. Should a sewer, or culvert be damaged by the Contractor’s omission or negligence, the Contractor shall replace the damaged sections at its own cost.

On-Site Representative: A qualified and experienced representative from the manufacturer of noise barrier wall shall be present at the site during the start of construction to assist the Contractor and the Engineer. The representative shall also be available for consultation on an as-

needed basis, if requested by the Contractor or the Engineer.

Installation: All panel units shall be installed in accordance with the Manufacturer's recommendations by an Installer who is duly qualified, approved and certified by the Manufacturer to perform the work, and who exhibits reasonable familiarity and experience for the type of work involved in the installation of Noise Barrier Wall (Structure) described in this Specification and Contract Drawings.

Special care shall be taken to properly set the bottom panel units true-to-line and grade. All bottom panel units shall have a minimum height of 4 feet.

The assembly of the various components shall be performed in such a manner that no undue strain or stress is placed on any of the members that constitute the completed structure.

Inspection and Rejection:

Marking: The date of manufacture, the production lot number, and the piece-mark shall be clearly marked on the side of each panel or module.

The quality of materials, the process of manufacture, and the finished units shall be subject to inspection by the Engineer prior to shipment.

Panels with textured surface treatments shall be rejected if the exposed face deviates from the look of the approved model as to color or texture as determined by the Engineer.

Acceptance Criteria for Sound Barrier Wall (Structure):

Precast components shall be accepted for use in wall construction provided the concrete strength meets or exceeds the minimum compressive strength requirement, and the panel or module dimensions are free from any chipping, cracks, honeycomb surface treatment, open texture concrete, broken corners or other defects as determined by the Engineer.

The Contractor shall be responsible for ensuring a completed sound barrier wall system free of discoloration, cracks or objectionable marks which may adversely affect the barriers performance, aesthetics, or serviceability as determined by the Engineer. All panels that exhibit any form of structural damage, as determined by the Engineer, will be rejected without any cost to the Department, either at the fabrication shop or at the construction site, even after installation, but prior to acceptance of the job.

Panels with textured surface treatments shall be rejected if the color and texture on the exposed faces deviate, or show variations from the approved model, as determined by the Engineer.

Rejected panels deemed to require repair or replacement shall be replaced at the Contractor’s expense. No payment shall be made for removing, temporarily storing, or re-installing panels to enable access to the panel to be replaced. Any panels that are damaged during panel replacement

shall also be replaced or repaired per the direction of the Engineer. Any work to stabilize areas adjacent to the wall required due to replacement of cracked or damaged panels shall be done at the Contractor's own cost.

Method of Measurement:

Noise Barrier Wall (Structure) shall be measured for payment by the number of square feet of Noise Barrier Wall (Structure) completed and accepted within the limits indicated on the plans or as ordered by the Engineer and shall be measured from center to center distance between vertical columns supporting each wall panel. The vertical pay limit shall be measured from the bottom to the top of the barrier panel section. Each span between columns shall be measured for payment separately, as stepping may be required.

The two (2) full panel sections of Noise Barrier Wall (Structure) delivered to the D.O.T. Maintenance Facility shall be measured and paid for as Noise Barrier Wall (Structure) (sf.)

Basis of Payment:

Payment for this work will be made at the Contract unit price per square meter for Noise Barrier Wall (Structure) complete in place, which price shall include engineering and design, on-call and on-site services of the representative from the wall manufacturers, all work and materials used for the fabrication, complete installation and construction of the walls, facing panels, excavation, grading, disposal of surplus material, equipment, tools, labor and work incidental to the installation of the wall.

Payment shall also include the cost for all materials and labor for the construction of concrete columns and footings as designed by the Contractor and the retrofit of the existing retaining wall if found structurally inadequate for the addition of new loads as designed by the Contractor.

Payment shall also include the pigmentation and coatings of the walls.

No payment shall be made for survey, field-verification work and the preparation of working drawings.

PAY ITEM	PAY UNIT
0916111A - Noise Barrier Wall (Structure)	SQ.M

ITEM#0916126A – NOISE BARRIER WALL
ITEM#0916219A – ROCK IN POLE EXCAVATION

Section 9.16 Noise Barrier Wall is hereby deleted in its entirety and replaced with the following:

Description:

Work under this item shall consist of designing, fabricating, furnishing and erecting noise barrier wall systems in the locations, elevations, and dimensions shown on the plans, and in accordance with these specifications or as directed by the Engineer. Specific types of walls may be required by the Contract drawings; the Contractor may select any one of the types listed and detailed on the plans.

Materials:

The noise wall chosen shall be selected from a list provided on the Contract drawings specific to each site. This list appearing on the Contract drawings will identify all manufactured noise barrier walls that are considered appropriate and acceptable for each specific project site. This does not warrant that all listed noise walls can be designed to meet either the dimensional, structural, or geotechnical constraints at each site. The Engineer will reject any proposed noise barrier wall that is not listed on the Contract drawings.

Within seven (7) days after the bid opening, the Contractor shall identify by the type and name, in his proposal, the specific type of the wall for each location upon which his bid is based. All noise barriers selected for each location shall be furnished from the same manufacturer and shall be on the same type pattern and color.

The list shown on the Contract drawings has been derived from the following general list of acceptable manufactured noise barrier walls for Department projects; no other noise barrier walls will be allowed.

1. NB 15
   Armtec Ltd.
   8270 Greensboro Drive
   McLean, VA 22102
   (860)-873-1737
   www.armtec.com

2. Whisper Wall
   Concrete Innovation Services
   4212 Lafayette Center Drive Suite 1-A
   Chantilly, VA 20151
   703-222-9702
   www.whisper-wall.com

   Acousta Crete
   Faddis Concrete Products
   3515 Kings Highway
   Downingtown, PA 19335
   610-269-4685

3. Soundsorb
   Concrete Solutions, Inc.
   3300 Bee Cave Road, Suite 650
   Austin, TX 78746
   512-327-8481

www.soundsorb.com www.faddis.com

Some of these walls are specifically suited for use in special locations where there are structural concerns or the surrounding area warrants a certain type or style of wall to be used. **Note: See the Contract drawings for the specific noise barrier walls that are acceptable for each site.**

Material(s) used for the noise barrier wall shall durable, and not prone to developing openings, cracks or gaps from loading, warping, splitting, shrinkage, delamination, or weathering. Noise barrier wall panels shall be U.V. resistant, flame retardant, and resist degradation from ozone, hydrocarbons and freeze/thaw cycling. The sound absorbing portions of the wall shall be durable, resistant to erosion of material and damage from moderate abrasion. The noise barrier wall shall have a minimum 20 year life cycle free from peeling, rotting or visible deterioration.

Absorptive noise barrier wall(s) shall be able to provide a minimum Sound Transmission Class (S.T.C.) rating of 34 measured by ASTM E90. The Noise Reduction Coefficient (N.R.C.) shall have a minimum rating of 0.70, as measured by ASTM C423 and E 795.

Specific textured surface patterns have been approved for use by the Department. The selected pattern for each wall location shall be as shown on the Contract drawings. Other patterns will not be acceptable.

The noise barrier wall shall have a textured surface pattern on both sides if not noted otherwise in the Contract drawings. If both sides of the noise barrier wall contain a textured surface pattern, the more textured or sound absorptive side (covered by sound-absorbing material) shall consistently face the roadway throughout the project. The bottom panel of an absorptive noise barrier wall shall not have sound-absorbing material installed on the exposed face due to potential damage from traffic and snow plowing operations.

The color of the noise barrier wall exposed to traffic will be indicated on the plans, conforming to Federal Standard 595 Colors except if specified otherwise on the Contract plans. Only one color may be used on the wall components to maintain uniformity, except where specified otherwise on the Contract plans.

Federal Standard 595 Color No.	**Color**
FS 36492	Gray
FS 36622	Gray
FS 34230	Green
FS 30215	Brown

The noise barrier wall panels shall be integrally-pigmented (meeting the requirements of ASTM C979,) a significant depth into its cross-section so as to produce a uniform color should the panel become scratched, chipped or otherwise surface damaged. Variation in color or shading from panel to panel shall not be acceptable during construction. Field staining or painting to achieve a uniform overall color is not allowed during construction.

Individualized design panels may vary from standard noise barrier wall colors, textures, and patterns, as depicted in the Contract drawings.

The manufacturer of the noise barrier wall shall provide an aesthetic coating warranty to the Department of Transportation for a minimum of 10 years.

The noise barrier wall shall have a suitable surface for repainting, staining, sandblasting or other acceptable method of returning panels to their original color and texture should it become damaged after construction. Touching up, restaining, repainting, or sandblasting portions of the panel shall not result in visible color variation. Additionally, the noise wall manufacturer shall supply the Department with 25 gallons of matching color paint or stain to repair surface damage or vandalism. The matching color paint or stain shall be supplied along with the supplier name, wall location, project number, and a color identification number.

The Contractor shall also supply four (4) full panel sections of noise barrier wall, measuring 4 feet high each to the Department. These sections of noise barrier wall shall be of the same color and pattern as the noise barrier wall. The Contractor shall deliver and unload the materials at the recommended D.O.T. Maintenance Facility. The noise wall sections and matching color paint/stain shall be delivered and unloaded at the recommended D.O.T. Maintenance facility that will be ultimately responsible for the noise barrier wall.

Reinforcing steel shall conform to the requirements of Article M.06.01. Additionally, all steel components, including fasteners and anchor bolts shall be completely hot-dip galvanized, after fabrication, in accordance with ASTM A123 or ASTM A153, as applicable. Zinc-rich field primer for touch up shall conform to the requirements of ASTM A780. The use of aerosol spray cans shall not be permitted.

Concrete for footings shall have a minimum 28 day compressive strength f'c, of 3000 psi and conform to the requirements of Article M.03.01.

Wall sections which are mounted on a structure or used to maintain a grade difference on each side of the wall (earth retaining panels), as identified in the Contract drawings shall be designed and manufactured for those purposes. Specific calculations and details will be required when these types of walls are specified. Noise Barrier Wall mounted on a structure shall conform to the requirements of the special provision for "Noise Barrier Wall (Structure)."

Noise Barrier Wall (Structure) (additional requirements):

Noise barrier wall on structures shall have the same color, pattern, and texture on visible portions as the other sections of noise barrier wall unless otherwise specified in the Contract plans or special provision for Noise Barrier Wall (Structure). Due to the presence of a parapet, for absorptive walls, the acoustic covering shall be on the entire wall facing traffic.

Noise Barrier Wall (Earth Retaining Panels) (additional requirements):
Earth retaining panels produced by the noise wall manufacturer will be allowed where specified in the Contract Drawings, where the grade difference between the front and back of the noise barrier wall does not exceed 3 feet.

Noise barrier wall (earth retaining panels) shall have the same color, pattern, and texture on visible portions as the other sections of noise barrier wall. Integrated sections shall be designed and reinforced to withstand any earth retaining lateral loads. Other necessary materials such as drainage holes, subdrain, filter fabric, or stone necessary to properly construct the integral retaining wall shall conform to manufacturer's specifications.

Other:

Rock in so far as it applies to "Rock in Pole Excavation" shall be defined as rock in definite ledge formation, boulders or portions of boulders, cement masonry structures, concrete structures, old noise wall footings or portland cement concrete pavement having a cross-sectional area that exceeds 50% of the cross-sectional area of the designed noise barrier wall upright support hole.

Crushed Stone, if required to be placed under or adjacent to the barrier associated with drainage and erosion control shall conform to No. 3 Crushed Stone per Article M.01.01.

Backfill for Noise Barrier Wall (Earth Retaining Panels) shall be pervious structure backfill conforming to the requirements of Articles M.02.05 and M.02.06.

All other materials shall conform to the requirements as indicated on the individual noise barrier wall plans and approved working drawings.

Experience:
The Noise Barrier Wall Designer shall submit to the Engineer documentation specifying a minimum of five years of experience designing the type of Noise Barrier Walls specified in the Contract Plans. The Contractor shall submit to the Engineer evidence of experience constructing Noise Barrier Walls. This documentation needs to be reviewed and approved by the Engineer prior to commencing the design of the Noise Barrier Walls.

Construction Methods:

Design:
Noise barrier walls shall be designed in accordance with the AASHTO Guide Specifications for Structural Design of Sound Barriers (1989), including interim specifications dated 1992 and 2002.

The noise barrier wall shall also be designed in accordance with the manufacturer's requirements, details and specifications for the noise barrier chosen.

General Design Requirements:
The top of the noise barrier wall shall be at the top of the wall elevations (at a minimum) shown on the Contract drawings.

The bottom panel shall be a minimum height of 54 inches and shall be precast reinforced concrete. It shall be uncolored and without pattern or acoustic material on either face.

If the Contractor is required to use different types of wall, or transition at structures, based on the Contract plans, he shall design the transition or connection of the two types.

Noise Barriers shall have a reinforced integral cap with a minimum height of 6" on the top panels. Caps shall not be cast with sound absorptive material.

For aesthetic purposes, except in cases of significant changes in grade, horizontal joint lines between panels shall match for a minimum distance of 60 feet, and if steps are required, the elevation difference between the horizontal joints of adjacent panels shall not be less than 3" or greater than 1'-0". These requirements shall also apply to the top elevation of the noise barrier wall. Strict adherence to these requirements is not necessary at angle breaks greater than 30 degrees or as approved by the Engineer.

Crushed stone shall be placed adjacent/under the noise barrier wall as depicted in the Contract Drawings to allow for cross drainage from one side of the wall to the other, to prevent erosion, or to function as a splash pad.

Submittals:
The Contractor is fully responsible for the design, detailing and additional specifications required for the selected noise barrier wall. All submitted drawings shall conform to section 1.05.02 of Form 816 regarding working drawings with the following additions:

Preliminary Submissions for Proprietary Noise Barrier Walls:
Prior to the start of fabrication or noise barrier wall construction, the Contractor shall submit to the Engineer a design package, which shall include six (6) sets of working drawings and four (4)

sets of design calculations for review in accordance with Article 1.05.02. The design package shall conform, but not be limited to the following:

Detailed Plans and Computations:

1. Plans shall be submitted on 22" x 34" paper sheets.

2. All submittals (plans and computations) shall be stamped by a licensed Professional Engineer in the State of Connecticut, who shall also be available for consultation in interpreting his computations and drawings, and in the resolution of any problems, which may occur during the performance of his work.

3. Full plan view of the noise barrier wall, drawn to scale. This view shall show:
    a. beginning and end of the wall, as well as any angle points;
    b. posts shall be identified and numbered, with proposed coordinates of where each post will be placed;
    c. roadway baseline with 100-ft stations labeled;
    d. location of existing and/or proposed cantilever and truss sign supports;
    e. location of existing and/or proposed drainage systems/utilities. (Any existing drainage systems and/or utilities which are shown on the plans should be field verified.)

4. Full elevation view (roadway side) of the noise barrier wall, drawn to scale, and including:
    a. elevations of the finished top and bottom of the noise barrier wall panels at all locations;
    b. finished grade against the wall (on both sides);
    c. panel sizes;
    d. location of horizontal angle points;
    e. post length and post embedment dimension.
    f. transitions between different wall styles or types;
    g. the approximate locations of 100’ baseline stations (perpendicular);
    h. location of access for fire hoses or other appurtenances as applicable.

5. Details shall include:
    a. detail and description of the pattern, color, and texture of the proposed noise barrier wall;
    b. details for any individualized design panel depicting pattern, dimensions, depth of pattern, textures, and colors;
    c. details for noise barrier wall foundations/footings, for all expected soil conditions (soil, rock, partial soil/rock);
    d. transitions between different wall styles or types;

e. details for excavating holes for foundations including drilling and dewatering methods (if required);
f. reinforcement details for the bottom precast concrete panel;
g. details of stepped installations on longitudinal slopes (as required);
h. detail for methods of constructing the noise barrier wall in the vicinity of any existing or proposed drainage systems in the vicinity of the wall;
i. detail for methods of protection of the existing facilities during the construction of the noise barrier wall;
j. drainage details:
    i. crushed stone placed adjacent to and/or under the wall panels where proposed on the Contract;
    ii. provisions for swaling longitudinally along walls;
    iii. structural drainage systems for transporting runoff from one side of the wall to the other side for noise barrier walls and for earth retaining panels;
k. details of any falsework required to temporarily support the components during construction.

6. Plans shall also include:
    a. specifications for all materials used in the construction of the noise barrier wall system;
    b. detailed construction and installation procedures;
    c. allowable fabrication tolerances for wall panels and posts;
    d. allowable installation tolerances for posts, including for allowable variations of horizontal spacing and from plumb.

7. Calculations shall include:
    a. computations shall clearly comply with and reference applicable AASTHO provisions;
    b. calculations for the noise barrier wall foundations/footings, modeling all expected soil conditions (soil, rock, partial soil/rock);
    c. calculations for vertical loading of the bottom precast concrete panels (supported on the ends with a uniform load of the total panel weight above.)
    d. documentation of computer programs utilized, including all design parameters;
    e. computations for earth retaining panels shall conform to the latest edition of the AASHTO Standard Specifications for Highway Bridges including the latest Interims published except as noted herein. Additionally:
        i. earth retaining panels will only be allowed where the grade difference between the front and back of the noise barrier wall does not exceed 3 feet;

ii. noise barrier walls with earth retaining panels shall be designed for a minimum 4 foot embedment;
iii. consider a minimum live load surcharge equal to two feet of soil at a unit weight of 125 pounds per cubic foot. If there are a specific live load surcharges, acting on the wall, they shall also be accounted for;
iv. the minimum equivalent fluid pressure used to design the wall shall be 33 pounds per cubic foot per linear foot of wall.

Final Submissions of Noise Barrier Wall Drawings:

Once the working drawings have been reviewed and accepted by the Department, the Contractor shall submit the final plans. The final submission shall be made within 14 days of acceptance by the Department. No work shall be performed on the wall until the final submission has been received. Acceptance of the final design shall not relieve the Contractor of his responsibility under the Contract for the successful completion of the work.

One CD containing the final approved drawings in .pdf format and five (5) sets of full size paper copies shall be submitted for final working drawings and shop drawings for the Department's use and permanent records. Submissions in electronic format shall be created on ANSI D (22' x 34" full scale (1" electronic file = 1" paper) sheets. The purpose of creating these drawings on ANSI D sheets is so that they may be printed/plotted at that size or smaller without loss of legibility.

Construction Specifications:

1. Construction tolerances, methods and material specifications specific to the noise barrier walls chosen shall be provided. Submittal requirements for materials such as certification, quality, and acceptance/rejection criteria should be included.

2. Any manufacturer requirements specific to the noise barrier wall not stated herein shall also be included.

Tolerances:

All noise barrier wall components shall conform to the following:

Posts

Post Dimension Tolerances:

1. Post Height = $\pm$1/2"

Post Vertical Sweep:

1. Posts $\leq$ 16' long = $\pm$1/8"
2. Posts > 16' long = $\pm$1/4"

Post Installation:

1. In horizontal plane from plan location = ±1”
2. In horizontal plane from center of cylindrical footing = ±1”
3. In horizontal plane from adjacent post = ±1/2”
4. Post plumb = ±1” per 10’ of wall height

Panels

Panel Dimension Tolerances:

1. Panel Length and Height = ±1/4”
2. Panel Structural Thickness = ±1/4”
3. Panel Absorptive Material Thickness = ±1/4”
4. Panel Horizontal Sweep = ±1/8”
5. Panel Vertical Sweep = ±1/8”

Position of Lifting Inserts:

1. Along Panel Length = ±1”
2. Along Panel Thickness = ±1/4”

Reinforcing Steel Tolerances:

1. Splice = +1” from Standard Lap Splice Requirement
2. Concrete Cover = +2”

Other

There shall be no visible openings in the wall or under the wall, which would allow sound transmission.

Fabrication of Panels:

Textured Surface Treatment: Formed surfaces other than the exposed face shall not require a textured finish. If a textured surface finish is proposed for the wall, before proceeding with production, two (2) noise barrier wall panel samples (matching in surface treatment and color) shall be created:

1. one 24” x 24” x full thickness shall be provided by the fabricator for the Engineer's approval of color and surface treatment(s). Regular panel production may not commence without the Engineer’s approval;
2. one full width x full thickness x four (4) feet high model panel, to use as a guide and standard for the color and finish to be furnished on production panels. This model panel shall be kept at the fabricator's plant to be used for comparison purposes during production. It may be used on the project at the end of precasting operations with permission from the Engineer.

If the proposed noise barrier wall is being used to replace an existing noise barrier wall, the existing wall(s) shall be removed and properly disposed of. All permits for its disposal shall be obtained by the Contractor and included in the cost. In this case, the proposed noise barrier wall shall be constructed no lower than to the top elevation of the existing wall or as shown on the Contract plans unless specifically noted otherwise.

Unexpected Obstructions:

Prior to any excavation, the Contractor shall field verify the location of all existing utilities, sewers and culverts shown on the Contract plans. Should a sewer, or culvert be damaged by the Contractor's omission or negligence, the Contractor shall replace the damaged sections at his own cost.

If during construction, the avoidance of unexpected utilities, drainage or other obstructions requires the use of closer post spacing than that shown on the Contract plans, the Contractor shall furnish additional foundations, posts, and panels as directed by the Engineer. The additional foundations, posts, and panels shall conform to the Contract documents and other approved drawings and specifications. Field cutting of posts or panels will not be accepted.

For noise barrier walls installed on grade, the posts shall be set in concrete in predrilled holes unless alternate methods are proposed by the noise barrier wall designer and approved by the Engineer. The concrete shall fill the bore to the full depth of the hole and shall be slightly crowned at the top for drainage. The drilled hole shall be reasonably true and plumb to the stated diameter and depth. Precautions shall be taken in the operational procedures to protect the hole from collapse. Should rock or other obstructions be encountered in making the hole, this material shall be removed and any space outside the designed pier diameter shall be replaced with concrete. The concrete shall be placed in the dry, against the existing soil or rock. All disturbed material around the concrete shall be compacted.

The Contractor shall plan his operations such that access is not required to areas behind the wall once access is difficult or once these areas have been stabilized. The Contractor, having caused his own access to be restricted, through finished grades or stabilized slopes shall not be allowed to use this as an acceptable reason to not perform required work. Should the Contractor need access to these areas, all reestablishment of grades, stabilizing slopes, or turf establishment shall be done at his own cost.

All ground beyond the limits disturbed by the installation of the wall shall be restored to it's proposed finished condition and all excess material shall be removed from the site.

On Site Representative:

A qualified and experienced representative from the wall supplier shall be at the site at the initiation of the wall construction to assist the Contractor and the Engineer. The representative shall also be available for consultation on an as needed basis, as requested by the Contractor or the Engineer.

Installation:

Panel units shall be installed in accordance with manufacturer's recommendations. Special care shall be taken in setting the bottom course of units properly and to true line and grade.

Assembly of the various components shall be performed in such a manner that no undue strain or stress is placed on any of the members that constitute the completed structure.

Inspection and Rejection:

Marking: The date of manufacture, the production lot number, and the piece-mark shall be clearly marked on the side of each panel or module.

The quality of materials, the process of manufacture, and the finished units shall be subject to inspection by the Engineer prior to shipment.

Panels with textured surface treatments shall be rejected if there are variations in the exposed face that deviates from the approved model as to color or texture as determined by the Engineer.

Acceptance Criteria for Noise Barrier Wall:
Precast components shall be accepted for use in wall construction provided the concrete strength meets or exceeds the minimum compressive strength requirement, and the panel or module dimensions are free from any chipping, cracks, honeycomb surface treatment, open texture concrete, broken corners or other defects as determined by the Engineer.

The Contractor shall be responsible for ensuring a completed sound barrier system free of discoloration, cracks or objectionable marks which may adversely affect the barriers performance, aesthetics, or serviceability as determined by the Engineer. All structurally cracked panels, as determined by the Engineer, will be rejected either at the fabrication shop or at the construction site, even after installation, but prior to acceptance of the job.

Rejected panels deemed to require repair or replacement shall be replaced at the Contractor's expense. No payment shall be made for removing, temporarily storing, or reinstalling panels to enable access to the panel to be replaced. Any panels which are damaged during panel replacement shall also be replaced or repaired per the direction of the Engineer.

Method of Measurement:

Noise barrier wall and noise barrier wall (structure) shall be measured for payment from center to center of each vertical column supporting the wall by the number of square feet of wall system completed and accepted within the limits indicated on the plans or as ordered by the Engineer. The vertical pay limit shall be from the bottom of the barrier panel section to the top of the barrier panel. Each span between columns shall be measured for payment separately, as stepping may be required.

Noise barrier wall (earth retaining panels) shall be measured for payment by the actual number of square feet of Noise barrier wall (earth retaining panels) installed and accepted. The vertical pay limit for each panel section shall extend from the bottom of the lowest panel, up to the top of the barrier panel above, specifically identified and constructed to retain earth.

Work or features for underdrainage associated with noise barrier wall (earth retaining panels) such a sweep holes, underdrains, filter fabric, pervious structure backfill, and stone backfill for piping shall not be measured for payment but included in the item: Noise barrier wall (earth retaining panels).

Rock in so far as it applies to "Rock in Pole Excavation" shall be defined as rock in definite ledge formation, boulders or portions of boulders, cement masonry structures, or existing concrete structures. Where rock is encountered, it will be measured for payment from the top of the rock to the bottom of the necessary rock excavation when such rock has a cross-sectional area that exceeds 50% of the cross-sectional area of the designed noise wall upright support hole. Concrete required to fill the excavation beyond the designed support hole diameter or depth will not be measured for payment.

Matching color paint or stain shall not be measured for payment but included in the price for the noise barrier wall.

The four (4) full panel sections of noise barrier wall delivered to the D.O.T. Maintenance Facility, shall be measured and paid for as Noise Barrier Wall (sf).

Crushed Stone used under and/or adjacent to the Noise barrier wall will be measured and paid separately under the appropriate Contract item.

Basis of Payment:

Payment for this work will be made at the Contract unit price per square meter for Noise Barrier Wall or Noise barrier wall (earth retaining panels), and noise barrier wall (structure) complete in place, which price shall include engineering, all materials utilized for the fabrication and installation of the wall itself (panel sections, stepping blocks, anchoring mechanisms, support columns and all necessary hardware), facing panels, excavation, grading, disposal of surplus material, equipment, tools, labor and work incidental to the installation of the wall. Payment shall also include the pigmentation of the wall and coatings.

Any additional material ie: fill, reuse or borrow necessary to construct an access road, temporary pads or any other method for the removal of noise barrier wall or the installation of any portion of the noise barrier wall will not be measured for payment but included in the item or in the overall cost of the work. This extra material shall be disposed of at no additional cost to the

State. Final grades in the front and back of the wall will conform to the proposed cross sections and final approved working drawings.

When rock is encountered within the limits of excavation for vertical supports, its removal will be paid for at the Contract unit price per vertical meter for "Rock in Pole Excavation," which price shall include any additional excavation to remove the rock and any additional concrete required to fill the excavation beyond the designed pier hole diameter or depth.

Additional foundations, posts, and panels required due to unexpected field changes of the approved design directed by the Engineer shall be paid for at the square foot Contract price for that item.

No payment shall be made for weepholes, subdrainage, filter fabric or stone backfill for underdrainage associated with the noise barrier wall (earth retaining panels). These items shall be included in the cost of the wall.

No payment shall be made for survey, field verification, preparation of working drawings or for paint or stain required to repair vandalism.

PAY ITEM	PAY UNIT
916126A-Noise Barrier Wall	SQ.M
916219A - Rock in Pole Excavation	v.m.

ITEM #1108644A – TRAFFIC MANAGEMENT SYSTEM CABINET

Description:

This work includes the furnishing and installing of outdoor equipment cabinets as shown on the Drawings and detailed in this specification.

Materials:

1. General:

   1.1. The Traffic Management System Cabinet (TMSC) shall serve as an environmental enclosure for the field equipment. The TMSC shall be installed at camera sites as shown on the plans. The TMSC shall be 24”W x 30”D x 67”H with 19” rack rails mounted inside the cabinet for mounting the following equipment:

   - Ethernet Port Sharing Device supplied as part of item # 1108628A
   - Optical Video/Data Transmitter supplied as part of item #1108704A
   - Single Mode Fiber Optic Media Converter for connecting VMS controller to the input panel in the TMSC, if required, supplied as part of item #1108662A - Single Mode Fiber Optic Media Converter. The Contractor shall refer to the detailed estimate sheet and fiber diagrams for determination for Fiber Optic Media Converter.
   - Local camera control connection, local traffic flow monitor connection, if required, provided as part of item #1112210A (Camera Assembly) and item #1113059A (Traffic Flow Monitor).
   - Input wiring panel with all appropriate surge suppression devices, terminal blocks and power supplies.
   - Power distribution panel rack/panel assembly.

   1.2. Publications listed below form a part of these Specifications to the extent referenced. The publications are referred to in the text by the basic designation only.

   - National Electrical Manufacturers Association (NEMA Standard 250)
   - Underwriters Laboratories UL50 and UL508
   - National Electrical Code – Most recent edition
   - 170 Traffic Signal Control Hardware Specification FHWA-1 P:-78-6

2. Traffic Management System Cabinet (TMSC):

   2.1. The TMSC shall meet the NEMA 3R standard. The TMSC shall be 24”W x 30”D x

67"H with 19" rack rails mounted inside the cabinet. The TMSC shall be fabricated with "S" flanges in the top ventilation to prevent forced snow, ice and road salt from entering the enclosure.

2.2. The TMSC shall operate from an 115VAC +/- 10%, 60 Hz power source.

2.3. The TMSC shall be an enclosure suitable for outdoor mounting on a concrete foundation.

2.4. The TMSC shall meet the requirements as specified in Chapter 12 of the Type 170 Traffic Signal Control Hardware Specification FHWA-1 P-78-6 as modified by this Specification.

2.5. The TMSC shall be furnished with front and rear doors possessing securing brackets, each door equipped with a Conn-2 lock (tumbler-type). One (1) key shall be furnished for each cabinet installed. When closed, both doors shall fit tightly to a neoprene gasketing material. The door hinge pins shall be made of stainless steel. The hinge pins shall be the length of the door. The door hinges and securing brackets shall be made of stainless steel and bolted so doors may be changed without the need to cut welds.

2.6. The TMSC shall be supplied with internal EIA standard 19" racks as specified in the Drawings. The 19" racks shall be installed on both the front and rear door access points.

2.7. The TMSC shall have one shelf that extends the complete width and depth of the cabinet. The shelf shall be adjustable in height.

2.8. The TMSC shall be equipped with adequate heating as required for cabinet components and ventilating system to maintain inside temperature between +5 to +60 degrees C at any time. The heating and ventilating system shall include an electric heater, fan and replaceable filter mounted on the intake vent. The ventilation fan assembly shall be of adequate size to circulate air in the cabinet and controlled by an adjustable thermostat. The fan and cabinet are to be located so as to direct the bulk of the airflow throughout the entire cabinet. The fan motor shall have a suppresser across it equal to or better than 0.1 μf/47 ohm protection @ 600v. All points on the thermostat and fan at which 110 VAC are present shall be insulated to prevent electric shock.

2.9. The TMSC shall be equipped with an enclosed, 19" rack mounted electric strip heater and blower with a rating of approximately 800 watts at 120 VAC. The enclosure shall house the strip heater and blower in which air shall be drawn in across the strip heater and exhausted out from the blower. The enclosure shall feature an internal thermal cut-off that will shut off the heater should the exhaust area become obstructed. The ventilation fan and strip heater with blower shall be controlled by a high-low adjustable thermostat which can be set to ensure the cabinet interior temperature remains between

+5° C and +60° C under average weather conditions. The strip heater with blower thermostat shall have an adjustable low temperature range down to at least 0°C. The heater shall be wired directly to the AC circuit breaker reserved for the heaters.

2.10. The TMSC shall be equipped with an incandescent lamp of 100 watt rating mounted and wired such that the lamp comes on when either front or rear door is opened. The lamp shall be directly wired to AC.

2.11. The following electrical devices shall be provided on a 19" EIA power distribution rack-mounted assembly in the TMSC. The rack assembly chassis shall be constructed of aluminum and have a clear anodized finish. A catalog cut of the power distribution assembly must be submitted for review and approval of the Engineer as part of the shop drawing review process.

2.11.1. One (1) 40 Amp main service input circuit breaker

2.11.2. Eight (8) 15 Amp load circuit breakers

2.11.3. Power bus

2.11.4. Ground bus

2.11.5. Neutral bus

2.11.6. Three (3) 20 Amp duplex 120 VAC power receptacles. In addition, one (1) GFCI duplex receptacle shall be included for tools and test equipment purposes. The electronic equipment to remain in the cabinet shall not be connected to the GFCI receptacles unless directed by the Engineer.

2.11.7. An EDCO ACP-340 surge suppression device shall be provided on the load side of the main circuit breaker. The protector shall be installed on the rack/panel mounted power assembly.

2.12. The TMSC shall have a heavy plastic envelope which will contain cabinet wiring diagrams, schematics, etc. The envelope shall be securely fastened to the inside of the front cabinet door. The envelope shall be 12" (300 mm) x 18" (455 mm) or larger.

2.13. The TMSC shall be fabricated from sheet aluminum providing it is rigid and has a minimum thickness of 3.17 mm. All outside surfaces shall be cleaned and finished. The outside surface appearance shall be brushed aluminum.

2.14. The TMSC shall be suitable for an outdoor installation on a concrete foundation and provide adequate environmental protection for the devices housed in the cabinets for year-round operation.

3.0 Input Wiring Assembly and Surge Suppression:

3.1 An input wiring assembly measuring approximately 16"x20" shall be provided for each traffic management system cabinet. The assembly shall serve as the termination point for all communication and low-voltage power wiring to the CCTV cameras, traffic flow monitors (if required), variable message signs (if required) and other field equipment specified in the contract and shown on the plans. In addition, the assembly shall serve as a mounting location for surge suppression devices, low-voltage AC and DC transformers, and equipment cables that connect to devices in the traffic management system cabinet such as OVDT's, Ethernet port-sharing devices, fiber-optic media converters, etc.

3.2 The input wiring assembly shall be mounted on the inside of the TMSC. The assembly may be mounted to best suit the installation either rack mount in the 19" rack rails or panel mount vertically on a hinge, with components on the inside and panel door swinging out, to maximize available space. If panel assembly is used, all cable shall be securely trained and fastened to prevent fraying and damage.

3.3 All terminal positions and devices on the wiring panel assembly shall be clearly marked and identified

3.4 The following types of voltage transient/surge suppression shall be provided and installed on the wiring panel assembly. Each surge suppression device shall be supplied and installed in an appropriate socket that is fastened to the wiring panel assembly.

- Coaxial CCTV cable input – EDCO CX-06-BNCY-I
- Traffic Flow Monitor power – EDCO PHC060 (one unit for every two (2) TFM's)
- Traffic Flow Monitor data communications – EDCO LCDP-030 (one unit for every TFM). This is only needed for TFM's that are connected to the cabinet using category 6 cable.(Ethernet circuit)
- Variable Message Sign with direct connect communications – EDCO LCDP-030 (one unit for every VMS) This is only needed for VMS's that are connected to the cabinet using category 6 cable (Ethernet circuit)
- CCTV camera data communications – EDCO PC642C-008 LC Two (2) EDCO devices may be required if Manchester data communications is used for local camera control. (RS-422 circuits)
- CCTV camera power – EDCO PHC060.

3.5 All field terminations, interconnections and wiring cable connections shall be made using terminal block strips except for Ethernet communications. Crimp-on spade lugs shall be installed on all cabling for easy connection and removal. All wiring connections shall be as short as possible to minimize signal loss and reduce transients.

3.6 Cables installed between surge suppression devices and cabinet equipment (such as OVDT's, CICU, etc.) may be made directly from the output terminals of the EDCO surge suppression units.

3.7 Transformers that supply low-voltage power shall be rack mounted.

4.0 Manufacturer's Qualifications:

4.1 The Manufacturer shall have a minimum of five (5) year's experience in the design, manufacture, and testing of TMSC of the type and size specified here in. The cabinets shall be manufactured according to world class quality standards. The manufacturer shall be ISO 9001 certified.

5.0 Warranty:

5.1. All equipment supplied under these items shall be warranted for parts by the vendor against defects and failures, which may occur through normal use for a period of one (1) year from the date of installation. A copy of the warranty shall be presented to the Engineer before installation of the equipment.

Construction Methods:

1. Submittals:

As part of Section 1.06 (Control of Materials) for this project, the Contractor shall submit the following documentation:

1.1. Detailed shop drawings, wiring diagrams, equipment cabinet front elevation drawings, and equipment installation drawings indicating supports and appurtenances required for proper installation.

1.2. Schematic showing wiring panel assembly including panel dimensions, locations of terminal blocks, surge suppression, transformers, cables, etc.

1.3. Product data and cut sheets, operating and maintenance manuals. Information regarding materials, finishes and accessories.

2. As-built Documentation:

2.1. As part of the project as-builts, the Contractor shall provide the following information:

2.1.1. Test procedures and test results.

2.1.2. The Contractor shall submit with the documentation for the TMSC item four (4) copies of the "as-built" equipment manuals. The equipment manuals shall include technical information, wiring diagrams and schematics, hookup prints, parts list and a troubleshooting guide.

3. Delivery, Storage, and Handling:

3.1. The Contractor shall deliver, store, handle and install all materials and equipment in such a manner as not to degrade quality, serviceability or appearance.

3.2. The Contractor shall be responsible for storage of the materials and equipment prior to installation in a clean, dry location free from construction dust, precipitation and excess moisture.

3.3. The Contractor shall be required to replace any damaged materials and equipment, as determined by the Engineer, at no additional cost to the Department.

3.4. All materials shall be delivered in the manufacturer's original unopened protective packages. All materials shall be stored in their original protective packaging and protected against soiling, physical damage, or wetting, before installation. All equipment shall be protected during transportation and until installation against damage and stains.

4. Installation:

4.1. The Contractor shall install the TMSC on the foundation per the manufacturer's requirements. Connect all cables for power and fiber. Install all equipment listed in this specification and other equipment as required to power and communications cables/connectors. All communication cables must be terminated by the approved ITS integrator.

4.2. Install the rack mounted optical video/data transmitters, Ethernet port sharing devices and fiber-optic media converters in the field equipment cabinets in accordance with the equipment manufacturer's recommendations.

4.2. Install and connect field fiber optic cable and all other inter-equipment cabling required

to fully interconnect the equipment as shown on the Drawings.

4.3. Install and connect the video/data transmitter, Ethernet port sharing device, fiber optic data media converter power supplies to the existing 120 VAC receptacles reserved for the equipment in the cabinet.

4.4. The optical fiber path for each video link shall have been tested and verified in accordance with the plans prior to the equipment installation.

4.5. Power distribution assembly components shall be mounted such that they are readily accessible. All hazardous voltage points shall be covered to prevent inadvertent contact. The circuit breakers shall be labeled.

4.6. Install and connect equipment on wiring panel assembly such as equipment transformers, surge suppression, cabling with spade lugs and/or connectors, surge suppression, etc.

4.7. Install and connect wiring panel assembly inside traffic management system cabinet. All wiring shall be neat and firm and in conformance with the current National Electrical Code. Any work performed by the Contractor for the utility installation shall be in accordance with P.U.C.A and State of Connecticut Department of Transportation Form 816. The Contractor shall obtain the necessary utility specifications prior to any service work.

4.8. All wiring to the power distribution assembly shall be harnessed so that the panel may be moved to facilitate field repairs on the panel. AC+ signal power shall be brought to an accessible terminal. Logic Ground, AC-, and Chassis Ground must be tied to a common point in the cabinet and grounded. The cabinet shall be wired such that the removal of two jumper wires will completely isolate all said grounds from one another. The AC+ service wire shall be wired direct to the line side of the main circuit breaker.

4.9. All power cables and communication cables connected within the TMSC shall be neatly trained along the rail racks.

4.10. The Contractor shall neatly train all optical patch cords and pigtails together when routing them along the same path and shall neatly train them along the support rails in the camera control equipment cabinet.

4.11. The fibers shall be carefully managed at the termination point using a loose tube furcation kit. The fiber cable sheath shall be sealed to provide a moisture barrier at the termination point.

4.12. No cables shall be installed with a sweep-bend radius less than the manufacturer's minimum recommended bending radius.

5. Testing:

5.1. The Contractor shall be responsible for all testing and documentation required to establish approval and acceptance of this Item.

5.2. Pre-Installation Testing:

5.2.1. The Contractor shall be required to perform quality control testing on one (1) of the cabinets and all of the thermostats and heating/cooling assemblies prior to delivery.

5.2.2. The Contractor shall submit test procedures and documented test results to the Engineer. The test procedures shall document the nature of test activities to be performed.

5.2.3. The test procedures shall be submitted to the Engineer prior to initiation of the testing. The procedures will be returned to the Contractor within two (2) weeks indicating either "accepted" or "make corrections noted".

5.2.4. In the case that corrections are required, the Contractor shall submit revisions within one (1) week.

5.2.5. Four (4) copies of the final test procedures shall be submitted to the Engineer prior to commencement of testing. The testing and test procedures shall include, but not be limited, to the following:

- Visual Inspection: The Contractor shall perform detailed visual inspection to confirm that the following aspects of the cabinet are in compliance with the requirements of this specification:

- General appearance: cabinet dimensions, finish, locks and door handles, door frames, latching mechanism, door hinges, bolts, louvered vents and filters, gaskets, and lifting eyes.

- Interior insulation, side panels, equipment rack.

- Electrical components: power distribution assembly, conductors, color coding, terminal blocks, heater operation and mounting, fan ventilation area, trouble lamp.

5.2.6. The Contractor shall perform visual test of the following components: service light, power distribution assembly, fan, heater, main power disconnect and thermostat.

5.2.7. The Contractor shall refer to the testing and documentation of the materials and equipment listed under these items to the testing and documentation for other pertinent items contained in this contract.

5.3. Proof-of-Performance Testing – The contractor shall energize each cabinet and confirm proper operation of heaters, fans, thermostats and service lights.

5.4. Installation Testing - Upon complete installation of all field equipment (including camera assemblies, TMSC, OVDT's, PSD's, media converter - VMS) an operational test shall be performed by the Contractor and demonstrated to the Engineer to verify proper installation and operation. The test shall verify the proper operation of the field equipment installation.

5.5. 30-day Operational Testing - Upon successful completion of the installation test and approval by the Engineer, a 30-day System Operational Test for each TMSC site shall commence. During the course of this test, the system must function continuously in accordance with the specifications for the duration of the test. If a malfunction occurs within the stated time frame, the Contractor shall make all necessary repairs to the system and re-establish proper operation. Upon approval of the Engineer, the 30-day test will begin anew. The system must operate for a full thirty (30) consecutive days without malfunction before the system will be accepted by the Engineer. The Contractor shall refer to "Notice To Contractor – 30 Day System Operational Test" for additional testing requirements. The Contractor shall coordinate the 30-day System Operational Test with other pertinent items in this contract.

5.5 Ground Test

5.5.1 All cabinet grounding systems when completed in place shall have a resistance to ground of not more than that shown in the table below as determined in the following manner:

1. Temporarily connect a 10 ampere load between the AC+ side of the equipment cabinet fuse and the ground system. It should be assured that the applied power voltage is 120 volts AC at the time of the test.
2. Disconnect the power company AC neutral from the ground system.
3. Connect a voltmeter between the power company AC neutral and the ground system.

Cabinet Insulated	Voltmeter Reading (Volts)	Equivalent Resistance (Ohms)
Model 170 Type	20	2.0

4. If the voltmeter reading is higher than the appropriate voltage shown in the above table under the 10 ampere load, the grounding system has an unacceptable resistance to ground. Additional grounding including electrical bonding of underground metallic conduit, may be necessary in order to meet the requirements of this test.
5. The results of this test shall be recorded and provided to the Engineer for each cabinet installed prior to acceptance and 30-test operational testing.

5.5.2 Insulation Resistance Testing – An insulation resistance test at 500 volts DC shall be made on each circuit between the circuit and ground. The insulation resistance shall not be less than 10 megohms on each circuit.

Method of Measurement:

This item shall be measured for payment by the actual number of equipped Traffic Management System Cabinets supplied.

Basis of Payment:

The work to be done under this item shall be paid for at the Contract unit price each for Traffic Management System Cabinet of the type specified, which price shall include all materials, devices, hardware, termination panels, rack-mounted power assembly, wiring panels, surge suppression/transient protection, terminal strips, cables, connectors, tools, equipment, labor and incidentals necessary to complete this work.

ITEM #1301023A - FURNISH AND INSTALL 8 NPS WATER MAIN (OFF-STRUCTURE)

ITEM #1301024A - FURNISH AND INSTALL 12 NPS WATER MAIN (OFF-STRUCTURE)

ITEM #1301026A - FURNISH AND INSTALL 18 NPS WATER MAIN (OFF-STRUCTURE)

Description:

The Contractor shall furnish and install ductile iron water pipe, fittings, and joint restraints of the required size in the locations shown on the plans and where directed by the Engineer.

Materials:

The pipe shall be American National Standards Institute for ductile iron pipe centrifugally cast in metal molds or sand-lined molds for water A21.51 (AWWA C151). The pipe shall be Thickness Class 52 except that Class 51 shall be used for 18 NPS.

All pipe shall be made of good quality ductile iron, strong, tough and with an even grain yet soft enough to permit cutting and drilling. All pipes shall be free of manufacturing defects which make it unfit for the use intended. Each pipe shall be true circles in section with inner and outer surfaces concentric. Each pipe shall have stamped or cast into the metal the manufacturer's mark and date of casting and shall be indelibly marked with its weight.

All pipes shall be cement mortar lined, double thickness, and seal coated in accordance with ANSI A21.4 (AWWA C104).

Pipe joints shall be rubber gasket push-on joints and shall conform to the requirements of ANSI A21.11 (AWWA C111). Two silicon bronze wedges shall be provided at each joint to insure electrical conductivity.

Ductile iron water pipe, fittings, and joint restraints will be accepted on the basis of the manufacturer's certification that they conform to the requirements of this specification.

Construction Details:

Push-on joint type pipe shall be used for all water mains.

The ductile iron pipe shall be laid straight and all joints kept free from dirt and grit. Push-on joint pipe spigots shall be shoved home, as indicated by the measuring mark, to insure that the spigot is firmly seated in the bell and that the gasket has been properly placed.

Construction Methods:

The pipes shall be installed to the line and grade shown on the plans or as directed by the Engineer.

Trench excavation including backfill shall conform to the requirements of Section 2.05. The trench shall be excavated to the depth required as shown on the plans or as ordered by the Engineer to install the gravel base or bedding material as shown or ordered. Backfill material as specified in Section 2.05 shall replace the unsuitable material removed below the base course for all pipes where shown on the plans or ordered by the Engineer.

Where rock is encountered, it shall be excavated to 150mm below the bottom of the pipe and replaced with gravel.

Bedding material and gravel shall conform to the requirements of Section 6.51.03.

The Bureau of Water shall be given the opportunity of inspecting all work of installing water pipe systems. Accordingly, the Contractor shall so notify the Bureau of Water, of the City of Waterbury, at least 24 hours prior to the laying of any water pipe under this item, and no pipe shall be covered with backfill until at least 24 hours after this notification is received by the Bureau of Water.

Whenever it is necessary to connect with existing water mains, the Contractor shall make such connections. Any sections of the existing mains which must be cut out for making the required connections, or changes, and which are not required in the new work, shall become the property of the Contractor and shall be removed from the site of the work.

The Contractor shall maintain service and adequate fire protection where service is interrupted because of the changes required in the mains.

The Contractor is expressly prohibited from laying any pipes and special castings, or other appurtenances, except under direct supervision of the Engineer or his authorized agent or inspectors.

Shutdowns of any portion of the service, to make connections with the existing mains, will be made only with the consent of the Engineer and the Bureau of Water. When any main is shut off for such purposes, the work on the connection shall be carrier on continuously by the Contractor and until the water is again turned into the main.

The work of laying the pipes shall be of such character as to leave all the pipes and connections water tight. To insure these conditions, the Contractor shall subject all mains and their appurtenances to a proof by water pressure in a manner, which will meet the requirements of the Bureau of Water, of the City of Waterbury.

The water pipe shall be disinfected in accordance with the requirements of the Bureau of Water.

Method of Measurement:

Furnish and install ductile iron water pipe will be measured by the number of meters (laying length) of Ductile Iron Water Main (size) - (Off-Structure) furnished and incorporated in the work in a manner satisfactory to the Engineer and the Bureau of Water. The measurement will be made along the axis of the pipe, excluding the length of valves.

Basis of Payment:

The price bid per meter for Ductile Iron Water Main (size) - (Off-Structure) shall cover the furnishing and installation of pipe, fittings, joint restraints, cutting and joining pipe, making the necessary tests, sterilization, concrete encasements and all labor and materials necessary to complete the work in place. Valves, Blow Off Assemblies, Blow Off Manholes, Trench Excavation, Sheeting and Bedding Materials will be paid for under their respective items.

ITEM #1301770A - FURNISH AND INSTALL 200 MM WATER MAIN ON BRIDGE

ITEM #1301771A - FURNISH AND INSTALL 300 MM WATER MAIN ON BRIDGE

ITEM #1301773A - FURNISH AND INSTALL 450 MM WATER MAIN ON BRIDGE

Description:

Under this item, the Contractor shall furnish and install ductile iron water pipe, pipe fittings, hangers, rollers, and insulation of the required size in the locations shown on the plans and where directed by the Engineer.

Materials:

The pipe used shall be ductile iron, centrifugally cast pipe conforming to ANSI A21.51 (AWWA C151). The pipe shall be class thickness 53. Pipe fittings shall conform to ANSI A21.10 (AWWA C110). All pipe and fittings shall be lined with cement mortar on the inside conforming to ANSI A21.4 (AWWA C104). The cement lining shall be twice the thickness required by the specification. The pipe and fitting joints shall be style 31 couplings as manufactured by Victaulic or accepted equal.

Pipe and fittings shall be supplied as a Factory Fabricated Insulated Piping system as manufactured by one of the following: THERMACOR PROCESS, INC.; INTERGY; ROVANCO CORPORATION, or approved equal.

The pipe insulation system shall consist of polyurethane form insulation molded around the ductile iron pipe and integral with stainless steel casing. The polyurethane insulation shall have a 1" (25.4mm) nominal thickness, a K factor of not more than 0.14 and a density of 2#/C.F. The stainless steel casing shall consist of Type 316 stainless steel, 100 mm wall thickness and a Type 2B finish.

Manufacturers of Factory Fabricated Insulated Piping Systems are:

Rovanco Corporation
I-55 & Frontage Road
Joliet, Illinois 60436
Phone: 815-741-6700
Agent: Miller Proctor Nickolas, Inc.
2 Hudson Street
North Tarrytown, NY 10591
Phone: 914-332-0088

Thermacore Process, Inc.
500 N.E. 23rd Street
Fort Worth, Texas 76106
Phone: 817-624-1181
Agent: Hydroaii Equipment
500 Grand Avenue
Englewood, New Jersey 07631
Phone: 201-947-6800

Intergy
1000 Breeksville Road
Breeksville, Ohio 44141
Phone: 216-526-1600
Agent: G.A. Fleet Assoc.
P.O. Box 616
Harrison, New York 10528
Phone: 914-835-4000

Pipe shall be supported on pipe rollers, Fig. 171, as manufactured by Grinnell Corporation or approval equal. The hanger shall be sized accordingly and to include the insulation. A pipe covering protection saddle shall also be furnished and installed.

Construction Details:

The Contractor shall construct the water main on structure and as shown on the plans.

Joints will not be permitted over the roller supports. The Contractor shall furnish and install no less than two supports for each length of pipe.

Method of Measurement:

Furnish and install ductile iron water pipe will be measured by the number of meters of Ductile Iron Water Main (size) - (On-Structure) furnished and incorporated in the work in a manner satisfactory to the Engineer. The measurement will be made along the axis of the pipe and to a limit of 1 meter beyond the abutment walls.

Basis of Payment:

The price bid per meter for Ductile Iron Water Main (size) - (On-Structure) shall cover the furnishing and installation of pipe, fittings, hanger, rollers, and insulation, making the necessary tests, sterilization, and all labor, materials, and equipment necessary to complete the work in place.

ITEM #1302004A – 200 MM GATE VALVE

ITEM #1302006A – 300 MM GATE VALVE

ITEM #1302009A – 450 MM GATE VALVE

Description:

Work under this item shall consist of the furnishing, installing, disinfecting, and testing of all gate valves and other related appurtenances together with gate boxes as indicated on the plans or directed by the Engineer. Removal and replacement of existing valves including disconnecting and reconnecting new valves to existing pipe lines shall also be included as part of this item.

Manufacturer's data sheets and certification of compliance with specifications for all valves and related appurtenances shall be submitted to the Engineer for approval.

Materials:

The valves and related appurtenances to be utilized in this work shall be new and unused, shall be of the types and materials specified herein, and shall meet the requirements specified herein. All material found during the progress of the work to have cracks, flaws or other defects will be rejected by the Engineer. All defective materials shall be promptly removed from the work site and replaced at no additional expense to the Department.

1. All gate valves shall be resilient seal valves and shall meet the requirements of AWWA C509 of latest revision. Valves shall have non-rising stems, mechanical joint ends meeting the requirements of AWWA C111 of latest revision and have O-ring stem seals. Valves shall be wrench-operated right opening (clockwise) and rated at a minimum working pressure of 1,379 kPa. Resilient wedge gate valves shall be manufactured by Mueller Co. Decatur, IL. (217) 423-4471, American Darling, Nashua, NH 03060 or approved equal.

2. Valve boxes shall consist of a base and adjustable slice type top section with cover. The cover shall be the drop type with the word "WATER" cast on the top. Only valve boxes manufactured in North America will be accepted. Valve boxes shall be manufactured by Quality Water products, Tyler or approved equal.

   The trench shall be backfilled with approved material or as indicated on the plans.

Construction Methods:

1. Valve boxes shall not transmit shock stress to the valve and shall be centered and plumb over the wrench nut of the valve. The valve box cover shall be flush with the surface of the finished pavement or such other level as may be directed.

2. Valves set with a depth of operating nut greater than 1.8 m shall be equipped with extension stems providing an operating nut depth of 1.37 m. Extension stems shall be installed such as to preclude accidental disconnection from the valve, shall stand plumb and shall be supported at the upper end with a centering device attached to the stem or valve box. All gate valve joints shall be restrained.

3. Pressure testing and leakage testing shall be carried out in accordance with Items 1301022A, 1301023A and 1301024A in these specifications.

4. Disinfection shall be carried out in accordance with the requirements of the Bureau of Water.

Method of Measurement:

The installation of (size) Gate Valve and related assemblies, complete with gate box, as specified and directed shall be measured for payment as a unit.

Basis of Payment:

This work will be paid for at the contract unit price each for (size) Gate Valve complete in place, which price shall include the cost of the material, including all labor and equipment to incorporate them into the work. Trench excavation, sheeting, backfilling, and bedding materials shall be paid for under their respective items.

ITEM #1302063A – ADJUST MANHOLE FRAME AND COVER (WATER MAIN)

Description:

Work under this item shall apply to adjusting water main manhole frame and cover and conform to the requirements of Section 5.07.05, Reset Units.

ITEM #1302901A - AIR RELIEF VALVES (WATER MAIN)

Description:

The Contractor shall furnish and install air valves, and related assemblies in the pipeline, together with gate boxes over the assembly, per the Bureau of Water requirements or as directed by the Engineer, in accordance with these specifications.

Materials:

The Contractor will furnish complete air valve assemblies including corporation cocks, angle valves and gate boxes as required by the Bureau of Water.

The corporation cocks, and angle valves shall be of good, tough bronze of composition, well-mixed and free from flaws and imperfections. The metal shall conform to the latest "Specification for Composition Brass on Ounce Metal Castings", ASTM designation B62. The corporation cocks shall be of a type suitable for use in ductile iron mains. The inlet end shall be in accord with the latest revision to AWWA C800 and have an inlet taper thread type known as the "Mueller Taper Thread".

The gate boxes shall be made of gray cast iron conforming to the requirements of ASTM - A126 "Standard Specification for Gray Iron Castings - Class C". The top section shall be of the top flange design and shall have no bead on the bottom. The word WATER shall be cast with raised letters in the center of the cover. The base section shall be of Dwyer design which centers the angle valve for positive access.

Construction Methods:

The air valves and related assemblies shall be installed according to the Bureau of Water requirements and to the satisfaction of the Engineer. To properly receive the air valve or other assembly, the ductile iron piping shall be drilled and tapped. All tapped holes for corporation cocks shall be tapped Mueller thread.

Method of Measurement:

The installation of air valves, or related assemblies, completed with gate box if required, as shown, specified or directed shall be measured for payment as a unit.

Basis for Payment:

This work will be paid for at the contract unit price each for "Air Valves" (Water Main) complete in place, which price shall include the cost of the material, including all 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.

ITEM #1302912A – INSTALL BLOW-OFF ASSEMBLIES (WATER MAIN)

Description:

The Contractor shall furnish and install blow-off assemblies and appurtenances, complete, including gates boxes over the components as necessary, per the Bureau of Water requirements or as directed by the Engineer, in accordance with these specifications. The work includes, all as shown, specified or directed, and all incidental work, except as otherwise herein provided for.

For the purpose of this item, the blow-off assembly shall be considered to begin at the face of the bell on the end of the water main or the face of the bell of the branch of the three-way branch fitting on the water main. The installation of the three-way branches will be paid for under the appropriate item for Ductile Iron pipe (Water Main).

Materials:

The Contractor will furnish complete blow-off assemblies including, gate valves, gate boxes, pipe and fittings, and appurtenances, as required by the Bureau of Water.

The 150 mm gate valves shall conform to the latest revision of ANSI/AWWCA C-500 "Gate Valves, 75 mm through 1200 mm NRS for Water and Sewage Systems". Valves shall be furnished with "O"-ring seals utilizing two "0"-rings. The bolts and nuts for connecting "0"-rings seal plates and bonnet to body shall either be copper-silicon alloy or stainless steel. Valves shall have mechanical joint ends unless otherwise indicated. All joint accessories shall be furnished with each valve. All valves shall open to the right.

The gate boxes shall be made of gray cast iron conforming to the requirements of ASTM-A126 "Standard Specifications for Gray Iron Castings - Class C". The top section shall be of the top flange design and shall have no bead on the bottom. The word WATER shall be cast with raised letters in the center of the cover. The base section shall be of the Dwyer design which centers the operating nut for positive access to the valve.

All piping and methods of joint restraint required under this item shall comply with the appropriate sections in the Item for Ductile Iron Pipe (Water Main).

Detailed specifications for any particular component required for incorporation into the work will be provided by the Bureau of Water, City of Waterbury to the Contractor upon request.

Concrete if required shall be Class "A" concrete conforming to Section M.03. Crushed stone shall conform to Sub-article M.02.05.1.

Construction Methods:

The Contractor shall install the blow-off assemblies in accordance with the requirements described above. The Contractor shall assemble the parts of the blow-off assemblies as necessary, and shall supply and install all other materials including crushed stone, backfill, etc., as required.

Method of Measurement:

The installation of blow-off assemblies complete with gate boxes and gate valves where shown on the Contract Drawings will be measured for payment as a unit.

Basis of Payment:

This work will be paid for at the contract unit price each for "Blow-Off Assemblies" (Water Main) complete in place, which price shall include the cost of these materials, installing extension stems, and all incidental work shall be included in the unit price bid for this Bid Item. The installation of the three-way branches will be paid for under the contract item for Ductile Iron Pipe (Water Main). Trenching, backfilling and bedding material shall be paid for under their respective items.

ITEM #1304066A - REMOVE WATER MAIN

Description:

This work shall consist of the removal of existing water supply utilities and appurtenances in accordance with these specifications and the contract documents.

Materials:

None

Construction Details:

Removal of existing water main and hydrant shall include the removal of all appurtenances and fittings. Valves and hydrants to be salvaged shall be delivered to the City of Waterbury Bureau of Water. All other items requiring removal shall become the property of the Contractor and shall be removed from the work site to the satisfaction of the Engineer.

Method of Measurement:

Removal of existing water main - The quantity to be measured for payment will be in meters along the pipe axis measured to the nearest whole meter.

Basis of Payment:

The unit price bid shall include the cost of all labor and equipment necessary to complete the work. There will be no direct payment for storing and delivery salvaged material to the City of Waterbury. Removal of hydrant shall be paid for under a separate item.

ITEM #1400003A – TRENCH EXCAVATION 0-3M DEEP (SANITARY SEWER)

ITEM #1400005A – TRENCH EXCAVATION 0-4.5M DEEP (SANITARY SEWER)

ITEM #1400007A – TRENCH EXCAVATION 0-6M DEEP (SANITARY SEWER)

ITEM #1400010A – TRENCH EXCAVATION 0-12M DEEP (SANITARY SEWER)

Description:

Work under this item shall apply to Sanitary Sewer installation and conform to the requirements of Section 2.05 except as amended herein:

Method of Measurement:

Horizontal Pay Limits
The horizontal payment limit lines shall be as described herein:

1. Trench width – 300 millimeters greater than the nominal inside diameter of sanitary sewer pipes with an inside diameter equal to or less than 600 millimeters. For pipes with a nominal inside diameter greater than 600 millimeters, the trench width shall be 600 millimeters greater than the inside pipe diameter.

Vertical Pay Limits
The vertical payment limits lines shall be as described below:

1. Trench Depth in Earth – Existing ground to 150 millimeters below the bottom of the outside diameter of the sanitary sewer pipe.

2. Trench Depth in Rock – Existing ground to 300 millimeters below the bottom of the outside diameter of the sanitary sewer pipe.

ITEM #1401035A – MAINTENEANCE AND PROTECTION OF EXISTING SEWER SERVICE

Description:

Work under this item shall consist of handling of sanitary sewage and temporary support of the sanitary sewer main necessary to maintain service throughout construction. The Contractor shall be responsible for continuity of the sanitary sewer service to each facility connected to the affected section(s) of sewer main. The main sewer service flow shall be bypassed as necessary, or diverted into temporary or adjacent sanitary sewer, if available. The Contractor shall furnish all labor, materials, equipment and supplies, and shall perform all work related to the control of sewage flow and temporary support of the sewer main. The Contractor is also expected to maintain service laterals along the proposed sewer pipe alignment.

Materials:

A. The materials for temporary support of utilities shall conform to the following requirements:

1. Structural Steel shall conform to ASTM A36
2. Bolts shall conform to ASTM A325M
3. Threaded rods shall conform to ASTM A307
4. Portland Cement Concrete shall be Class “A"
5. All timber and lumber shall be sound and free from any defect that may impair its strength.

B. Materials for temporary sewer lines shall conform to applicable sections of Article M.08.

Construction Methods:

A. Temporary Support of the Sanitary Sewer Main

The Contractor shall install and relocate temporary supports of the existing sanitary sewer main as required to accommodate construction activities. When the temporary utility support systems are no longer required, they shall be removed from the site by the Contractor.

The Contractor shall prepare design working drawings showing his proposed method of support for the sanitary sewer main to be supported. The supports shall safely carry all utility dead loads as well as any imposed loadings under all possible construction conditions. Said supports shall be constructed in a manner that will not interfere with the proposed structure. The design calculations shall be stamped by an Engineer registered in the State of Connecticut. The design drawings shall be submitted to the Engineer and respective Utility companies for approval. No work will be allowed in the vicinity of any utility until the Contractor receives approval on his support method from both the Engineer and the respective Utility company.

The Contractor shall use every effort to protect all utilities from damage of any nature which might result from carelessness or negligence in any of his operations. He shall be held solely and strictly responsible for any damage resulting from such carelessness or negligence.

A periodic inspection of the temporary utility supports shall be maintained by the Contractor as directed by the Engineer.

B. Handling Sanitary Sewerage

The Contractor shall submit to the Engineer for approval a detailed plan for handling sanitary sewerage and/or controlling flow. The Contractor shall obtain flow volumes from The City of Waterbury, Office of Water Pollution Control at (203) 574-8265.

1. Flow Control Plan:

   The Contractor shall submit to the Engineer for approval a detailed plan for handling sanitary sewage and/or controlling flow in accordance with the following:

   a. The Contractor shall submit flow control and sewage bypassing arrangement plans to the Engineer for review and approval at least one week prior to commencing work on each portion of the system. Flow control includes, but is not limited to, plugging, bypass pumping or trucking as appropriate for the work performed. The plans must be specific and complete, and shall include, but not be limited to, the following details:

      i. Capacities of equipment.
      ii. Road crossing details.
      iii. Protection against pipe breaks.
      iv. Sewer plugging methods and bypass time duration for each sewer section.
      v. Size, length, material, and method of installation for suction and discharge piping.
      vi. Method noise control for each pump and/or generator.
      vii. Bypass pumping locations.
      viii. Backup pumping equipment shall be held in reserve on the job site and must be included in the submittal.

   b. Bypassed flows must be discharged to the sanitary sewer system, appropriate watertight vehicle or watertight container approved by the Engineer.

   c. Flows shall be diverted, trucked, or otherwise handled to prevent flows from interfering with the work to be performed on that portion of the system.

   d. When pumping/bypassing is required, the Contractor shall supply the necessary pumps, conduits, engines and other equipment to divert the flow of sewage as appropriate. The Contractor shall have backup equipment available should the primary system fail, and the pumping/bypass system shall be adequate in size to

handle the existing peak use flows and additional flows that occur with rainstorms.

e. The Contractor shall also furnish the labor and supervision to set up, operate, and maintain the pumping/bypass system. The Contractor shall select pumping/bypass equipment that will not have excessive noise levels from a maximum of sixty nine decibels (69 db) at a distance of 30 feet (30').

2. Flow Control Precautions:

a. When flow in a sewer line is plugged, blocked or bypassed by the Contractor, he shall take precautions to protect the public health and to protect the sewer lines from damage that might result from sewer surcharging. Further, the Contractor shall take precautions to insure that sewer flow control operations do not cause flooding or damage to public or private property being served by the sewers involved and he shall be responsible for any damage resulting from his flow control operations. The Contractor shall be solely responsible for clean-up, repair, property damage costs and claims resulting from failure of the diversion system.

b. When flow in a sewer line is plugged or blocked by the Contractor, he shall monitor the conditions upstream of the plug and shall be prepared to immediately start bypass pumping, if needed. Any liquid or solid matter which is bypass pumped from the sewer collection system shall be discharged to another sewer manhole or appropriate watertight vehicle or container only. No such liquid or solid matter shall be allowed to be discharged, stored or deposited on the ground, swale, road, stormwater drainage system or open environment. The Contractor shall protect all pumps, conduit and other equipment used for bypass from traffic.

c. Should any liquid or solid matter from the sewer collection system be spilled, discharged, leaked or otherwise deposited to the open environment as a result of the Contractor's flow control operations, he shall immediately cleanup and disinfect the affected area and assume all costs associated with same. The Contractor shall also notify the sewer system operating personnel and appropriate regulatory agencies and perform required cleanup operations at no additional cost to the Owner.

d. The Contractor shall provide watchman service during all non-working hours for the continuous monitoring of the entire work site whenever bypass pumping is in place and operating. The watchmen shall be responsible for insuring that all signs, barricades, traffic control devices are properly maintained and that the bypass pumping system is operating as designed.

The watchmen shall maintain daily logs and record any incidents relating to the bypass pumping operations. Copies of these logs shall be made available to the Engineer upon request. In the event of any spills, leaks or other unusual or emergency condition arise, the Contractor's watchmen shall immediately contact The City of Waterbury, Office of Water

Pollution Control at (203) 574-8265. The Contractor shall also contact the Engineer and the appropriate emergency agency for assistance, in accordance with the emergency response plan.

The Contractor shall supply the name and telephone number of the individual that may be contacted in an emergency or at any time, including nights, weekends and holidays during which bypass pumping activities are undertaken

Method of Measurement: This work will be paid for on a lump sum basis, will not be measured for payment.

Basis of Payment: Handling sanitary sewage and temporary support of the sanitary sewer main will be paid for at the Contract Lump Sum price for Handling Sanitary Sewer (Sanitary Sewer) which price shall include developing, submitting, and implementing the Flow Control Plan, including all submittals, watchmen services, materials, equipment, tools and labor incidental thereto. This price shall also design of the support systems and all materials, equipment, tools, labor and all work incidental to furnishing, installing, relocating, and maintaining the temporary utility support system until no longer required. It shall also include all materials, equipment tools, labor and all work incidental to the satisfactory removal and disposal of the temporary utility support system.

Pay Item	**Pay Unit**
Handling Sanitary Sewer (Sanitary Sewer)	Lump Sum

ITEM #1401105A - 600 MM R. C. PIPE RG CLASS V (SANITARY SEWER)

ITEM #1401158A - 900 MM R. C. PIPE RG CLASS V (SANITARY SEWER)

Description:

The work under this item shall consist of furnishing and installing reinforced concrete pipes with rubber and steel joints, at the locations shown on the plans or as directed by the Engineer.

Materials:

Pipe: The pipes shall conform to the current AASHTO Specification M-170 and shall be Class V.

Each length of pipe shall be fabricated with a tongue and groove expansion joint that is capable of handling normal movement in the pipe line due to earth settlement and of changes in temperature.

Joints: All pipe joints shall be sealed with a rubber gasket. The joints will remain tight under all conditions of service including movement due to expansion, contraction and normal settlement.

Each length of pipe shall be provided with tongue and groove ends formed by steel joint rings securely fastened in the pipe wall. The tongue ring shall be lined with concrete on its interior surface, and the groove ring shall be covered with concrete on its exterior surface. Portions of the joint rings, which will be exposed after the pipe is manufactured, shall be protected from corrosion by a metallic coating or equivalent applied by an approved method. The tongue ring shall have a groove for the purpose of receiving, holding and protecting the gasket. The joint surfaces shall be of shape and dimension that the joints will be self-centering when the pipes are laid so that the gasket will not be required to support the weight of the adjoining pipe.

Steel of special section for tongue rings shall conform to current ASTM Specification A31 for Grade A steel. Groove rings 6.3 mm or more in thickness shall be used on the pipe and shall conform to current ASTM Specification A283 for Grade A or B steel.

The diameter of the joint surface shall not vary from the theoretical diameter by more than 1.6 mm.

The gasket sealing the joint shall be made of rubber, either natural or of special composition, having a texture to assure a water-tight and permanent seal and shall be the product of a manufacturer having at least five years experience in the manufacture of rubber gaskets for pipe joints. The gasket shall be a continuous ring, of suitable cross-section and of such size as to fill the groove on the joint ring with the pipes and fittings are installed.

The rubber gasket shall also be of a composition and texture which is resistant to common ingredients of sewage, industrial water including oils and ground water, and which will endure permanently under the conditions likely to be imposed by this use. The tensile strength shall be at least 8,960 kPa. The elongation at rupture shall be such that 50 mm gauge marks shall stretch to not less than 250 mm. Hardness shall be between 40 and 50, as measured with a Shore Durometer. The compression set (constant deflection) shall not exceed 25 percent of the original gauge length. The tensile strength after accelerated aging will not be less than 80 percent of the original strength.

Details of gasket, attachment and joint formation will, in general, follow the directions of the manufacturers of the joint material and of the pipe, based upon the design thereof and their experience with such joints elsewhere, all subject to the directions of the Engineer.

The Contractor shall submit three copies of the proposed joint to be used for this work. Joint dimensions, type of gasket, reinforcement and tolerances shall be indicated.

Construction Methods:

The pipes shall be installed to the line and grade shown on the plans or as directed by the Engineer.

Trench excavation including backfill shall conform to the requirements of Section 2.05. The trench shall be excavated to the depth required as shown on the plans or as ordered by the Engineer to install the gravel base, and bedding material or to remove suitable material encountered below the gravel base, or bedding material as shown or ordered. Backfill material as specified in Section 2.05 shall replace the unsuitable material removed below the base course for all pipes where shown on the plans or ordered by the Engineer.

Where rock is encountered, it shall be excavated to 300 mm below the bottom of the pipe and replaced with gravel.

Bedding material and gravel shall conform to the requirements of Section 6.51.03.

Method of Measurement:

The 600M or 900 mm Reinforced Concrete Pipe (Sanitary Sewer) shall be measured for payment by the actual number of meters of pipe measured in place along the invert of the pipe installed and accepted.

Basis of Payment:

The pipe items will be paid for at the contract unit price per meter of 600 mm or 900 mm Reinforced Concrete Pipe (Sanitary Sewer) installed complete in place, which price will include concrete encasement, reinforcing steel, steel casing and all materials, tools, equipment, labor, maintenance of existing sanitary sewer flow and incidental thereto except for trench excavation, sheeting and bracing, bedding material and gravel which will be paid for under their respective items.

ITEM #1401662A - SANITARY MANHOLE (1.2M DIA.) 0 TO 3M DEEP

ITEM #1401663A - SANITARY MANHOLE (1.5M DIA.) 3 TO 6M DEEP

ITEM #1401664A - SANITARY MANHOLE (1.2M DIA.) 6 TO 9M DEEP

ITEM #1401665A - SANITARY MANHOLE (1.2M DIA.) 9 TO 12M DEEP

ITEM #1401021A - DROP MANHOLE (1.2M DIA.) 3 TO 6M DEEP (SANITARY SEWER)

ITEM #1401023A - DROP MANHOLE (1.2M DIA.) 9 TO 12M DEEP (SANITARY SEWER)

The work under these items shall consist of the construction of sanitary sewer manholes in conformity with the lines, grades, dimensions and details shown on the plans or as directed by the Engineer.

Materials:

Article 5.07.02 shall apply except that aluminum manhole rungs shall be forged aluminum safety rung, alloy 6061-T6.

Castings shall be thoroughly cleaned, heated, and dipped in black asphaltum paint.

Dampproofing shall conform to the requirements of M.12.05.

Construction Methods:

Article 5.07.03 shall apply except that dampproofing shall conform to Section 7.08.

Manhole steps, as shown on drawings, shall be built into manhole walls and elsewhere as indicated, and shall be aligned to form a continuous ladder with rungs equally spaced vertically at a maximum distance of 300 mm apart. The top steps should be between 300 mm and 400 mm below the manhole cover. Steps shall be embedded in the manhole wall a minimum distance of

75 mm and rungs or cleats shall project a minimum clear distance of 100 mm from the interior manhole wall, measured from the point of embedment. Additional steps shall be furnished and set as shown on the plans, or where ordered by the Engineer.

Manhole frames and covers as detailed on the plans shall be provided. The sanitary sewer manhole covers for the manholes shall be marked "SEWER" in a manner similar to the detail shown on the plans.

In order to prevent cover rocking or rattling under traffic and to insure proper fit and interchangeability between different frames and covers, the lower surface of the cover and the corresponding upper surface of the frame shall be machine-finished in a lathe to provide a round, smooth, flat contact with the dimensions and clearances called for on the plans.

Method of Measurement:

The construction of sanitary manholes complete shall be measured as a unit.

Basis of Payment:

The construction of sanitary manholes complete will be paid for the contract unit price each for "Sanitary Manhole (diameter) (depth)" or "Drop Manhole (diameter) (depth)(Sanitary Sewer)" which price shall include the cost of all labor, tools, materials and equipment necessary to construct the sanitary manholes complete including dampproofing, rungs, frame and cover, reinforcing steel and concrete, maintenance of existing sanitary sewer flows and any other incidentals necessary to construct the sanitary manholes complete as shown on the plans or as ordered by the Engineer. Excavation, backfill, sheeting, bracing, pumping, etc., shall be paid for under Trench Excavation in accordance with Article 2.05.05.

ITEM #1401662A
ITEM #1401663A
ITEM #1401664A
ITEM #1401665A
ITEM #1401021A
ITEM #1401023A

CT1

General Decision Number: CT140001 07/11/2014 CT1

Superseded General Decision Number: CT20130001

State: Connecticut

Construction Type: Highway

Counties: Fairfield, Litchfield, Middlesex, New Haven, Tolland and Windham Counties in Connecticut.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/03/2014
1	01/31/2014
2	04/11/2014
3	05/23/2014
4	05/30/2014
5	06/13/2014
6	06/27/2014
7	07/04/2014
8	07/11/2014

BRCT0001-004 12/30/2013

	Rates	Fringes
BRICKLAYER		
BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, PLASTERERS AND STONE MASONS	$ 32.50	27.06

CARP0024-006 05/05/2014

LITCHFIELD COUNTY
Harwinton, Plymouth, Thomaston, Watertown
MIDDLESEX COUNTY
NEW HAVEN COUNTY
Beacon Falls, Bethany, Branford, Cheshire, East Haven, Guilford, Hamden. Madison, Meriden, Middlebury, Naugatuck, New Haven, North Branford, North Haven, Orange (east of Orange Center Road and north of Route 1, and north of Route 1 and east of the Oyster River), Prospect, Southbury, Wallingford, Waterbury, West Haven, Wolcott, Woodbridge
TOLLAND COUNTY
Andover, Columbia, Coventry, Hebron, Mansfield, Union, Willington
WINDHAM COUNTY

	Rates	Fringes
Carpenters:		
CARPENTERS, PILEDRIVERS	$ 31.00	22.50
DIVER TENDERS	$ 31.00	22.50
DIVERS	$ 39.46	22.50
MILLWRIGHTS	$ 31.60	22.75

CARP0043-004 05/05/2014

	Rates	Fringes

Carpenters: (TOLLAND COUNTY
Bolton, Ellington, Somers,
Tolland, Vernon)

CARPENTERS, PILEDRIVERS	$ 31.00	22.50
DIVER TENDERS	$ 31.00	22.50
DIVERS	$ 39.46	22.50
MILLWRIGHT	$ 31.60	22.75

CARP0210-002 05/05/2014

	Rates	Fringes
Carpenters:		
CARPENTERS, PILEDRIVERS	$ 31.00	22.50
DIVER TENDERS	$ 31.00	22.50
DIVERS	$ 39.46	22.50
MILLWRIGHTS	$ 31.60	22.75

FAIRFIELD COUNTY

Bethel, Bridgeport, Brookfield, Danbury, Darien, Easton, Fairfield, Greenwich, Monroe, New Canaan, New Fairfield, Newtown, Norwalk, Redding, Ridgefield, Shelton, Sherman, Stamford, Stratford, Trumbull, Weston, Westport, Wilton;

LITCHFIELD COUNTY

Barkhamstead, Bethlehem, Bridgewater, Canaan, Colebrook, Cornwall, Goshen, Kent, Litchfield, Morris, New Hartford, New Milford, Norfolk, North Canaan, Roxbury, Salisbury, Sharon, Torrington, Warren, Washington, Winchester, Woodbury;

NEW HAVEN COUNTY

Ansonia, Derby, Milford, Orange (west of Orange Center Road and south of Route 1 and west of the Oyster River), Oxford, Seymour;

ELEC0003-002 05/08/2008

	Rates	Fringes
Electricians		
FAIRFIELD COUNTY		
Darien, Greenwich, New Canaan, Stamford	$ 44.75	30.42

ELEC0035-001 06/01/2014

	Rates	Fringes
Electricians:		
MIDDLESEX COUNTY (Cromwell, Middlefield, Middleton and Portland); TOLLAND COUNTY; WINDHAM COUNTY	$ 38.10	23.86

ELEC0090-002 06/01/2014

	Rates	Fringes

Electricians:.....$ 37.05 24.37

LITCHFIELD COUNTY

Plymouth Township;

MIIDDLESEX COUNTY

Chester, Clinton, Deep River, Durham, East Haddam, East Hampton, Essex, Haddam, Killingworth, Old Saybrook, Westbrook;

NEW HAVEN COUNTY

All Townships excluding Beacon Falls, Middlebury,Milford, Naugatuck, Oxford, Prospect, Seymour, Southbury, Waterbury and Wolcott.

ELEC0488-002 06/01/2014

	Rates	Fringes
Electricians.....	$ 37.27	23.37

FAIRFIELD COUNTY

Bethel, Bridgeport, Brookfield, Danbury, Easton, Fairfield, Monroe, New Fairfield, Newtown, Norwalk, Redding, Ridgefield, Shelton, Sherman, Stratford, Trumbull, Weston, Westport and Wilton.

LITCHFIELD COUNTY

Except Plymouth;

NEW HAVEN COUNTY

Beacon Falls, Middlebury, Milford, Naugatuck, Oxford, Prospect, Seymour, Southbury, Waterbury and Wolcott

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ENGI0478-001 04/06/2014

	Rates	Fringes
Power equipment operators:		
GROUP 1.....	$ 36.80	22.30
GROUP 2.....	$ 36.48	22.30
GROUP 3.....	$ 35.74	22.30
GROUP 4.....	$ 35.35	22.30
GROUP 5.....	$ 34.76	22.30
GROUP 6.....	$ 34.45	22.30
GROUP 7.....	$ 34.11	22.30
GROUP 8.....	$ 33.71	22.30
GROUP 9.....	$ 33.28	22.30
GROUP 10.....	$ 31.24	22.30
GROUP 11.....	$ 31.24	22.30
GROUP 12.....	$ 31.18	22.30
GROUP 13.....	$ 32.71	22.30
GROUP 14.....	$ 30.60	22.30
GROUP 15.....	$ 30.29	22.30
GROUP 16.....	$ 29.46	22.30
GROUP 17.....	$ 29.05	22.30
GROUP 18.....	$ 28.40	22.30

Hazardous waste premium $3.00 per hour over classified rate.

Crane with boom, including jib, 150 feet - $1.50 extra.
Crane with boom, including jib, 200 feet - $2.50 extra.
Crane with boom, including jib, 250 feet - $5.00 extra.
Crane with boom, including jib, 300 feet - $7.00 extra.
Crane with boom, including jib, 400 feet - $10.00 extra

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
3) Cranes(under 100 ton rated capacity)

a. PAID HOLIDAYS: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), work boat 26 ft. and over.

GROUP 2: Cranes (100 ton capacity & over), Excavator over 2 cubic yards, piledriver ($3.00 premium when operator controls hammer), Bauer Drill/Caisson

GROUP 3: Excavator, cranes (under 100 ton rated capacity), gradall, master mechanic, hoisting engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power or operation) Rubber Tire Excavator (drott 1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.)

GROUP 4: Trenching machines, lighter derrick, concrete finishing machine, CMI machine or similar, Koehring Loader (skooper).

GROUP 5: Specialty railroad equipment, asphalt spreader, asphalt reclaiming machine, line grider, concrete pumps, drills with self contained power units, boring machine, post hole digger, auger, pounder, well digger, milling machine (over 24' mandrel), side boom, combination hoe and loader, directional driller

GROUP 6: Front end loader (3 cu. yds. up to 7 cu. yards), bulldozer (Rough grade dozer) .

GROUP 7: Asphalt roller, concrete saws and cutters (ride on types), Vermeer concrete cutter, stump grinder, scraper, snooper, skidder, milling machine (24" and under Mandrel).

GROUP 8: Mechanic, grease truck operator, hydoblaster, barrier mover, power stone spreader, welder, work boat under 26 ft. transfer machine.

GROUP 9: Front end loader (under 3 cubic yards), skid steer

loader (regardless of attachments), bobcat or similar, forklift, power chipper, landscape equipment (including hydroseeder).

GROUP 10: Vibratory hammer,ice machine, diesel & air, hammer, etc.

GROUP 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.

GROUP 12: Wellpoint operator.

GROUP 13: Portable asphalt plant operator, portable concrete plant operator, portable crusher plant operator.

GROUP 14: Compressor battery operator.

GROUP 15: Power Safety boat, Vacuum truck, Zim mixer, Sweeper; (Minimum for any job requiring a CDL license) .

GROUP 16: Elevator operator, tow motor operator (solid tire no rough terrain).

GROUP 17: Generator operator, compressor operator, pump operator,welding machine operator; Heater operator.

GROUP 18: Maintenance engineer.

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* IRON0015-002 06/30/2014

	Rates	Fringes
Ironworkers: (Reinforcing, Structural and Precast Concrete Erection)	$ 34.47	29.74

a. PAID HOLIDAY: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

LABO0056-003 04/06/2014

	Rates	Fringes
Laborers:		
GROUP 1	$ 27.05	17.80
GROUP 2	$ 27.30	17.80
GROUP 3	$ 27.55	17.80
GROUP 4	$ 28.05	17.80
GROUP 5	$ 28.80	17.80
GROUP 6	$ 29.05	17.80
GROUP 7	$ 16.00	17.80

LABORERS CLASSIFICATIONS

GROUP 1: Laborers (Unskilled), acetylene burner, concrete specialist

GROUP 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators and powdermen.

GROUP 3: Pipelayers, Jackhammer/Pavement breaker (handheld),

mason
tenders/catch basin builders, asphalt rakers, air track operators, block paver and curb setter

GROUP 4: Asbestos/lead removal

GROUP 5: Blasters

GROUP 6: Toxic waste remover

GROUP 7: Traffic control signalman

LABO0056-004 04/06/2014

	Rates	Fringes
Laborers: (TUNNEL CONSTRUCTION)		
CLEANING, CONCRETE AND CAULKING TUNNEL:		
Concrete Workers, Form Movers and Strippers	$ 30.37	17.80
Form Erectors	$ 30.68	17.80
ROCK SHAFT, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:		
Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	$ 30.37	17.80
Laborers Topside, Cage Tenders, Bellman	$ 30.26	17.80
Miners	$ 31.28	17.80
SHIELD DRIVE AND LINER PLATE TUNNELS IN FREE AIR:		
Brakemen and Trackmen	$ 30.37	17.80
Miners, Motormen, Mucking Machine Operators, Nozzlemen, Grout Men, Shaft and Tunnel, Steel and Rodmen, Shield and Erector, Arm Operator, Cable Tenders	$ 31.28	17.80
TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR:		
Blaster	$ 37.41	17.80
Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	$ 37.22	17.80
Change House Attendants, Powder Watchmen, Top on Iron Bolts	$ 35.35	17.80
Mucking Machine Operator	$ 37.97	17.80

a. PAID HOLIDAYS: On tunnel work only: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

PAIN0011-001 06/01/2014

	Rates	Fringes
Painters:		
Blast and Spray	$ 34.02	18.55
Brush and Roll	$ 31.02	18.55
Tanks, Towers, Swing	$ 33.02	18.55

PAIN0011-003 06/01/2014

	Rates	Fringes
Painters: (BRIDGE CONSTRUCTION)		
Brush, Roller, Blasting (Sand, Water, etc.) Spray	$ 45.10	18.55

TEAM0064-001 04/06/2014

	Rates	Fringes
Truck drivers:		
2 Axle Ready Mix	$ 28.43	19.14
2 Axle	$ 28.33	19.14
3 Axle Ready Mix	$ 28.48	19.14
3 Axle	$ 28.43	19.14
4 Axle Ready Mix	$ 28.58	19.14
4 Axle	$ 28.53	19.14
Heavy Duty Trailer 40 tons and over	$ 28.78	19.14
Heavy Duty Trailer up to 40 tons	$ 28.53	19.14
Specialized (Earth moving equipment other than conventional type on-the-road trucks and semi-trailers, including Euclids)	$ 28.58	19.14

Hazardous waste removal work receives additional $1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination

* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

General Decision Number: CT140002 07/11/2014 CT2

Superseded General Decision Number: CT20130002

State: Connecticut

Construction Type: Highway

County: New London County in Connecticut.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/03/2014
1	01/31/2014
2	04/11/2014
3	05/23/2014
4	05/30/2014
5	06/13/2014
6	06/27/2014
7	07/04/2014
8	07/11/2014

BRCT0001-003 12/30/2013

	Rates	Fringes
BRICKLAYER		
BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, PLASTERERS, STONE MASONS	$ 32.50	27.06

CARP0024-002 05/05/2014

	Rates	Fringes
Carpenters:		
CARPENTERS, PILEDRIVERS	$ 31.00	22.50
DIVER TENDERS	$ 31.00	22.50
DIVERS	$ 39.46	22.50
MILLWRIGHTS	$ 31.60	22.75

ELEC0035-003 06/01/2014

	Rates	Fringes
Electricians:		
Bozrah, Colchester, Franklin, Griswold, Lebanon, Ledyard, Lisbon, Montville, North Stonington, Norwich, Preston, Salem, Sprague, Stonington and Voluntown	$ 38.10	23.86

ELEC0090-003 06/01/2014

East Lyme, Groton, New London, Old Lyme, Waterford, plus the part of Ledyard wherein the property of the Submarine Base is located

	Rates	Fringes

ELECTRICIAN.....$ 37.05 24.37

ENGI0478-002 04/06/2014

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 36.80	22.30
GROUP 2	$ 36.48	22.30
GROUP 3	$ 35.74	22.30
GROUP 4	$ 35.35	22.30
GROUP 5	$ 34.76	22.30
GROUP 6	$ 34.45	22.30
GROUP 7	$ 34.11	22.30
GROUP 8	$ 33.71	22.30
GROUP 9	$ 33.28	22.30
GROUP 10	$ 31.24	22.30
GROUP 11	$ 31.24	22.30
GROUP 12	$ 31.18	22.30
GROUP 13	$ 32.71	22.30
GROUP 14	$ 30.60	22.30
GROUP 15	$ 30.29	22.30
GROUP 16	$ 29.46	22.30
GROUP 17	$ 29.05	22.30
GROUP 18	$ 28.40	22.30

Hazardous waste premium $3.00 per hour over classified rate.

Crane with 150 ft. boom (including jib): $1.50 extra.
Crane with 200 ft. boom (including jib): $2.50 extra.
Crane with 250 ft. boom (including jib): $5.00 extra.
Crane with 300 ft. boom (including jib): $7.00 extra.
Crane with 400 ft. boom (including jib); $10.00 extra.

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
3) Cranes(under 100 ton rated capacity)

a. PAID HOLIDAYS: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Crane Handling or Erecting Structural Steel or tone; Hoisting Engineer (2 drums or over); Front End Loader (7 cubic yards or over) Work Boat 26 ft. & over.

GROUP 2: Cranes (100 ton rated capacity and over); Excavator over 2 cubic yards; Piledriver ($3.00 premium when operator controls hammer); Bauer Drill/Caisson

GROUP 3: Excavator; Cranes (under 100 ton rated capacity),

Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes. shaping, laser or GPS, etc.)

GROUP 4: Trenching machines; Lighter Derrick; Concrete Finishing Machine, cmi Machine or Similar; Koehring Loader Skooper).

GROUP 5: Specialty Railroad Equipment; Asphalt Spreader; Asphalt Reclaiming achine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" Mandrell); Side Boom; Combination Hoe and Loader; Directional Driller.

GROUP 6: Front End Loader (3 cu. yds. up to 7 cubic yards); Bulldozer (Rough grade dozer).

GROUP 7: Asphalt Roller; Concrete Saws and Cutters (Ride on Types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and Under Mandrel).

GROUP 8: Mechanic; Grease Truck Operator; Hydroblaster; Barrier Mover; Power Stone Spreader; Welder; Work Boat Under 26 ft.; Transfer Machine.

GROUP 9: Front End Loader (under 3 cubic yards); Skid Steer Loader (regardless of attachments); (Bobcat or similar); Fork Lift; Power Chipper; Landscape Equipment (including Hydroseeder).

GROUP 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.

GROUP 11: Conveyor; Earth Roller; Power Pavement Breaker (Whiphammer); Robot Demolition Equipment.

GROUP 12: Wellpoint Operator.

GROUP 13: Portable Asphalt Plant Operator; Portable Concrete Plant Operator; Portable Crusher Plant Operator.

GROUP 14: Compressor Battery Operator.

GROUP 15: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (Minimum for any job requiring a CDL License)

GROUP 16: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).

GROUP 17: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater operator.

GROUP 18: Maintenance Engineer.

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* IRON0015-003 06/30/2014

	Rates	Fringes
Ironworkers: (Reinforcing &		

Structural).....$ 34.47 29.74

a. PAID HOLIDAY: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

LABO0056-003 04/06/2014

	Rates	Fringes
Laborers:		
GROUP 1	$ 27.05	17.80
GROUP 2	$ 27.30	17.80
GROUP 3	$ 27.55	17.80
GROUP 4	$ 28.05	17.80
GROUP 5	$ 28.80	17.80
GROUP 6	$ 29.05	17.80
GROUP 7	$ 16.00	17.80

LABORERS CLASSIFICATIONS

GROUP 1: Laborers (Unskilled), acetylene burner, concrete specialist

GROUP 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators and powdermen.

GROUP 3: Pipelayers, Jackhammer/Pavement breaker (handheld), mason tenders/catch basin builders, asphalt rakers, air track operators, block paver and curb setter

GROUP 4: Asbestos/lead removal

GROUP 5: Blasters

GROUP 6: Toxic waste remover

GROUP 7: Traffic control signalman

LABO0056-004 04/06/2014

	Rates	Fringes
Laborers: (TUNNEL CONSTRUCTION)		
CLEANING, CONCRETE AND CAULKING TUNNEL:		
Concrete Workers, Form Movers and Strippers	$ 30.37	17.80
Form Erectors	$ 30.68	17.80
ROCK SHAFT, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:		
Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	$ 30.37	17.80
Laborers Topside, Cage Tenders, Bellman	$ 30.26	17.80
Miners	$ 31.28	17.80
SHIELD DRIVE AND LINER PLATE TUNNELS IN FREE AIR:		

Brakemen and Trackmen	$ 30.37	17.80
Miners, Motormen, Mucking Machine Operators, Nozzlemen, Grout Men, Shaft and Tunnel, Steel and Rodmen, Shield and Erector, Arm Operator, Cable Tenders	$ 31.28	17.80
TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR:		
Blaster	$ 37.41	17.80
Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	$ 37.22	17.80
Change House Attendants, Powder Watchmen, Top on Iron Bolts	$ 35.35	17.80
Mucking Machine Operator	$ 37.97	17.80

a. PAID HOLIDAYS: On tunnel work only: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

PAIN0011-002 06/01/2014

	Rates	Fringes
Painters:		
Blast and Spray	$ 34.02	18.55
Brush and Roll	$ 31.02	18.55
Tanks, Towers, Swing	$ 33.02	18.55

PAIN0011-003 06/01/2014

	Rates	Fringes
Painters: (BRIDGE CONSTRUCTION)		
Brush, Roller, Blasting (Sand, Water, etc.) Spray	$ 45.10	18.55

TEAM0064-003 04/06/2014

	Rates	Fringes
Truck drivers:		
2 Axle Ready Mix	$ 28.43	19.14
2 Axle	$ 28.33	19.14
3 Axle Ready Mix	$ 28.48	19.14
3 Axle	$ 28.43	19.14
4 Axle Ready Mix	$ 28.58	19.14
4 Axle	$ 28.53	19.14
Heavy Duty Trailer 40 tons and over	$ 28.78	19.14
Heavy Duty Trailer up to 40 tons	$ 28.53	19.14

Specialized (Earth moving equipment other than conventional type on-the-road trucks and semi-trailers, including Euclids).....$ 28.58 19.14

Hazardous waste removal work receives additional $1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage

payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

General Decision Number: CT140003 07/11/2014 CT3

Superseded General Decision Number: CT20130003

State: Connecticut

Construction Type: Highway

County: Hartford County in Connecticut.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/03/2014
1	01/31/2014
2	04/11/2014
3	05/23/2014
4	05/30/2014
5	06/13/2014
6	06/27/2014
7	07/04/2014
8	07/11/2014

BRCT0001-003 12/30/2013

	Rates	Fringes
BRICKLAYER		
BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, PLASTERERS, STONE MASONS	$ 32.50	27.06

CARP0024-005 05/05/2014

	Rates	Fringes
Carpenters: (Berlin, Bristol, Burlington,Canton, Marlborough, New Britain, Newington, Plainville, Southington)		
CARPENTERS; PILEDRIVERS	$ 31.00	22.50
DIVER TENDERS	$ 31.00	22.50
DIVERS	$ 39.46	22.50
MILLWRIGHTS	$ 31.60	22.75

CARP0043-003 05/05/2014

	Rates	Fringes
Carpenters: (Avon, Bloomfied, East Granby, East Hartford, East Windsor, Enfield, Farmington, Glastonbury, Granby, Hartford, hartland, Manchester, Rocky Hill, Simsbury, South Windsor, Suffield, West Hartford, Wethersfield, Windsor, Windsor Locks)		
CARPENTERS; PILEDRIVERS	$ 31.00	22.50
DIVER TENDERS	$ 31.00	22.50
DIVERS	$ 39.46	22.50

MILLWRIGHTS.....$ 31.60 22.75

ELEC0035-002 06/01/2014

	Rates	Fringes
Electricians:		
Entire County, excluding Berlin, Bristol, Hartland, New Britain, Newington, Plainville and Southington	$ 38.10	23.86

ELEC0090-001 06/01/2014

	Rates	Fringes
Electricians:		
Berlin, Bristol, New Britain, Newington, Plainville, Southington	$ 37.05	24.37

ELEC0488-004 06/01/2014

	Rates	Fringes
Electricians:	$ 37.27	23.37

ENGI0478-002 04/06/2014

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 36.80	22.30
GROUP 2	$ 36.48	22.30
GROUP 3	$ 35.74	22.30
GROUP 4	$ 35.35	22.30
GROUP 5	$ 34.76	22.30
GROUP 6	$ 34.45	22.30
GROUP 7	$ 34.11	22.30
GROUP 8	$ 33.71	22.30
GROUP 9	$ 33.28	22.30
GROUP 10	$ 31.24	22.30
GROUP 11	$ 31.24	22.30
GROUP 12	$ 31.18	22.30
GROUP 13	$ 32.71	22.30
GROUP 14	$ 30.60	22.30
GROUP 15	$ 30.29	22.30
GROUP 16	$ 29.46	22.30
GROUP 17	$ 29.05	22.30
GROUP 18	$ 28.40	22.30

Hazardous waste premium $3.00 per hour over classified rate.

Crane with 150 ft. boom (including jib): $1.50 extra.
Crane with 200 ft. boom (including jib): $2.50 extra.
Crane with 250 ft. boom (including jib): $5.00 extra.
Crane with 300 ft. boom (including jib): $7.00 extra.
Crane with 400 ft. boom (including jib); $10.00 extra.

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
3) Cranes(under 100 ton rated capacity)

a. PAID HOLIDAYS: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Crane Handling or Erecting Structural Steel or tone; Hoisting Engineer (2 drums or over); Front End Loader (7 cubic yards or over) Work Boat 26 ft. & over.

GROUP 2: Cranes (100 ton rated capacity and over); Excavator over 2 cubic yards; Piledriver ($3.00 premium when operator controls hammer); Bauer Drill/Caisson

GROUP 3: Excavator; Cranes (under 100 ton rated capacity), Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes. shaping, laser or GPS, etc.)

GROUP 4: Trenching machines; Lighter Derrick; Concrete Finishing Machine, cmi Machine or Similar; Koehring Loader Skooper).

GROUP 5: Specialty Railroad Equipment; Asphalt Spreader; Asphalt Reclaiming achine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" Mandrell); Side Boom; Combination Hoe and Loader; Directional Driller.

GROUP 6: Front End Loader (3 cu. yds. up to 7 cubic yards); Bulldozer (Rough grade dozer).

GROUP 7: Asphalt Roller; Concrete Saws and Cutters (Ride on Types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and Under Mandrel).

GROUP 8: Mechanic; Grease Truck Operator; Hydroblaster; Barrier Mover; Power Stone Spreader; Welder; Work Boat Under 26 ft.; Transfer Machine.

GROUP 9: Front End Loader (under 3 cubic yards); Skid Steer Loader (regardless of attachments); (Bobcat or similar); Fork Lift; Power Chipper; Landscape Equipment (including Hydroseeder).

GROUP 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.

GROUP 11: Conveyor; Earth Roller; Power Pavement Breaker (Whiphammer); Robot Demolition Equipment.

GROUP 12: Wellpoint Operator.

GROUP 13: Portable Asphalt Plant Operator; Portable Concrete Plant Operator; Portable Crusher Plant Operator.

GROUP 14: Compressor Battery Operator.

GROUP 15: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (Minimum for any job requiring a CDL License)

GROUP 16: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).

GROUP 17: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater operator.

GROUP 18: Maintenance Engineer.

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* IRON0015-002 06/30/2014

	Rates	Fringes
Ironworkers: (Reinforcing, Structural and Precast Concrete Erection)	$ 34.47	29.74

a. PAID HOLIDAY: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

LABO0056-003 04/06/2014

	Rates	Fringes
Laborers:		
GROUP 1	$ 27.05	17.80
GROUP 2	$ 27.30	17.80
GROUP 3	$ 27.55	17.80
GROUP 4	$ 28.05	17.80
GROUP 5	$ 28.80	17.80
GROUP 6	$ 29.05	17.80
GROUP 7	$ 16.00	17.80

LABORERS CLASSIFICATIONS

GROUP 1: Laborers (Unskilled), acetylene burner, concrete specialist

GROUP 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators and powdermen.

GROUP 3: Pipelayers, Jackhammer/Pavement breaker (handheld), mason tenders/catch basin builders, asphalt rakers, air track operators, block paver and curb setter

GROUP 4: Asbestos/lead removal

GROUP 5: Blasters

GROUP 6: Toxic waste remover

GROUP 7: Traffic control signalman

LABO0056-004 04/06/2014

	Rates	Fringes
Laborers: (TUNNEL CONSTRUCTION)		
CLEANING, CONCRETE AND CAULKING TUNNEL:		
Concrete Workers, Form Movers and Strippers	$ 30.37	17.80
Form Erectors	$ 30.68	17.80
ROCK SHAFT, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:		
Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	$ 30.37	17.80
Laborers Topside, Cage Tenders, Bellman	$ 30.26	17.80
Miners	$ 31.28	17.80
SHIELD DRIVE AND LINER PLATE TUNNELS IN FREE AIR:		
Brakemen and Trackmen	$ 30.37	17.80
Miners, Motormen, Mucking Machine Operators, Nozzlemen, Grout Men, Shaft and Tunnel, Steel and Rodmen, Shield and Erector, Arm Operator, Cable Tenders	$ 31.28	17.80
TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR:		
Blaster	$ 37.41	17.80
Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	$ 37.22	17.80
Change House Attendants, Powder Watchmen, Top on Iron Bolts	$ 35.35	17.80
Mucking Machine Operator	$ 37.97	17.80

a. PAID HOLIDAYS: On tunnel work only: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

PAIN0011-003 06/01/2014

	Rates	Fringes
Painters: (BRIDGE CONSTRUCTION)		
Brush, Roller, Blasting (Sand, Water, etc.) Spray	$ 45.10	18.55

PAIN0011-004 06/01/2014

	Rates	Fringes
Painters:		
Blast and Spray	$ 34.02	18.55
Brush and Roll	$ 31.02	18.55
Tanks, Towers, Swing	$ 33.02	18.55

TEAM0064-005 04/06/2014

	Rates	Fringes
Truck drivers:		
2 Axle Ready Mix	$ 28.43	19.14
2 Axle	$ 28.33	19.14
3 Axle Ready Mix	$ 28.48	19.14
3 Axle	$ 28.43	19.14
4 Axle Ready Mix	$ 28.58	19.14
4 Axle	$ 28.53	19.14
Heavy Duty Trailer 40 tons and over	$ 28.78	19.14
Heavy Duty Trailer up to 40 tons	$ 28.53	19.14
Specialized (Earth moving equipment other than conventional type on-the-road trucks and semi-trailers, including Euclids)	$ 28.58	19.14

Hazardous waste removal work receives additional $1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular

rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

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Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial

contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

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END OF GENERAL DECISION

General Decision Number: CT140005 01/03/2014 CT5

Superseded General Decision Number: CT20130005

State: Connecticut

Construction Types: Heavy Dredging

Counties: Fairfield, Middlesex, New Haven and New London Counties in Connecticut.

HOPPER DREDGING CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/03/2014

SUCT1993-001 05/20/1993

	Rates	Fringes
Self-Propelled Hopper Dredge		
Drag Tenders	$ 8.21	

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

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Non-Union Identifiers

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END OF GENERAL DECISION

General Decision Number: CT140006 06/20/2014 CT6

Superseded General Decision Number: CT20130006

State: Connecticut

Construction Type: Heavy Dredging

Counties: Connecticut Statewide.

CONNECTICUT

ALL DREDGING, EXCEPT SELF-PROPELLED HOPPER DREDGES, ON THE ATLANTIC OCEAN AND TRIBUTARY WATERS EMPTYING INTO THE ATLANTIC OCEAN.

Modification Number	Publication Date
0	01/03/2014
1	01/24/2014
2	06/20/2014

* ENGI0025-001 10/01/2013

STATEWIDE

	Rates	Fringes
Dredging:		
CLASS A	$ 34.73	14.13+a+b
CLASS B1	$ 30.05	13.75+a+b
CLASS B2	$ 28.30	13.61+a+b
CLASS C1	$ 27.54	12.80+a+b
CLASS C2	$ 26.65	12.73+a+b
CLASS D	$ 22.17	11.62+a+b

CLASSIFICATIONS:
CLASS A: Lead Dredgeman, Operator, Leverman, Licensed Tug Operator over 1000 HP.
CLASS B1: Derrick Operator, Spider/Spill Barge Operator, Engineer, Electrician, Chief Welder, Chief Mate, Fill Placer, Operator II, Maintenance Engineer, Licensed Boat Operator. CLASS B2: Certified Welder.
CLASS C1: Mate, Drag Barge Operator, Steward, Assistant Fill Placer, Welder.
CLASS C2: Boat Operator
CLASS D: Shoreman, Deckhand, Rodman, Scowman, Cook, Messman, Porter/Janitor, Oiler.

INCENTIVE PAY: (Add to Hourly Rate)
Operator (NCCCO License/Certification) $1.50 Licensed Tug Operator over 1000 HP (Assigned as Master) (USCG licensed Master of Towing Vessels (MOTV) $1.50; Licensed Boat Operator (Assigned as lead boat captain) USCG licensed boat operator $1.00; Engineer (QMED and Tankerman endorsement or licensed engineer (USCG) $1.50
Oiler (QMED and Tankerman endorsement (USCG) $1.50; All classifications (Tankerman endorsement only) USCG $1.25; Deckhand or Mate (AB with Lifeboatman endorsement (USCG) $1.50; All classifications (lifeboatman endorsement only (USCG) $1.25; Welder (ABS certification) $0.50

FOOTNOTES APPLICABLE TO ABOVE CRAFTS:

a. PAID HOLIDAYS: New Year's Day, Martin Luther King, Jr.'s Birthday, Memorial Day, Good Friday, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day
b. VACATION: Eight percent (8%) of the straight time rate, multiplied by the total hours worked.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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END OF GENERAL DECISION

General Decision Number: CT140013 07/11/2014 CT13

Superseded General Decision Number: CT20130013

State: Connecticut

Construction Type: Heavy

County: Fairfield County in Connecticut.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/03/2014
1	01/31/2014
2	04/11/2014
3	05/23/2014
4	05/30/2014
5	06/13/2014
6	07/04/2014
7	07/11/2014

BRCT0001-011 12/30/2013

	Rates	Fringes
BRICKLAYER	$ 32.50	27.06

BRCT0001-012 12/30/2013

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 32.50	27.06

CARP0210-005 05/06/2014

	Rates	Fringes
CARPENTER		
CARPENTER, PILEDRIVER	$ 31.00	22.50
DIVER TENDER	$ 31.00	22.50
DIVER	$ 39.46	22.50
MILLWRIGHT	$ 31.60	22.75

ELEC0003-004 05/02/2013

Darien, Greenwich, New Canaan, Stamford and the portion of Norwalk lying West of Five Mile River

	Rates	Fringes
ELECTRICIAN	$ 50.75	39.65

ELEC0488-006 06/01/2014

Bethel, Bridgeport, Brookfield, Danbury, Easton, Fairfield, Monroe, New Fairfield, Newtown, Norwalk, Redding, Ridgefield, Shelton, Sherman, Stratford, Trumball, Weston, Westport and Wilton Townships

	Rates	Fringes

ELECTRICIAN.....$ 37.27 23.37

ENGI0478-001 04/06/2014

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 36.80	22.30
GROUP 2	$ 36.48	22.30
GROUP 3	$ 35.74	22.30
GROUP 4	$ 35.35	22.30
GROUP 5	$ 34.76	22.30
GROUP 6	$ 34.45	22.30
GROUP 7	$ 34.11	22.30
GROUP 8	$ 33.71	22.30
GROUP 9	$ 33.28	22.30
GROUP 10	$ 31.24	22.30
GROUP 11	$ 31.24	22.30
GROUP 12	$ 31.18	22.30
GROUP 13	$ 32.71	22.30
GROUP 14	$ 30.60	22.30
GROUP 15	$ 30.29	22.30
GROUP 16	$ 29.46	22.30
GROUP 17	$ 29.05	22.30
GROUP 18	$ 28.40	22.30

Hazardous waste premium $3.00 per hour over classified rate.

Crane with boom, including jib, 150 feet - $1.50 extra.
Crane with boom, including jib, 200 feet - $2.50 extra.
Crane with boom, including jib, 250 feet - $5.00 extra.
Crane with boom, including jib, 300 feet - $7.00 extra.
Crane with boom, including jib, 400 feet - $10.00 extra

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
3) Cranes(under 100 ton rated capacity)

a. PAID HOLIDAYS: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), work boat 26 ft. and over.

GROUP 2: Cranes (100 ton capacity & over), Excavator over 2 cubic yards, piledriver ($3.00 premium when operator controls hammer), Bauer Drill/Caisson

GROUP 3: Excavator, cranes (under 100 ton rated capacity),

gradall, master mechanic, hoisting engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power or operation) Rubber Tire Excavator (drott 1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.)

GROUP 4: Trenching machines, lighter derrick, concrete finishing machine, CMI machine or similar, Koehring Loader (skooper).

GROUP 5: Specialty railroad equipment, asphalt spreader, asphalt reclaiming machine, line grider, concrete pumps, drills with self contained power units, boring machine, post hole digger, auger, pounder, well digger, milling machine (over 24' mandrel), side boom, combination hoe and loader, directional driller

GROUP 6: Front end loader (3 cu. yds. up to 7 cu. yards), bulldozer (Rough grade dozer) .

GROUP 7: Asphalt roller, concrete saws and cutters (ride on types), Vermeer concrete cutter, stump grinder, scraper, snooper, skidder, milling machine (24" and under Mandrel).

GROUP 8: Mechanic, grease truck operator, hydoblaster, barrier mover, power stone spreader, welder, work boat under 26 ft. transfer machine.

GROUP 9: Front end loader (under 3 cubic yards), skid steer loader (regardless of attachments), bobcat or similar, forklift, power chipper, landscape equipment (including hydroseeder).

GROUP 10: Vibratory hammer,ice machine, diesel & air, hammer, etc.

GROUP 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.

GROUP 12: Wellpoint operator.

GROUP 13: Portable asphalt plant operator, portable concrete plant operator, portable crusher plant operator.

GROUP 14: Compressor battery operator.

GROUP 15: Power Safety boat, Vacuum truck, Zim mixer, Sweeper; (Minimum for any job requiring a CDL license) .

GROUP 16: Elevator operator, tow motor operator (solid tire no rough terrain).

GROUP 17: Generator operator, compressor operator, pump operator,welding machine operator; Heater operator.

GROUP 18: Maintenance engineer.

ENGI0478-007 04/06/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		

Asphalt Paver	$ 34.76	22.30
Asphalt Roller	$ 34.11	22.30
Asphalt Spreader	$ 34.76	22.30
Backhoe/Excavator 2 cubic yards and over	$ 36.48	22.30
Backhoe/Excavator under 2 cubic yards	$ 35.74	22.30
Bulldozer (Rough Grade Dozer)	$ 34.45	22.30
Bulldozer Fine Grade(includes slopes, shaping, laser or gps)	$ 35.74	22.30
Crane handling or erecting structural steel or stone	$ 36.80	22.30
Cranes (100 ton capacity & over)	$ 36.48	22.30
Cranes (under 100 ton rated capacity)	$ 35.74	22.30
Drills with self contained power units; Directional driller	$ 34.76	22.30
Earth Roller	$ 31.24	22.30
Forklift	$ 33.28	22.30
Front End Loader (3 cubic yards up to 7 cubic yards)	$ 34.45	22.30
Front End Loader (7 cubic yards or over)	$ 36.80	22.30
Front End Loader (under 3 cubic yards)	$ 33.28	22.30
Grader/Blade	$ 35.74	22.30
Maintenance Engineer/Oiler	$ 28.40	22.30
Mechanic	$ 33.71	22.30
Rubber Tire Backhoe/Excavator	$ 35.74	22.30

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.

b. Crane with boom, including jib, 150 feet - $1.50 extra .
Crane with boom, including jib, 200 feet- $2.50 extra.
Crane with boom, including jib, 250 feet - $5.00 extra.
Crane with boom, including jib, 300 feet - $7.00 extra.
Crane with boom, including jib, 400 feet - $10.00 extra.

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
3) Cranes(under 100 ton rated capacity)

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* IRON0015-005 06/30/2014

	Rates	Fringes

IRONWORKER, REINFORCING.....$ 34.47 29.74

a. PAID HOLIDAY: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

LABO0056-004 04/06/2014

	Rates	Fringes
Laborers: (TUNNEL CONSTRUCTION)		
CLEANING, CONCRETE AND CAULKING TUNNEL:		
Concrete Workers, Form Movers and Strippers	$ 30.37	17.80
Form Erectors	$ 30.68	17.80
ROCK SHAFT, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:		
Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	$ 30.37	17.80
Laborers Topside, Cage Tenders, Bellman	$ 30.26	17.80
Miners	$ 31.28	17.80
SHIELD DRIVE AND LINER PLATE TUNNELS IN FREE AIR:		
Brakemen and Trackmen	$ 30.37	17.80
Miners, Motormen, Mucking Machine Operators, Nozzlemen, Grout Men, Shaft and Tunnel, Steel and Rodmen, Shield and Erector, Arm Operator, Cable Tenders	$ 31.28	17.80
TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR:		
Blaster	$ 37.41	17.80
Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	$ 37.22	17.80
Change House Attendants, Powder Watchmen, Top on Iron Bolts	$ 35.35	17.80
Mucking Machine Operator	$ 37.97	17.80

a. PAID HOLIDAYS: On tunnel work only: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

LABO0056-005 04/06/2014

	Rates	Fringes
LABORERS		

GROUP 1	$ 27.05	17.80
GROUP 2	$ 27.30	17.80
GROUP 3	$ 27.55	17.80
GROUP 4	$ 28.05	17.80
GROUP 5	$ 28.80	17.80
GROUP 6	$ 29.05	17.80
GROUP 7	$ 16.00	17.80

LABORERS CLASSIFICATIONS

GROUP 1: Laborers (Unskilled), acetylene burner, concrete specialist

GROUP 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators and powdermen.

GROUP 3: Pipelayers, Jackhammer/Pavement breaker (handheld), mason tenders/catch basin builders, asphalt rakers, air track operators, block paver and curb setter

GROUP 4: Asbestos/lead removal

GROUP 5: Blasters

GROUP 6: Toxic waste remover

GROUP 7: Traffic control signalman

PAIN0011-013 06/01/2013

	Rates	Fringes
PAINTER		
Brush and Roller	$ 30.62	17.75
Spray Only	$ 33.62	17.75
Steel Only	$ 32.62	17.75

TEAM0064-001 04/06/2014

	Rates	Fringes
Truck drivers:		
2 Axle Ready Mix	$ 28.43	19.14
2 Axle	$ 28.33	19.14
3 Axle Ready Mix	$ 28.48	19.14
3 Axle	$ 28.43	19.14
4 Axle Ready Mix	$ 28.58	19.14
4 Axle	$ 28.53	19.14
Heavy Duty Trailer 40 tons and over	$ 28.78	19.14
Heavy Duty Trailer up to 40 tons	$ 28.53	19.14
Specialized (Earth moving equipment other than conventional type on-the-road trucks and semi-trailers, including Euclids)	$ 28.58	19.14

Hazardous waste removal work receives additional $1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

TEAM0064-006 04/06/2014

	Rates	Fringes
TRUCK DRIVER: 4 Axle Truck	$ 28.53	19.14

Hazardous waste removal work receives additional $1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

SUCT2002-008 12/16/2008

	Rates	Fringes
IRONWORKER, STRUCTURAL	$ 28.62	10.84

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

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200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

General Decision Number: CT140014 07/11/2014 CT14

Superseded General Decision Number: CT20130014

State: Connecticut

Construction Type: Heavy

County: Hartford County in Connecticut.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/03/2014
1	01/31/2014
2	04/11/2014
3	05/23/2014
4	05/30/2014
5	06/13/2014
6	07/04/2014
7	07/11/2014

BRCT0001-012 12/30/2013

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 32.50	27.06

CARP0024-014 05/05/2014

Berlin, Bristol, Burlington, Canton, Marlborough, New Britain, Newington, Plainville and Southington

	Rates	Fringes
CARPENTER		
CARPENTERS, PILEDRIVERS	$ 31.00	22.50
DIVER TENDER	$ 31.00	22.50
DIVER	$ 39.46	22.50
MILLWRIGHTS	$ 31.60	22.75

CARP0043-005 05/05/2014

Avon, Bloomfield, East Branby, East Hartfod, East Windsor, Enfield, Farmington, Glastonbury, Granby, Hartford, Hartland, Manchester, Rocky Hill, Simsbury, South Windsor, Suffield, West Hartford, Wethersfield, Windsor, Windsor Locks

	Rates	Fringes
CARPENTER		
CARPENTER, PILEDRIVER	$ 31.00	22.50
DIVER TENDER	$ 31.00	22.50
DIVER	$ 39.46	22.50
MILLWRIGHT	$ 31.60	22.75

ELEC0035-006 06/01/2014

Entire County excluding Berlin, Bristol, Hartland, New Britain, Newington, Plainville and Southington Townships

	Rates	Fringes
ELECTRICIAN	$ 38.10	23.86

ELEC0090-005 06/01/2014

Berlin, Bristol, New Britain, Newington, Plainville, Southington Townships

	Rates	Fringes
ELECTRICIAN	$ 37.05	24.37

ELEC0488-005 06/01/2014

Hartland Township

	Rates	Fringes
ELECTRICIAN	$ 37.27	23.37

ENGI0478-001 04/06/2014

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 36.80	22.30
GROUP 2	$ 36.48	22.30
GROUP 3	$ 35.74	22.30
GROUP 4	$ 35.35	22.30
GROUP 5	$ 34.76	22.30
GROUP 6	$ 34.45	22.30
GROUP 7	$ 34.11	22.30
GROUP 8	$ 33.71	22.30
GROUP 9	$ 33.28	22.30
GROUP 10	$ 31.24	22.30
GROUP 11	$ 31.24	22.30
GROUP 12	$ 31.18	22.30
GROUP 13	$ 32.71	22.30
GROUP 14	$ 30.60	22.30
GROUP 15	$ 30.29	22.30
GROUP 16	$ 29.46	22.30
GROUP 17	$ 29.05	22.30
GROUP 18	$ 28.40	22.30

Hazardous waste premium $3.00 per hour over classified rate.

Crane with boom, including jib, 150 feet - $1.50 extra.
Crane with boom, including jib, 200 feet - $2.50 extra.
Crane with boom, including jib, 250 feet - $5.00 extra.
Crane with boom, including jib, 300 feet - $7.00 extra.
Crane with boom, including jib, 400 feet - $10.00 extra

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson

3) Cranes(under 100 ton rated capacity)

a. PAID HOLIDAYS: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), work boat 26 ft. and over.

GROUP 2: Cranes (100 ton capacity & over), Excavator over 2 cubic yards, piledriver ($3.00 premium when operator controls hammer), Bauer Drill/Caisson

GROUP 3: Excavator, cranes (under 100 ton rated capacity), gradall, master mechanic, hoisting engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power or operation) Rubber Tire Excavator (drott 1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.)

GROUP 4: Trenching machines, lighter derrick, concrete finishing machine, CMI machine or similar, Koehring Loader (skooper).

GROUP 5: Specialty railroad equipment, asphalt spreader, asphalt reclaiming machine, line grider, concrete pumps, drills with self contained power units, boring machine, post hole digger, auger, pounder, well digger, milling machine (over 24' mandrel), side boom, combination hoe and loader, directional driller

GROUP 6: Front end loader (3 cu. yds. up to 7 cu. yards), bulldozer (Rough grade dozer) .

GROUP 7: Asphalt roller, concrete saws and cutters (ride on types), Vermeer concrete cutter, stump grinder, scraper, snooper, skidder, milling machine (24" and under Mandrel).

GROUP 8: Mechanic, grease truck operator, hydoblaster, barrier mover, power stone spreader, welder, work boat under 26 ft. transfer machine.

GROUP 9: Front end loader (under 3 cubic yards), skid steer loader (regardless of attachments), bobcat or similar, forklift, power chipper, landscape equipment (including hydroseeder).

GROUP 10: Vibratory hammer,ice machine, diesel & air, hammer, etc.

GROUP 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.

GROUP 12: Wellpoint operator.

GROUP 13: Portable asphalt plant operator, portable concrete plant operator, portable crusher plant operator.

GROUP 14: Compressor battery operator.

GROUP 15: Power Safety boat, Vacuum truck, Zim mixer, Sweeper; (Minimum for any job requiring a CDL license) .

GROUP 16: Elevator operator, tow motor operator (solid tire no rough terrain).

GROUP 17: Generator operator, compressor operator, pump operator,welding machine operator; Heater operator.

GROUP 18: Maintenance engineer.

ENGI0478-010 04/06/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Asphalt Paver	$ 34.76	22.30
Asphalt Roller	$ 34.11	22.30
Asphalt Spreader	$ 34.76	22.30
Bulldozer (Rough Grade Dozer)	$ 34.45	22.30
Bulldozer Fine Grade(includes slopes, shaping, laser or gps)	$ 35.74	22.30
Crane handling or erecting structural steel or stone	$ 36.80	22.30
Cranes (100 ton capacity & over)	$ 36.48	22.30
Cranes (under 100 ton rated capacity)	$ 35.74	22.30
Drills with self contained power units; Directional driller	$ 34.76	22.30
Earth Roller	$ 31.24	22.30
Excavator/Backhoe 2 cubic yards and over	$ 36.48	22.30
Excavator/Backhoe under 2 cubic yards	$ 35.74	22.30
Forklift	$ 33.28	22.30
Front End Loader (3 cubic yards up to 7 cubic yards)	$ 34.45	22.30
Front End Loader (7 cubic yards or over)	$ 36.80	22.30
Front End Loader (under 3 cubic yards)	$ 33.28	22.30
Grader/Blade	$ 35.74	22.30
Maintenance Engineer/Oiler	$ 28.40	22.30
Mechanic	$ 33.71	22.30

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.

b. Crane with boom, including jib, 150 feet - $1.50 extra .
Crane with boom, including jib, 200 feet- $2.50 extra.
Crane with boom, including jib, 250 feet - $5.00 extra.

Crane with boom, including jib, 300 feet - $7.00 extra.
Crane with boom, including jib, 400 feet - $10.00 extra.

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
3) Cranes(under 100 ton rated capacity)

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* IRON0015-007 06/30/2014

	Rates	Fringes
IRONWORKER, STRUCTURAL	$ 34.47	29.74

a. PAID HOLIDAY: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

LABO0056-004 04/06/2014

	Rates	Fringes
Laborers: (TUNNEL CONSTRUCTION)		
CLEANING, CONCRETE AND CAULKING TUNNEL:		
Concrete Workers, Form Movers and Strippers	$ 30.37	17.80
Form Erectors	$ 30.68	17.80
ROCK SHAFT, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:		
Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	$ 30.37	17.80
Laborers Topside, Cage Tenders, Bellman	$ 30.26	17.80
Miners	$ 31.28	17.80
SHIELD DRIVE AND LINER PLATE TUNNELS IN FREE AIR:		
Brakemen and Trackmen	$ 30.37	17.80
Miners, Motormen, Mucking Machine Operators, Nozzlemen, Grout Men, Shaft and Tunnel, Steel and Rodmen, Shield and Erector, Arm Operator, Cable Tenders	$ 31.28	17.80
TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR:		
Blaster	$ 37.41	17.80
Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	$ 37.22	17.80
Change House Attendants,		

Powder Watchmen, Top on Iron Bolts	$ 35.35	17.80
Mucking Machine Operator	$ 37.97	17.80

a. PAID HOLIDAYS: On tunnel work only: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

LABO0056-006 04/06/2014

	Rates	Fringes
LABORERS		
GROUP 1	$ 27.05	17.80
GROUP 2	$ 27.30	17.80
GROUP 3	$ 27.55	17.80
GROUP 4	$ 28.05	17.80
GROUP 5	$ 28.80	17.80
GROUP 6	$ 29.05	17.80
GROUP 7	$ 16.00	17.80

LABORERS CLASSIFICATIONS

GROUP 1: Laborers (Unskilled), acetylene burner, concrete specialist

GROUP 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators and powdermen.

GROUP 3: Pipelayers, Jackhammer/Pavement breaker (handheld), mason tenders/catch basin builders, asphalt rakers, air track operators, block paver and curb setter

GROUP 4: Asbestos/lead removal

GROUP 5: Blasters

GROUP 6: Toxic waste remover

GROUP 7: Traffic control signalman

PAIN0011-013 06/01/2013

	Rates	Fringes
PAINTER		
Brush and Roller	$ 30.62	17.75
Spray Only	$ 33.62	17.75
Steel Only	$ 32.62	17.75

TEAM0064-001 04/06/2014

	Rates	Fringes
Truck drivers:		
2 Axle Ready Mix	$ 28.43	19.14

2 Axle	$ 28.33	19.14
3 Axle Ready Mix	$ 28.48	19.14
3 Axle	$ 28.43	19.14
4 Axle Ready Mix	$ 28.58	19.14
4 Axle	$ 28.53	19.14
Heavy Duty Trailer 40 tons and over	$ 28.78	19.14
Heavy Duty Trailer up to 40 tons	$ 28.53	19.14
Specialized (Earth moving equipment other than conventional type on-the-road trucks and semi-trailers, including Euclids)	$ 28.58	19.14

Hazardous waste removal work receives additional $1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

TEAM0064-006 04/06/2014

	Rates	Fringes
TRUCK DRIVER: 4 Axle Truck	$ 28.53	19.14

Hazardous waste removal work receives additional $1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

SUCT2002-009 12/16/2008

	Rates	Fringes
IRONWORKER, REINFORCING	$ 27.13	13.57
LABORER: Common or General	$ 21.03	5.30
OPERATOR: Excavator	$ 27.77	7.60
TRUCK DRIVER: 3 Axle & Semi - Truck	$ 19.93	7.39

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within

the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can

be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

General Decision Number: CT140015 07/11/2014 CT15

Superseded General Decision Number: CT20130015

State: Connecticut

Construction Type: Heavy

Counties: Middlesex and Tolland Counties in Connecticut.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/03/2014
1	01/31/2014
2	04/11/2014
3	05/23/2014
4	05/30/2014
5	06/13/2014
6	07/04/2014
7	07/11/2014

BRCT0001-011 12/30/2013

	Rates	Fringes
BRICKLAYER	$ 32.50	27.06

BRCT0001-012 12/30/2013

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 32.50	27.06

CARP0024-016 05/05/2014

MIDDLESEX COUNTY
TOLLAND COUNTY
Andover, Columbia, Coventry, Hebron, Mansfield, Union, Willington

	Rates	Fringes
CARPENTER		
CARPENTERS, PILEDRIVERS	$ 31.00	22.50
DIVER TENDER	$ 31.00	22.50
DIVER	$ 39.46	22.50
MILLWRIGHT	$ 31.60	22.75

CARP0043-006 05/05/2014

TOLLAND COUNTY
Bolton, Ellington, Somers, Tolland, Vernon

	Rates	Fringes
CARPENTER		
CARPENTER, PILEDRIVER	$ 31.00	22.50
DIVER TENDER	$ 31.00	22.50
DIVER	$ 39.46	22.50
MILLWRIGHT	$ 31.60	22.75

ELEC0035-004 06/01/2014

Cromwell, Middlefield, Middleton and Portland

	Rates	Fringes
ELECTRICIAN	$ 38.10	23.86

ELEC0090-006 06/01/2014

Chester, Clinton, Deep River, Durham, East Haddam, East Hampton, Essex, Haddam, Killingsworth, Old Saybrook, Westbrook

	Rates	Fringes
ELECTRICIAN	$ 37.05	24.37

ENGI0478-001 04/06/2014

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 36.80	22.30
GROUP 2	$ 36.48	22.30
GROUP 3	$ 35.74	22.30
GROUP 4	$ 35.35	22.30
GROUP 5	$ 34.76	22.30
GROUP 6	$ 34.45	22.30
GROUP 7	$ 34.11	22.30
GROUP 8	$ 33.71	22.30
GROUP 9	$ 33.28	22.30
GROUP 10	$ 31.24	22.30
GROUP 11	$ 31.24	22.30
GROUP 12	$ 31.18	22.30
GROUP 13	$ 32.71	22.30
GROUP 14	$ 30.60	22.30
GROUP 15	$ 30.29	22.30
GROUP 16	$ 29.46	22.30
GROUP 17	$ 29.05	22.30
GROUP 18	$ 28.40	22.30

Hazardous waste premium $3.00 per hour over classified rate.

Crane with boom, including jib, 150 feet - $1.50 extra.
Crane with boom, including jib, 200 feet - $2.50 extra.
Crane with boom, including jib, 250 feet - $5.00 extra.
Crane with boom, including jib, 300 feet - $7.00 extra.
Crane with boom, including jib, 400 feet - $10.00 extra

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
3) Cranes(under 100 ton rated capacity)

a. PAID HOLIDAYS: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas

Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), work boat 26 ft. and over.

GROUP 2: Cranes (100 ton capacity & over), Excavator over 2 cubic yards, piledriver ($3.00 premium when operator controls hammer), Bauer Drill/Caisson

GROUP 3: Excavator, cranes (under 100 ton rated capacity), gradall, master mechanic, hoisting engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power or operation) Rubber Tire Excavator (drott 1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.)

GROUP 4: Trenching machines, lighter derrick, concrete finishing machine, CMI machine or similar, Koehring Loader (skooper).

GROUP 5: Specialty railroad equipment, asphalt spreader, asphalt reclaiming machine, line grider, concrete pumps, drills with self contained power units, boring machine, post hole digger, auger, pounder, well digger, milling machine (over 24' mandrel), side boom, combination hoe and loader, directional driller

GROUP 6: Front end loader (3 cu. yds. up to 7 cu. yards), bulldozer (Rough grade dozer) .

GROUP 7: Asphalt roller, concrete saws and cutters (ride on types), Vermeer concrete cutter, stump grinder, scraper, snooper, skidder, milling machine (24" and under Mandrel).

GROUP 8: Mechanic, grease truck operator, hydoblaster, barrier mover, power stone spreader, welder, work boat under 26 ft. transfer machine.

GROUP 9: Front end loader (under 3 cubic yards), skid steer loader (regardless of attachments), bobcat or similar, forklift, power chipper, landscape equipment (including hydroseeder).

GROUP 10: Vibratory hammer,ice machine, diesel & air, hammer, etc.

GROUP 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.

GROUP 12: Wellpoint operator.

GROUP 13: Portable asphalt plant operator, portable concrete plant operator, portable crusher plant operator.

GROUP 14: Compressor battery operator.

GROUP 15: Power Safety boat, Vacuum truck, Zim mixer,

Sweeper; (Minimum for any job requiring a CDL license) .

GROUP 16: Elevator operator, tow motor operator (solid tire no rough terrain).

GROUP 17: Generator operator, compressor operator, pump operator,welding machine operator; Heater operator.

GROUP 18: Maintenance engineer.

ENGI0478-007 04/06/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Asphalt Paver	$ 34.76	22.30
Asphalt Roller	$ 34.11	22.30
Asphalt Spreader	$ 34.76	22.30
Backhoe/Excavator 2 cubic yards and over	$ 36.48	22.30
Backhoe/Excavator under 2 cubic yards	$ 35.74	22.30
Bulldozer (Rough Grade Dozer)	$ 34.45	22.30
Bulldozer Fine Grade(includes slopes, shaping, laser or gps)	$ 35.74	22.30
Crane handling or erecting structural steel or stone	$ 36.80	22.30
Cranes (100 ton capacity & over)	$ 36.48	22.30
Cranes (under 100 ton rated capacity)	$ 35.74	22.30
Drills with self contained power units; Directional driller	$ 34.76	22.30
Earth Roller	$ 31.24	22.30
Forklift	$ 33.28	22.30
Front End Loader (3 cubic yards up to 7 cubic yards)	$ 34.45	22.30
Front End Loader (7 cubic yards or over)	$ 36.80	22.30
Front End Loader (under 3 cubic yards)	$ 33.28	22.30
Grader/Blade	$ 35.74	22.30
Maintenance Engineer/Oiler	$ 28.40	22.30
Mechanic	$ 33.71	22.30
Rubber Tire Backhoe/Excavator	$ 35.74	22.30

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.

b. Crane with boom, including jib, 150 feet - $1.50 extra .
Crane with boom, including jib, 200 feet- $2.50 extra.
Crane with boom, including jib, 250 feet - $5.00 extra.
Crane with boom, including jib, 300 feet - $7.00 extra.
Crane with boom, including jib, 400 feet - $10.00 extra.

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
3) Cranes(under 100 ton rated capacity)

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* IRON0015-008 06/30/2014

	Rates	Fringes
IRONWORKER, REINFORCING AND STRUCTURAL	$ 34.47	29.74

a. PAID HOLIDAY: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

LABO0056-004 04/06/2014

	Rates	Fringes
Laborers: (TUNNEL CONSTRUCTION)		
CLEANING, CONCRETE AND CAULKING TUNNEL:		
Concrete Workers, Form Movers and Strippers	$ 30.37	17.80
Form Erectors	$ 30.68	17.80
ROCK SHAFT, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:		
Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	$ 30.37	17.80
Laborers Topside, Cage Tenders, Bellman	$ 30.26	17.80
Miners	$ 31.28	17.80
SHIELD DRIVE AND LINER PLATE TUNNELS IN FREE AIR:		
Brakemen and Trackmen	$ 30.37	17.80
Miners, Motormen, Mucking Machine Operators, Nozzlemen, Grout Men, Shaft and Tunnel, Steel and Rodmen, Shield and Erector, Arm Operator, Cable Tenders	$ 31.28	17.80
TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR:		
Blaster	$ 37.41	17.80
Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	$ 37.22	17.80
Change House Attendants, Powder Watchmen, Top on		

Iron Bolts	$ 35.35	17.80
Mucking Machine Operator	$ 37.97	17.80

a. PAID HOLIDAYS: On tunnel work only: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

LABO0056-007 04/06/2014

	Rates	Fringes
LABORERS		
GROUP 1	$ 27.05	17.80
GROUP 2	$ 27.30	17.80
GROUP 3	$ 27.55	17.80
GROUP 4	$ 28.05	17.80
GROUP 5	$ 28.80	17.80
GROUP 6	$ 29.05	17.80
GROUP 7	$ 16.00	17.80

LABORERS CLASSIFICATIONS

GROUP 1: Laborers (Unskilled), acetylene burner, concrete specialist

GROUP 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators and powdermen.

GROUP 3: Pipelayers, Jackhammer/Pavement breaker (handheld), mason tenders/catch basin builders, asphalt rakers, air track operators, block paver and curb setter

GROUP 4: Asbestos/lead removal

GROUP 5: Blasters

GROUP 6: Toxic waste remover

GROUP 7: Traffic control signalman

PAIN0011-013 06/01/2013

	Rates	Fringes
PAINTER		
Brush and Roller	$ 30.62	17.75
Spray Only	$ 33.62	17.75
Steel Only	$ 32.62	17.75

TEAM0064-001 04/06/2014

	Rates	Fringes
Truck drivers:		
2 Axle Ready Mix	$ 28.43	19.14
2 Axle	$ 28.33	19.14

3 Axle Ready Mix	$ 28.48	19.14
3 Axle	$ 28.43	19.14
4 Axle Ready Mix	$ 28.58	19.14
4 Axle	$ 28.53	19.14
Heavy Duty Trailer 40 tons and over	$ 28.78	19.14
Heavy Duty Trailer up to 40 tons	$ 28.53	19.14
Specialized (Earth moving equipment other than conventional type on-the-road trucks and semi-trailers, including Euclids)	$ 28.58	19.14

Hazardous waste removal work receives additional $1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

TEAM0064-006 04/06/2014

	Rates	Fringes
TRUCK DRIVER: 4 Axle Truck	$ 28.53	19.14

Hazardous waste removal work receives additional $1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

SUCT2002-010 12/16/2008

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 25.52	8.49
TRUCK DRIVER: 3 Axle & Semi - Truck	$ 19.93	7.39

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on

a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

General Decision Number: CT140016 07/11/2014 CT16

Superseded General Decision Number: CT20130016

State: Connecticut

Construction Type: Heavy

County: New Haven County in Connecticut.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/03/2014
1	01/31/2014
2	04/11/2014
3	05/23/2014
4	05/30/2014
5	06/13/2014
6	07/04/2014
7	07/11/2014

BRCT0001-011 12/30/2013

	Rates	Fringes
BRICKLAYER	$ 32.50	27.06

BRCT0001-012 12/30/2013

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 32.50	27.06

CARP0024-015 05/05/2014

Beacon Falls, Bethany, Branford, Cheshire, East Haven, Guilford, Hamden, Madison, Meriden, Middlebury, Naugatuck, New Haven, North Branford, North Haven, Orange (east of Orange Center Road and north of Route 1, and north of Route 1 and east of the Oyster River), Prospect, Southbury, Wallingford, Waterbury, West Haven, Wolcott, Woodbridge

	Rates	Fringes
CARPENTER		
CARPENTERS, PILEDRIVERS	$ 31.00	22.50
DIVER TENDER	$ 31.00	22.50
DIVER	$ 39.46	22.50
MILLWRIGHTS	$ 31.60	22.75

CARP0210-006 05/05/2014

Ansonia, Derby, Milford, Orange (West of Orange Center Road and South of Route 1 and West of the Oyster River), Oxford, Seymour

	Rates	Fringes
CARPENTER		
CARPENTER, PILEDRIVER	$ 31.00	22.50
DIVER TENDER	$ 31.00	22.50

DIVER	$ 39.46	22.50
MILLWRIGHT	$ 31.60	22.75

ELEC0090-004 06/01/2014

Entire County excluding Beacon Falls, Middlebury, Milford, Naugatuck, Oxford, Prospect, Seymour, Southbury, Waterbury and Wolcott Townships

	Rates	Fringes
ELECTRICIAN	$ 37.05	24.37

ELEC0488-007 06/01/2014

Beacon Falls, Middlebury, Milford, Naugatuck, Oxford, Prospect, Seymour, Southbury, Waterbury and Wolcott Townships

	Rates	Fringes
ELECTRICIAN	$ 37.27	23.37

ENGI0478-001 04/06/2014

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 36.80	22.30
GROUP 2	$ 36.48	22.30
GROUP 3	$ 35.74	22.30
GROUP 4	$ 35.35	22.30
GROUP 5	$ 34.76	22.30
GROUP 6	$ 34.45	22.30
GROUP 7	$ 34.11	22.30
GROUP 8	$ 33.71	22.30
GROUP 9	$ 33.28	22.30
GROUP 10	$ 31.24	22.30
GROUP 11	$ 31.24	22.30
GROUP 12	$ 31.18	22.30
GROUP 13	$ 32.71	22.30
GROUP 14	$ 30.60	22.30
GROUP 15	$ 30.29	22.30
GROUP 16	$ 29.46	22.30
GROUP 17	$ 29.05	22.30
GROUP 18	$ 28.40	22.30

Hazardous waste premium $3.00 per hour over classified rate.

Crane with boom, including jib, 150 feet - $1.50 extra.
Crane with boom, including jib, 200 feet - $2.50 extra.
Crane with boom, including jib, 250 feet - $5.00 extra.
Crane with boom, including jib, 300 feet - $7.00 extra.
Crane with boom, including jib, 400 feet - $10.00 extra

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)

2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
3) Cranes(under 100 ton rated capacity)

a. PAID HOLIDAYS: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), work boat 26 ft. and over.

GROUP 2: Cranes (100 ton capacity & over), Excavator over 2 cubic yards, piledriver ($3.00 premium when operator controls hammer), Bauer Drill/Caisson

GROUP 3: Excavator, cranes (under 100 ton rated capacity), gradall, master mechanic, hoisting engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power or operation) Rubber Tire Excavator (drott 1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.)

GROUP 4: Trenching machines, lighter derrick, concrete finishing machine, CMI machine or similar, Koehring Loader (skooper).

GROUP 5: Specialty railroad equipment, asphalt spreader, asphalt reclaiming machine, line grider, concrete pumps, drills with self contained power units, boring machine, post hole digger, auger, pounder, well digger, milling machine (over 24' mandrel), side boom, combination hoe and loader, directional driller

GROUP 6: Front end loader (3 cu. yds. up to 7 cu. yards), bulldozer (Rough grade dozer) .

GROUP 7: Asphalt roller, concrete saws and cutters (ride on types), Vermeer concrete cutter, stump grinder, scraper, snooper, skidder, milling machine (24" and under Mandrel).

GROUP 8: Mechanic, grease truck operator, hydoblaster, barrier mover, power stone spreader, welder, work boat under 26 ft. transfer machine.

GROUP 9: Front end loader (under 3 cubic yards), skid steer loader (regardless of attachments), bobcat or similar, forklift, power chipper, landscape equipment (including hydroseeder).

GROUP 10: Vibratory hammer,ice machine, diesel & air, hammer, etc.

GROUP 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.

GROUP 12: Wellpoint operator.

GROUP 13: Portable asphalt plant operator, portable concrete

plant operator, portable crusher plant operator.

GROUP 14: Compressor battery operator.

GROUP 15: Power Safety boat, Vacuum truck, Zim mixer, Sweeper; (Minimum for any job requiring a CDL license) .

GROUP 16: Elevator operator, tow motor operator (solid tire no rough terrain).

GROUP 17: Generator operator, compressor operator, pump operator,welding machine operator; Heater operator.

GROUP 18: Maintenance engineer.

ENGI0478-011 04/06/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Asphalt Paver	$ 34.76	22.30
Asphalt Roller	$ 34.11	22.30
Asphalt Spreader	$ 34.76	22.30
Backhoe/Excavator 2 cubic yards and over	$ 36.48	22.30
Backhoe/Excavator under 2 cubic yards	$ 35.74	22.30
Crane handling or erecting structural steel or stone	$ 36.80	22.30
Cranes (100 ton capacity & over)	$ 36.48	22.30
Cranes (under 100 ton rated capacity)	$ 35.74	22.30
Drills with self contained power units; Directional driller	$ 34.76	22.30
Earth Roller	$ 31.24	22.30
Forklift	$ 33.28	22.30
Front End Loader (3 cubic yards up to 7 cubic yards)	$ 34.45	22.30
Front End Loader (7 cubic yards or over)	$ 36.80	22.30
Front End Loader (under 3 cubic yards)	$ 33.28	22.30
Grader/Blade	$ 35.74	22.30
Maintenance Engineer/Oiler	$ 28.40	22.30
Mechanic	$ 33.71	22.30
Rubber Tire Backhoe/Excavator	$ 35.74	22.30

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.

b. Crane with boom, including jib, 150 feet - $1.50 extra .
Crane with boom, including jib, 200 feet- $2.50 extra.
Crane with boom, including jib, 250 feet - $5.00 extra.
Crane with boom, including jib, 300 feet - $7.00 extra.
Crane with boom, including jib, 400 feet - $10.00 extra.

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
3) Cranes(under 100 ton rated capacity)

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* IRON0015-005 06/30/2014

	Rates	Fringes
IRONWORKER, REINFORCING	$ 34.47	29.74

a. PAID HOLIDAY: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

LABO0056-004 04/06/2014

	Rates	Fringes
Laborers: (TUNNEL CONSTRUCTION)		
CLEANING, CONCRETE AND CAULKING TUNNEL:		
Concrete Workers, Form Movers and Strippers	$ 30.37	17.80
Form Erectors	$ 30.68	17.80
ROCK SHAFT, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:		
Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	$ 30.37	17.80
Laborers Topside, Cage Tenders, Bellman	$ 30.26	17.80
Miners	$ 31.28	17.80
SHIELD DRIVE AND LINER PLATE TUNNELS IN FREE AIR:		
Brakemen and Trackmen	$ 30.37	17.80
Miners, Motormen, Mucking Machine Operators, Nozzlemen, Grout Men, Shaft and Tunnel, Steel and Rodmen, Shield and Erector, Arm Operator, Cable Tenders	$ 31.28	17.80
TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR:		
Blaster	$ 37.41	17.80
Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	$ 37.22	17.80
Change House Attendants, Powder Watchmen, Top on Iron Bolts	$ 35.35	17.80

Mucking Machine Operator...$ 37.97 17.80

a. PAID HOLIDAYS: On tunnel work only: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

LABO0056-005 04/06/2014

	Rates	Fringes
LABORERS		
GROUP 1	$ 27.05	17.80
GROUP 2	$ 27.30	17.80
GROUP 3	$ 27.55	17.80
GROUP 4	$ 28.05	17.80
GROUP 5	$ 28.80	17.80
GROUP 6	$ 29.05	17.80
GROUP 7	$ 16.00	17.80

LABORERS CLASSIFICATIONS

GROUP 1: Laborers (Unskilled), acetylene burner, concrete specialist

GROUP 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators and powdermen.

GROUP 3: Pipelayers, Jackhammer/Pavement breaker (handheld), mason tenders/catch basin builders, asphalt rakers, air track operators, block paver and curb setter

GROUP 4: Asbestos/lead removal

GROUP 5: Blasters

GROUP 6: Toxic waste remover

GROUP 7: Traffic control signalman

PAIN0011-013 06/01/2013

	Rates	Fringes
PAINTER		
Brush and Roller	$ 30.62	17.75
Spray Only	$ 33.62	17.75
Steel Only	$ 32.62	17.75

TEAM0064-001 04/06/2014

	Rates	Fringes
Truck drivers:		
2 Axle Ready Mix	$ 28.43	19.14
2 Axle	$ 28.33	19.14
3 Axle Ready Mix	$ 28.48	19.14

3 Axle	$ 28.43	19.14
4 Axle Ready Mix	$ 28.58	19.14
4 Axle	$ 28.53	19.14
Heavy Duty Trailer 40 tons and over	$ 28.78	19.14
Heavy Duty Trailer up to 40 tons	$ 28.53	19.14
Specialized (Earth moving equipment other than conventional type on-the-road trucks and semi-trailers, including Euclids)	$ 28.58	19.14

Hazardous waste removal work receives additional $1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

TEAM0064-006 04/06/2014

	Rates	Fringes
TRUCK DRIVER: 4 Axle Truck	$ 28.53	19.14

Hazardous waste removal work receives additional $1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

SUCT2002-011 12/16/2008

	Rates	Fringes
IRONWORKER, STRUCTURAL	$ 24.85	13.83
OPERATOR: Bulldozer	$ 25.33	9.64

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

General Decision Number: CT140017 07/11/2014 CT17

Superseded General Decision Number: CT20130017

State: Connecticut

Construction Type: Heavy

County: New London County in Connecticut.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/03/2014
1	01/31/2014
2	04/11/2014
3	05/23/2014
4	05/30/2014
5	06/13/2014
6	07/04/2014
7	07/11/2014

BRCT0001-011 12/30/2013

	Rates	Fringes
BRICKLAYER	$ 32.50	27.06

BRCT0001-012 12/30/2013

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 32.50	27.06

CARP0024-007 05/05/2014

	Rates	Fringes
CARPENTER		
CARPENTERS, PILEDRIVERS	$ 31.00	22.50
DIVER TENDERS	$ 31.00	22.50
DIVERS	$ 39.46	22.50
MILLWRIGHTS	$ 31.60	22.75

ELEC0035-011 06/01/2014

Bozrah, Colchester, Franklin, Griswold, Lebanon, Ledyard, Lisbon, Montville, North Stonington, Norwich, Preston, Salem, Sprague, Stonington and Voluntown

	Rates	Fringes
ELECTRICIAN	$ 38.10	23.86

ELEC0090-003 06/01/2014

East Lyme, Groton, New London, Old Lyme, Waterford, plus the part of Ledyard wherein the property of the Submarine Base is located

	Rates	Fringes

ELECTRICIAN.....$ 37.05 24.37

ENGI0478-001 04/06/2014

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 36.80	22.30
GROUP 2	$ 36.48	22.30
GROUP 3	$ 35.74	22.30
GROUP 4	$ 35.35	22.30
GROUP 5	$ 34.76	22.30
GROUP 6	$ 34.45	22.30
GROUP 7	$ 34.11	22.30
GROUP 8	$ 33.71	22.30
GROUP 9	$ 33.28	22.30
GROUP 10	$ 31.24	22.30
GROUP 11	$ 31.24	22.30
GROUP 12	$ 31.18	22.30
GROUP 13	$ 32.71	22.30
GROUP 14	$ 30.60	22.30
GROUP 15	$ 30.29	22.30
GROUP 16	$ 29.46	22.30
GROUP 17	$ 29.05	22.30
GROUP 18	$ 28.40	22.30

Hazardous waste premium $3.00 per hour over classified rate.

Crane with boom, including jib, 150 feet - $1.50 extra.
Crane with boom, including jib, 200 feet - $2.50 extra.
Crane with boom, including jib, 250 feet - $5.00 extra.
Crane with boom, including jib, 300 feet - $7.00 extra.
Crane with boom, including jib, 400 feet - $10.00 extra

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
3) Cranes(under 100 ton rated capacity)

a. PAID HOLIDAYS: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), work boat 26 ft. and over.

GROUP 2: Cranes (100 ton capacity & over), Excavator over 2 cubic yards, piledriver ($3.00 premium when operator controls hammer), Bauer Drill/Caisson

GROUP 3: Excavator, cranes (under 100 ton rated capacity),

gradall, master mechanic, hoisting engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power or operation) Rubber Tire Excavator (drott 1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.)

GROUP 4: Trenching machines, lighter derrick, concrete finishing machine, CMI machine or similar, Koehring Loader (skooper).

GROUP 5: Specialty railroad equipment, asphalt spreader, asphalt reclaiming machine, line grider, concrete pumps, drills with self contained power units, boring machine, post hole digger, auger, pounder, well digger, milling machine (over 24' mandrel), side boom, combination hoe and loader, directional driller

GROUP 6: Front end loader (3 cu. yds. up to 7 cu. yards), bulldozer (Rough grade dozer) .

GROUP 7: Asphalt roller, concrete saws and cutters (ride on types), Vermeer concrete cutter, stump grinder, scraper, snooper, skidder, milling machine (24" and under Mandrel).

GROUP 8: Mechanic, grease truck operator, hydoblaster, barrier mover, power stone spreader, welder, work boat under 26 ft. transfer machine.

GROUP 9: Front end loader (under 3 cubic yards), skid steer loader (regardless of attachments), bobcat or similar, forklift, power chipper, landscape equipment (including hydroseeder).

GROUP 10: Vibratory hammer,ice machine, diesel & air, hammer, etc.

GROUP 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.

GROUP 12: Wellpoint operator.

GROUP 13: Portable asphalt plant operator, portable concrete plant operator, portable crusher plant operator.

GROUP 14: Compressor battery operator.

GROUP 15: Power Safety boat, Vacuum truck, Zim mixer, Sweeper; (Minimum for any job requiring a CDL license) .

GROUP 16: Elevator operator, tow motor operator (solid tire no rough terrain).

GROUP 17: Generator operator, compressor operator, pump operator,welding machine operator; Heater operator.

GROUP 18: Maintenance engineer.

ENGI0478-008 04/06/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		

Asphalt Paver	$ 34.76	22.30
Asphalt Roller	$ 34.11	22.30
Asphalt Spreader	$ 34.76	22.30
Backhoe/Excavator 2 cubic yards and over	$ 36.48	22.30
Backhoe/Excavator under 2 cubic yards	$ 35.74	22.30
Bulldozer (Rough Grade Dozer)	$ 34.45	22.30
Bulldozer Fine Grade(includes slopes, shaping, laser or gps)	$ 35.74	22.30
Crane handling or erecting structural steel or stone	$ 36.80	22.30
Cranes (100 ton capacity & over)	$ 36.48	22.30
Cranes (under 100 ton rated capacity)	$ 35.74	22.30
Drills with self contained power units; Directional driller	$ 34.76	22.30
Earth Roller	$ 31.24	22.30
Forklift	$ 33.28	22.30
Front End Loader (3 cubic yards up to 7 cubic yards)	$ 34.45	22.30
Front End Loader (7 cubic yards or over)	$ 36.80	22.30
Front End Loader (under 3 cubic yards)	$ 33.28	22.30
Grader/Blade	$ 35.74	22.30
Maintenance Engineer/Oiler	$ 28.40	22.30
Mechanic	$ 33.71	22.30
Rubber Tire Backhoe/Excavator	$ 35.74	22.30

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.

b. Crane with boom, including jib, 150 feet - $1.50 extra .
Crane with boom, including jib, 200 feet- $2.50 extra.
Crane with boom, including jib, 250 feet - $5.00 extra.
Crane with boom, including jib, 300 feet - $7.00 extra.
Crane with boom, including jib, 400 feet - $10.00 extra.

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
3) Cranes(under 100 ton rated capacity)

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* IRON0015-008 06/30/2014

	Rates	Fringes

IRONWORKER, REINFORCING AND STRUCTURAL	$ 34.47	29.74

a. PAID HOLIDAY: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

LABO0056-004 04/06/2014

	Rates	Fringes
Laborers: (TUNNEL CONSTRUCTION)		
CLEANING, CONCRETE AND CAULKING TUNNEL:		
Concrete Workers, Form Movers and Strippers	$ 30.37	17.80
Form Erectors	$ 30.68	17.80
ROCK SHAFT, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:		
Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	$ 30.37	17.80
Laborers Topside, Cage Tenders, Bellman	$ 30.26	17.80
Miners	$ 31.28	17.80
SHIELD DRIVE AND LINER PLATE TUNNELS IN FREE AIR:		
Brakemen and Trackmen	$ 30.37	17.80
Miners, Motormen, Mucking Machine Operators, Nozzlemen, Grout Men, Shaft and Tunnel, Steel and Rodmen, Shield and Erector, Arm Operator, Cable Tenders	$ 31.28	17.80
TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR:		
Blaster	$ 37.41	17.80
Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	$ 37.22	17.80
Change House Attendants, Powder Watchmen, Top on Iron Bolts	$ 35.35	17.80
Mucking Machine Operator	$ 37.97	17.80

a. PAID HOLIDAYS: On tunnel work only: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

LABO0056-007 04/06/2014

	Rates	Fringes

LABORERS		
GROUP 1	$ 27.05	17.80
GROUP 2	$ 27.30	17.80
GROUP 3	$ 27.55	17.80
GROUP 4	$ 28.05	17.80
GROUP 5	$ 28.80	17.80
GROUP 6	$ 29.05	17.80
GROUP 7	$ 16.00	17.80

LABORERS CLASSIFICATIONS

GROUP 1: Laborers (Unskilled), acetylene burner, concrete specialist

GROUP 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators and powdermen.

GROUP 3: Pipelayers, Jackhammer/Pavement breaker (handheld), mason tenders/catch basin builders, asphalt rakers, air track operators, block paver and curb setter

GROUP 4: Asbestos/lead removal

GROUP 5: Blasters

GROUP 6: Toxic waste remover

GROUP 7: Traffic control signalman

PAIN0011-013 06/01/2013

	Rates	Fringes
PAINTER		
Brush and Roller	$ 30.62	17.75
Spray Only	$ 33.62	17.75
Steel Only	$ 32.62	17.75

TEAM0064-001 04/06/2014

	Rates	Fringes
Truck drivers:		
2 Axle Ready Mix	$ 28.43	19.14
2 Axle	$ 28.33	19.14
3 Axle Ready Mix	$ 28.48	19.14
3 Axle	$ 28.43	19.14
4 Axle Ready Mix	$ 28.58	19.14
4 Axle	$ 28.53	19.14
Heavy Duty Trailer 40 tons and over	$ 28.78	19.14
Heavy Duty Trailer up to 40 tons	$ 28.53	19.14
Specialized (Earth moving equipment other than conventional type on-the-road trucks and semi-trailers, including Euclids)	$ 28.58	19.14

Hazardous waste removal work receives additional $1.25 per

hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

TEAM0064-006 04/06/2014

	Rates	Fringes
TRUCK DRIVER: 4 Axle Truck	$ 28.53	19.14

Hazardous waste removal work receives additional $1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

SUCT2002-012 12/16/2008

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 25.52	8.49
TRUCK DRIVER: 3 Axle & Semi - Truck	$ 19.93	7.01

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that

classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations

Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

General Decision Number: CT140026 07/25/2014 CT26

Superseded General Decision Number: CT20130026

State: Connecticut

Construction Type: Heavy

Counties: Litchfield and Windham Counties in Connecticut.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/03/2014
1	01/31/2014
2	02/21/2014
3	04/11/2014
4	05/23/2014
5	05/30/2014
6	06/13/2014
7	06/27/2014
8	07/04/2014
9	07/11/2014
10	07/25/2014

BRCT0001-015 12/30/2013

	Rates	Fringes
BRICKLAYER		
BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, STONE MASONS	$ 32.50	27.06

CARP0024-011 05/05/2014

	Rates	Fringes
CARPENTER		
Carpenters, Piledrivers	$ 31.00	22.50
Diver Tenders	$ 31.00	22.50
Divers	$ 39.46	22.50
Millwrights	$ 31.60	22.75

ELEC0035-008 06/01/2014

WINDHAM COUNTY

	Rates	Fringes
ELECTRICIAN	$ 38.10	23.86

ELEC0042-001 01/05/2014

	Rates	Fringes
Line Construction: (Railroad Construction and Maintenance)		
Eqiupment Operator	$ 37.66	6.5%+15.40
Groundmen	$ 24.37	6.5%+10.04
Heavy Equipment Operators	$ 39.87	6.5%+15.83
Lineman, Cable Splicer,		

Technician	$ 44.30	6.5%+17.70
Truck Driver	$ 33.23	6.5%+14.28

ELEC0090-008 06/01/2014

LITCHFIELD COUNTY
Plymouth Township

	Rates	Fringes
ELECTRICIAN	$ 37.05	24.37

ELEC0488-011 06/01/2014

LITCHFIELD COUNTY (Excluding Plymouth Township)

	Rates	Fringes
ELECTRICIAN	$ 37.27	23.37

ENGI0478-001 04/06/2014

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 36.80	22.30
GROUP 2	$ 36.48	22.30
GROUP 3	$ 35.74	22.30
GROUP 4	$ 35.35	22.30
GROUP 5	$ 34.76	22.30
GROUP 6	$ 34.45	22.30
GROUP 7	$ 34.11	22.30
GROUP 8	$ 33.71	22.30
GROUP 9	$ 33.28	22.30
GROUP 10	$ 31.24	22.30
GROUP 11	$ 31.24	22.30
GROUP 12	$ 31.18	22.30
GROUP 13	$ 32.71	22.30
GROUP 14	$ 30.60	22.30
GROUP 15	$ 30.29	22.30
GROUP 16	$ 29.46	22.30
GROUP 17	$ 29.05	22.30
GROUP 18	$ 28.40	22.30

Hazardous waste premium $3.00 per hour over classified rate.

Crane with boom, including jib, 150 feet - $1.50 extra.
Crane with boom, including jib, 200 feet - $2.50 extra.
Crane with boom, including jib, 250 feet - $5.00 extra.
Crane with boom, including jib, 300 feet - $7.00 extra.
Crane with boom, including jib, 400 feet - $10.00 extra

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra $1.00 premium in addition to the hourly wage rate and benefit contributions:

1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
3) Cranes(under 100 ton rated capacity)

a. PAID HOLIDAYS: New Year's Day, Good Friday, Memorial Day,

Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), work boat 26 ft. and over.

GROUP 2: Cranes (100 ton capacity & over), Excavator over 2 cubic yards, piledriver ($3.00 premium when operator controls hammer), Bauer Drill/Caisson

GROUP 3: Excavator, cranes (under 100 ton rated capacity), gradall, master mechanic, hoisting engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power or operation) Rubber Tire Excavator (drott 1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.)

GROUP 4: Trenching machines, lighter derrick, concrete finishing machine, CMI machine or similar, Koehring Loader (skooper).

GROUP 5: Specialty railroad equipment, asphalt spreader, asphalt reclaiming machine, line grider, concrete pumps, drills with self contained power units, boring machine, post hole digger, auger, pounder, well digger, milling machine (over 24' mandrel), side boom, combination hoe and loader, directional driller

GROUP 6: Front end loader (3 cu. yds. up to 7 cu. yards), bulldozer (Rough grade dozer) .

GROUP 7: Asphalt roller, concrete saws and cutters (ride on types), Vermeer concrete cutter, stump grinder, scraper, snooper, skidder, milling machine (24" and under Mandrel).

GROUP 8: Mechanic, grease truck operator, hydoblaster, barrier mover, power stone spreader, welder, work boat under 26 ft. transfer machine.

GROUP 9: Front end loader (under 3 cubic yards), skid steer loader (regardless of attachments), bobcat or similar, forklift, power chipper, landscape equipment (including hydroseeder).

GROUP 10: Vibratory hammer,ice machine, diesel & air, hammer, etc.

GROUP 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.

GROUP 12: Wellpoint operator.

GROUP 13: Portable asphalt plant operator, portable concrete plant operator, portable crusher plant operator.

GROUP 14: Compressor battery operator.

GROUP 15: Power Safety boat, Vacuum truck, Zim mixer, Sweeper; (Minimum for any job requiring a CDL license) .

GROUP 16: Elevator operator, tow motor operator (solid tire no rough terrain).

GROUP 17: Generator operator, compressor operator, pump operator,welding machine operator; Heater operator.

GROUP 18: Maintenance engineer.

IRON0015-001 06/30/2014

	Rates	Fringes
Ironworkers: (Ornamental, Reinforcing, Structural and Precast Concrete Erection).....	$ 34.47	29.74

PAID HOLIDAY: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

LABO0056-004 04/06/2014

	Rates	Fringes
Laborers: (TUNNEL CONSTRUCTION)		
CLEANING, CONCRETE AND CAULKING TUNNEL:		
Concrete Workers, Form Movers and Strippers.....	$ 30.37	17.80
Form Erectors.....	$ 30.68	17.80
ROCK SHAFT, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:		
Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers.....	$ 30.37	17.80
Laborers Topside, Cage Tenders, Bellman.....	$ 30.26	17.80
Miners.....	$ 31.28	17.80
SHIELD DRIVE AND LINER PLATE TUNNELS IN FREE AIR:		
Brakemen and Trackmen.....	$ 30.37	17.80
Miners, Motormen, Mucking Machine Operators, Nozzlemen, Grout Men, Shaft and Tunnel, Steel and Rodmen, Shield and Erector, Arm Operator, Cable Tenders.....	$ 31.28	17.80
TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR:		
Blaster.....	$ 37.41	17.80
Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders.....	$ 37.22	17.80
Change House Attendants,		

Powder Watchmen, Top on Iron Bolts	$ 35.35	17.80
Mucking Machine Operator	$ 37.97	17.80

a. PAID HOLIDAYS: On tunnel work only: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

LABO0056-013 04/06/2014

	Rates	Fringes
LABORER (HEAVY CONSTRUCTION)		
GROUP 1	$ 27.05	17.80
GROUP 2	$ 27.30	17.80
GROUP 3	$ 27.55	17.80
GROUP 4	$ 28.05	17.80
GROUP 5	$ 28.80	17.80
GROUP 6	$ 29.05	17.80
GROUP 7	$ 16.00	17.80

LABORERS CLASSIFICATIONS

GROUP 1: Laborers (Unskilled), acetylene burner, concrete specialist

GROUP 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators and powdermen.

GROUP 3: Pipelayers, Jackhammer/Pavement breaker (handheld), mason tenders/catch basin builders, asphalt rakers, air track operators, block paver and curb setter

GROUP 4: Asbestos/lead removal

GROUP 5: Blasters

GROUP 6: Toxic waste remover

GROUP 7: Traffic control signalman

PAIN0011-003 06/01/2014

	Rates	Fringes
Painters: (BRIDGE CONSTRUCTION)		
Brush, Roller, Blasting (Sand, Water, etc.) Spray	$ 45.10	18.55

PAIN0011-018 06/01/2014

	Rates	Fringes
PAINTER		
Blast and Spray	$ 34.02	18.55

Brush and Roll	$ 31.02	18.55
Tanks, Towers, Swing	$ 33.02	18.55

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* PLUM0777-002 06/01/2014

	Rates	Fringes
PLUMBER/PIPEFITTER	$ 40.31	26.82

TEAM0064-001 04/06/2014

	Rates	Fringes
Truck drivers:		
2 Axle Ready Mix	$ 28.43	19.14
2 Axle	$ 28.33	19.14
3 Axle Ready Mix	$ 28.48	19.14
3 Axle	$ 28.43	19.14
4 Axle Ready Mix	$ 28.58	19.14
4 Axle	$ 28.53	19.14
Heavy Duty Trailer 40 tons and over	$ 28.78	19.14
Heavy Duty Trailer up to 40 tons	$ 28.53	19.14
Specialized (Earth moving equipment other than conventional type on-the-road trucks and semi-trailers, including Euclids)	$ 28.58	19.14

Hazardous waste removal work receives additional $1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
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* a conformance (additional classification and rate) ruling

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With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

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END OF GENERAL DECISION