

CONTRACT DOCUMENTS

Francis T. Patnaude  
Inter-Municipal Pumping Station  
Mattabassett Regionalization Project  
CT DEEP CWF-487C  
BID # 2016-011

083113 Access Doors

083323 Overhead Coiling Doors

084113 Aluminum Framed Entrances

085113 Aluminum Windows

086250 Tubular Daylighting Device

08630 Metal Framed Skylights

087100 Door Hardware

088000 Glazing

DIVISION 9 - FINISHES

092400 Portland cement Plastering

092500 Gypsum Board

093103 Ceramic Tile

095123 Acoustical Panel Ceiling

096500 Resilient Floor

09960 High Performance Coatings

DIVISION 10 - SPECIALTIES

101416 Plaques

102800 Toilet and Bath Accessories

104416 Fire Extinguishers

105113 Metal Lockers

105613 Metal Storage Shelving

107500 Flagpoles

DIVISION 11 - EQUIPMENT

11000 Equipment-General

11060 Interior Process Piping and Appurtenances

11070 Interior Valves and Appurtenances

111313 Loading Dock Bumpers

11201A Cast Iron Slide Gates

11201B Aluminum Slide Gates

INFORMATION FOR BIDDERS

SECTION 1

materials and/or services, this shall not act to negate or void the contract; nor shall employment of such materials or services be used as a basis for the Contractor to abandon his responsibilities as set forth within this Contract or to be used as a claim for damages set forth within the Contract Documents.

1.15 Time of Completion/Liquidated Damages –

- (a) The bidder shall be available to commence work within ten (10) consecutive calendar days after receipt of the Notice to Proceed as issued by the City and shall agree to complete the work within the time specified for completion. Bidders are advised that the date set for substantial completion for this project shall agree to have the Work substantially complete within ~~seven hundred thirty (730) consecutive calendar days thereafter.~~ Substantial completion is understood to mean all system in place as necessary to transmit flow through the force main to the Mattabasset District's Wastewater Treatment Plant. Bidders are advised that the date set for final completion for this project shall agree to have the Work completed within eight hundred thirty (830) consecutive calendar days thereafter.
- (b) Any contract awarded pursuant to this Bid Document shall be subject to a liquidated damages provision whereby the Parties recognize that time is of the essence with this project and that the City will suffer financial loss if the project is not completed within the times specified in the Contract documents, plus any extensions of such deadlines thereof allowed by the City.
- (c) The bidder agrees that all extensions made by the City shall be in writing or shall be deemed ineffective. The bidder also recognizes that the delays, expense, and difficulties involved in proving the actual loss suffered by the City if the project is not completed on time. Accordingly, instead of requiring any such proof, the bidder agrees that as liquidated damages for delay (but not as a penalty), the bidder shall pay the City the sum of Fifteen Hundred Dollars (\$1,500.00) for each day (After (30) days, the daily amount of damages shall double) that expires after the time specified in this section for substantial completion, until the project is determined in good faith to be substantially complete by the City.
- (d) After substantial completion has been achieved, if bidder shall neglect, refuse, or fail to complete the remaining work within the time specified in the Contract documents for the completion and readiness for final payment or within the time frame allowed by any proper extension that is granted by the City, the bidder shall pay the City (\$1,500 or \$3,000) for each day that such work is not completed. These liquidated damages will apply to any termination for cause or convenience, with or without cause and without prejudice to any other right or remedy of the City.

1.16 Direction of Work

- (a) The work will be performed under the supervision of the Director of the Water and Sewer Department or designated representative.

EARTH EXCAVATION, BACKFILL, FILL AND GRADING

SECTION 102

1. GENERAL
2. DESCRIPTION
3. SAFETY REQUIREMENTS
4. SEPARATION OF SURFACE MATERIALS
5. EXCAVATED MATERIAL
6. SHEETING AND BRACING
7. DRAINAGE
8. BUILDING OR STRUCTURE EXCAVATION
9. SLABS ON EARTH
10. TRENCH EXCAVATION
11. TRENCH EXCAVATION IN FILL
12. TRENCH LIMITS
13. TUNNELING
14. EXCAVATION NEAR EXISTING STRUCTURES
15. PROTECTION OF EXISTING STRUCTURES
16. RELOCATION AND REPLACEMENT OF EXISTING STRUCTURES
17. CARE AND RESTORATION OF PROPERTY
18. DUST CONTROL
19. BACKFILLING GENERAL
20. BACKFILLING AROUND STRUCTURES
21. BACKFILLING IN OPEN TRENCH
22. MATERIAL FOR FILLING AND EMBANKMENTS
23. PREPARATION OF SUBGRADE FOR FILL AREAS
24. PLACING AND COMPACTING FILL
25. SUB-SURFACE OBSTRUCTIONS

1. GENERAL

- (a) The Contractor shall make all excavations of every description for structures, roads and trenches, in whatever substance encountered, to the dimensions and levels shown on the drawings or as required by the Engineer.
- (b) The locations and depths of the proposed sanitary sewer force main, gravity sewers, and structures are shown on the drawings.
- (c) The Contractor is advised that lines and grades, as shown on plans and profiles, are subject to change. Although it is the intention to adhere to what is shown on plans, the Engineer reserves the right to make changes in lines and grades of pipes and locations of structures when such changes may be necessary or advantageous.
- (d) In open trenching on State, County, or local highways, and their right-of-ways, the Contractor shall be governed by the conditions, restrictions and regulations made by the appropriate agency. All such regulations shall be in addition to those set down in the specifications.

- (e) The excavation, dewatering, sheeting, and bracing shall be carried out in such a manner as to eliminate any possibility of undermining or disturbing the foundations of any existing structure or any work previously completed under this Contract, or as herein specified.
- (f) The Contractor shall backfill all excavations as necessary, as indicated on the drawings and as herein specified.

2. DESCRIPTION

- (a) The Contractor shall make excavations in such manner, and to such widths, as will give suitable room for building the structures or laying and joining pipe, but complying with the trench limits shown on the drawings; shall furnish and place all sheeting, bracing, and supports; shall do all dewatering and draining; and shall render the bottom of the excavation firm and dry, and in all respects, acceptable.
- (b) In no case, except as provided for in the paragraph titled "Trench Limits", shall the earth be plowed, scraped, or dug by machinery so near to the finished grade as to result in disturbance of material below said grade. The last of the material to be excavated shall be removed with pick and shovel just before placing pipe, masonry, or other structures.
- (c) All excavations, except as otherwise specified or permitted, shall be open cut. The extent of excavation open at any one time will be controlled by the Engineer. The Contractor shall not have more than fifty (50) feet of trench open at any one time at each location during daylight hours or twenty (20) feet at night.
- (d) No tunneling will be permitted, except as provided elsewhere in these specifications.

3. SAFETY REQUIREMENTS

- (a) The Contractor shall provide and maintain barricades, signs, lights, etc., required for the protection of personnel, materials and property. Barricades, etc. shall conform with all codes and regulations, and shall be lighted at night with lanterns, flares and reflectorized paint as directed or required for safety, and shall be removed upon completion of the Contract.
- (b) The Contractor shall at all times maintain the excavations in a neat manner including sweeping at trench edges where directed by the Engineer.

4. SEPARATION OF SURFACE MATERIALS

- (a) From areas within which excavations are to be made, loam and topsoil shall be carefully removed and separately stored to be used again as directed; or, if the Contractor prefers not to separate surface materials, he shall furnish as directed and without additional compensation, clean backfill and loam and topsoil at least equal in quantity and quality to that excavated. When excavations are to be made in paved surfaces, the pavement shall be removed so as to provide a clean uniform edge with a minimum disturbance of remaining pavement.
- (b) If pavement is removed in large pieces, it shall not be mixed with other excavated material, but shall be disposed of away from the site of the work before the remainder of the excavation is made.

BID ADDENDUM 1  
SECTION 700  
MEASUREMENT AND PAYMENT

Ref. No.	Item No.	Unit	Description	
	Contract Requirements	1	LS	Information for Bidders, General Conditions, Special Conditions, General Specifications, Pollution Control and Environmental Protection; Division 1 (01010-01820)
	General and Special Conditions	2	Allowance	Utility Fees and inspections
	Architectural Specifications 086250, 101416, 105113, 105613, 107500, 113000	3	LS	Furnish and Install Tubular Daylighting Device, Metal Lockers, Metal Storage Shelving, Flag Pole, Appliances and Plaques
	02072	4	Per Gallon	Remove and Dispose Residual Contents (Gasoline, Heating Oil and Sludge) - Three (3) Underground Storage Tanks
	Technical Specifications Div. 11, 15, 16	5	LS	Special Tools, Spare Parts, Extra Materials and Shelf Spares (Divisions 11, 15, 16)
	02377	6	SF	Timber Sheeting Left in Place
	02378	7	SF	Steel Sheeting Left in Place
	119 C-drawings	8	LS	Sedimentation Control System
	110	9	CY	Test Pits
	City IWWA Exhibit "E" Plates A and B; 02900	10	LS	Wetland Plantings for Shrubs, Seedlings, Vines and Ground Cover Plants
	614	11	SY	Turf Establishment
	104	12	LS	Clearing and Grubbing
	106	13	CY	Bank Run Gravel
	120	14	LS	Maintenance and Protection of Traffic
	02060; 01505; G-0.4; C-1.2	15	LS	Selective Demolition Exclusive of Work Related to ACM, PCB Containing Materials < 50 PPM and Universal Waste Reclamation
	02062; G-0.4; C-1.5; C-2.2; C-2.3	16	LS	Maintain Sewer Flows (Bypassing) - Maple Street Gravity Sewer and East Main Street Interceptor Sewer
	02062; Drawings G-0.4; C-2.4	17	LS	Maintain Sewer Flows (Bypassing) - 42 inch River Road Interceptor Sewer
	01011; 02060; C-1.2; C-7.2 and Details	18	Each	Remove and Dispose Piles inside the footprint of the proposed improvements and which interfere with the proposed new work
	01011; 02060; C-1.2; C-7.2 and Details	19	Each	Cut and Cap piles inside the footprint of the proposed improvements but which do not interfere with the proposed new work
	02300; Structural And Civil Drawings	20	LF	Furnish and Install Micro Piles
	02080 and HBM Drawings	21	LS	Pump Station Boiler Insulation

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Ref. No.	Item No.	Unit	Description
02080 and HBM Drawings	22	LS	Pump Building Wall Wood Panel and Associated Glue
02080 and HBM Drawings	23	LS	Pump Building Windows
02080 and HBM Drawings	24	Per Window	Incinerator Building Windows
02080 and HBM Drawings	25	LS	Pump Building and Incinerator Building Roofing
02080 and HBM Drawings	26	Per LF	Pipe Insulation
02080 and HBM Drawings	27	Per Glove Bag	Glove Bag
02080 and HBM Drawings	28	Per Containment Area	Preparation of a Small Containment Area
02080 and HBM Drawings	29	Per Containment Area	Preparation of a Medium Containment Area
02080 and HBM Drawings	30	Per Door	Fire Doors
02080 and HBM Drawings	31	Per Gasket	Gaskets Associated with Piping
02080 and HBM Drawings	32	Per LF	Transite Pipe Underground
02080; 02085 and HBM Drawings	33	Per SF	Tar/Waterproofing
02080 and HBM Drawings	34	LS	Pump Building Basement and First Floor Walls and Incinerator Building Basement Ceiling
02080 and HBM Drawings	35	LS	Pump Building Basement Concrete Walls to Remain in Place
02085 and HBM Drawings	36	LS	Pump Building Metal Stair Components and Metal Stairwell Doors
02085 and HBM Drawings	37	LS	Concrete Floor in Pump Building
02085 and HBM Drawings	38	LS	Plaster Ceiling in Pump Building
02085 and HBM Drawings	39	LS	Steel I-Beams
02085 and HBM Drawings	40	Per S	Buried Structures
02082 and HBM Drawings	41	LS	Universal Wastes
02085 and HBM Drawings	42	Per Ton	Disposal of Concrete Containing PCB < 50 PPM
102	43	CY	Earth Excavation and Screened Gravel BELOW Normal Grade
103	44	CY	Rock Excavation, Disposal and Backfill
02433 & 103	45	CY	Removal of Obstructions (Bore and Jack)
102	46	Each	Supporting Interfering Obstructions
102	47	Each	Supporting Parallel Obstructions
121; 01020	48	Allowance	Trafficmen (City Police)
121; 01020	49	Allowance	Trafficmen (State Police)
121; 01020	50	Allowance	Trafficmen (Uniformed Flagmen)
605	51	SY	Temporary and Permanent Pavement Restoration (City Roads)
01525; Environmental details	52	LS	Temporary Waste Stockpile Area (WSA)
01525; Environmental details	53	LS	Temporary Soil Classification Area (SCA)
SPECIAL CONDITIONS 6.24; 01020, 01180	54	Allowance	Testing Laboratory Services

BID ADDENDUM 1  
SECTION 700  
MEASUREMENT AND PAYMENT

Ref. No.	Item No.	Unit	Description	
	01011; 02072; CIVIL DRAWINGS	55	LS	Removal and Disposal of Underground Storage Tanks
	01011; 02215	56	Per Ton	Disposal of Controlled Materials
	01011; 02314	57	CY	Controlled Materials Excavation
	01011; 02316	58	CY	Management of Reusable Controlled Material
	01011; 02316	59	CY	Management of Reusable Non Controlled Material
	01011; 02413	60	LS	Handling Contaminated Groundwater Discharges to Sanitary Sewer
	01011; 02413	61	LS	Handling Contaminated Groundwater Discharges to Surface Water-sub Aqueous Stream Crossing
	02300	62	Hours	Overcoming Obstacles During Drilling Micro-Piles
	02300	63	LF	Micro-Piles Rock Socket – Pump Station Building and Valve Vault – Depth Greater than 10 Feet
	02300	64	LF	Micro-Piles Rock Socket – Surge Tank- Depth Greater than 5.5 Feet
	02300	65	LF	Micro-Piles Rock Socket –Utility Bridge Crossing – Depth Greater than 4 Feet
	02300	66	Each Test	Micro-Piles Additional Verification Testing As Ordered by Engineer
	C-1.5; C-2.1; Civil Details; EP-5.1; 02230; 02340; 02377; 02378; 02615	67	LF	24 Inch Ductile Iron Pressure Force Main
	C-1.5; C-2.1; Civil Details; 02230; 02340; 02377; 02378; 02615	68	LF	30 Inch Ductile Iron Pressure Force Main
	C-1.5; C-2.1; Civil Details; 02230; 02340; 02377; 02378; 02615; 02651	69	LF	30 inch Ductile Iron Pressure Force Main – Sub-Aqueous Crossing
	03400; 13420 (2.1.A-H); 11060; 11070	70	LS	Flow Meter Vault
	02615	71	LS	Hydrostatic Testing Force Main
		72	Allow.	Water for Force Main Testing
	C-1.5; C-2.2; Civil Details; 02230; 02340; 02377; 02378; 02531; 02622; 03400	73	LF	East Main Street Interceptor Sewer
	C-1.5; C-2.3; Civil Details; 02230; 02340; 02377; 02378; 02531; 02622; 03400	74	LF	Maple Street Sewer
	C-2.4; Civil Details; 02230; 02340; 02377; 02378; 02531; 02615; 03400	75	LF	30 Inch River Rd Sewer
	C-2.4; Civil Details; 02230; 02340; 02377; 02378; 02531; 02615; 03400	76	LF	36 Inch River Rd Sewer
	C-2.4; Civil Details; 02230; 02340; 02377; 02378; 02531; 02615; 03400	77	LF	42 Inch River Rd Sewer

BID ADDENDUM 1  
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Ref. No.	Item No.	Unit	Description
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	C-2.4; Civil Details; 673; 02230; 02377; 02378; 02433; 02531; 02615; 03400; EXH C AND EXH D	78	LF	Pipe Crossing Under Railroad
	C-2.4; 02377; 02378; 02615; Div. 3; S-9.1; S-9.2	79	LS	Utility Bridge and Support Piers
	C-2.4; 02377; 02378; 02615; EXH.C	80	LF	Pipe Crossing Under Highway
	C-2.4; DEEP Permit	81	LF	Abandonment of Existing 36 inch Gravity Interceptor Sewer and Timber Utility Bridge
	Division 2 and 3	82	LS	Pump Station Foundation
	Division 2	83	LS	Miscellaneous Site Work Not Included in Other Bid Items
	Division 3	84	LS	Structural Concrete
	612	85	LS	Miscellaneous Concrete
	Division 4	86	LS	Masonry
	Division 5	87	LS	Metals
	Division 6	88	LS	Carpentry
	Division 7	89	LS	Thermal and Moisture Protection
	Division 8	90	LS	Doors and Windows
	Division 9	91	LS	Finishes
	Division 10	92	LS	Specialties
	Division 11	93	LS	Process Equipment
	Division 12	94	LS	Furnishings
	Division 13	95	LS	Instrumentation and Control
	Division 13	96	LS	Hydropneumatic Surge Control System
	Division 14	97	LS	Conveying Systems
	Division 15	98	LS	Mechanical/HVAC
	Division 15	99	LS	Plumbing
	Division 15	100	LS	Fire Protection
	Division 16	101	LS	Electrical
	Information for Bidders - General	102	LS	Extended Warranty (Maintenance Bond)
	Conditions			
	Exhibit D	103	Allowance	Railroad Inspection
	Exhibit C	104	Allowance	CT DOT permit fees, bonds and insurances

SECTION 700  
MEASUREMENT AND PAYMENT

**GENERAL**

- (a) The following subsections describe the measurement of and payment of the work to be done under the items listed in Section 2- BID PROPOSAL.
- (b) Each unit price or lump sum price stated in the BID PROPOSAL shall constitute full compensation as herein specified for each item of work completed in accordance with the plans and specifications.
- (c) If changes are made in the design based on the plans and specifications as issued, and should such changes increase or decrease the amount of work to be done, the contract will be adjusted in accordance with the applicable unit price bid items.
- (d) Where work is shown on the drawings or required by the specifications and a bid item is not provided, the cost of that work shall be included in the unit prices bid for other items of work as agreed to by the Engineer and Owner. Extra Work shall be handled in accordance with General Conditions Section 8.3 Extra Work.
- (e) The Engineer has the right to adjust pipe depths shown on the contract documents within the designated pay limits without additional cost to the Owner.
- (f) The prices for those items which involve excavation shall include compensation for maintaining a dry and "dust-free" environment.

**Item 1: Information for Bidders, General Conditions, Special Conditions, General Specifications, Pollution Control and Environmental Protection; Division 1 (01010-01820)**

- A. This Item, paid for on a lump sum basis, will not be measured for payment.
- B. This Item of Work shall consist of all items not included elsewhere in Section 700 of the specifications; and Specification Sections 01010-01820.

**~~Item 2: General Requirements-DELETED~~**

- ~~A. This Item, paid for on a lump sum basis, will not be measured for payment.~~
- ~~B. This Item of Work shall consist of the Contractor's compliance with Division 1 of the Specifications.~~

SECTION 700  
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**Item 2: Utility Fees and Inspections and Consumption Charges**

- A. This Item is for payment to the Contractor for electric service, gas, and telecommunications utility fees and inspection in accordance with the provisions of Special Conditions Section 6.32 and Section 01020 "Allowances". Payment will be made based on actual invoice cost. No mark ups will be allowed.
- B. This Item is also for payment to the Contractor for electrical consumption by the Temporary Bypass Pumping Station. It shall also be paid for under the provisions of Section 01020 "Allowances" and payments made based on actual invoice cost. No mark-ups will be allowed
- C. The allowance amount may be increased or decreased depending upon the actual expenses incurred and approved by the Owner.

**Item 3: Furnish and Install Tubular Daylighting Device, Metal Lockers, Metal Storage Shelving, Flag Pole, Appliances and Plaques**

- A. This Item, paid for on a lump sum basis, will not be measured for payment.
- B. This Item of Work consists of furnishing and installing tubular daylighting device, metal lockers, metal storage shelving, flag pole, appliances and Plaques, as shown on architectural drawings, referenced elevations, sections and details and specification sections 086250; 105113; 105613; 107500; 113000 and 101416.
- C. Payment under this Item shall constitute full compensation for all labor, equipment, tools, supplies and materials incidental and necessary to complete the work, in place and accepted.
- D. These items are ineligible for reimbursement through the Clean Water Fund.

**Item 4: ~~Remove and Dispose Residual Contents (Gasoline, Heating Oil and Sludge) -~~  
Two (2) Underground Storage Tanks**

- A. This Item shall be measured for payment by the unit "Per Gallon".
- B. Payment under this item shall constitute full compensation for removing all residuals from the three existing underground storage tanks and for all labor, equipment, tools, supplies and materials incidental and necessary to complete the work, in place and accepted.
- C. This item is ineligible for reimbursement through the Clean Water Fund.

**Item 5: Special Tools, Spare Parts, Extra Materials and Shelf Spares (Divisions 11, 15, 16)**

- A. This Item, paid for on a lump sum basis, will not be measured for payment.

SECTION 700  
MEASUREMENT AND PAYMENT

- B. Payment under this item shall constitute full compensation for furnishing all special tools, spare parts, extra materials and shelf-spare items, and for all labor and materials incidental and necessary to complete this work, in place and accepted. The equipment items would not be normally furnished as standard issue by a manufacturer and would add cost to the project and are therefore determined ineligible for funding through the Clean Water Fund. However, these items will still be furnished under this contract.
- C. These items are specified in the following sections of the specifications:

<b>SPECIAL TOOLS, SPARE PARTS, EXTRA MATERIALS AND SHELF SPARES</b>	
Section 09960-High Performance Coatings	Paragraph 1.7
Section 11000 - Equipment	Paragraph 3.6 C.
Section 11070-Interior Valves and Appurtenances	Paragraph 2.05. A.
Section 11201A- Cast Iron Slide Gate	Paragraph 1.04 D.
Section 11201B- Aluminum Slide Gate	Paragraph 1.04 D.
Section 11322-Grit Removal System	Paragraph 1.08 B.4; 1.08 B. 15; 1.08 D. 2. and 2.08
Section 11330-Mechanical Bar Screen	Paragraph 2.12
Section 11331-Screenings Wash Press	Paragraph 1.04 C
Section 11540A-Dry Weather Submersible Sewage Pumps	Paragraph 1.05 E
Section 11540B- Wet Weather Submersible Sewage Pumps	Paragraph 1.5 E
Section 11680 – Computers and Miscellaneous Equipment	Paragraph 1.2
Section 11740-Chemical Feed System	Paragraph 1.6 and 2.1. C. j.
Section 11780-Cross Linked HDPE Tanks	Paragraph 1.5 D.
Section 13228-Odor Control Systems	Paragraph 1.5. P.
Section 13460-Programmable Logic Controllers and Related Control Panels	Paragraph 1.7
Section 13965-Hydropneumatic Surge Control System	Paragraph 1.06. G. 5.
Section 15075-Mechanical Identification	Paragraph 1.5.A.
Section 15140-Domestic Water Piping	Paragraph 1.8 and 2.2. G. 4.

SECTION 700  
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<b>SPECIAL TOOLS, SPARE PARTS, EXTRA MATERIALS AND SHELF SPARES</b>	
Section 15181-Hydronic Piping	Paragraphs 1.10 and 2.6
Section 15195 – Natural Gas Piping	Paragraph 1.6
Section 15300-Fire Protection Piping	Paragraph 1.8
Section 15410- Plumbing Fixtures	Paragraph 1.6
Section 15440-Plumbing Pumps	Paragraph 1.8
Section 15835-Centrifugal Fans	Paragraph 2.4
Section 15850 – Air Outlets and Inlets	Paragraph 2.5
Section 16230-Packaged Engine Generator Systems (Diesel Fuel)	Paragraphs 1.8 and 1.9
Section 16265 – AC Adjustable Frequency Drives	Paragraph 1.5
Section 16421-Enclosed Motor Starters	Paragraph 1.5
Section 16490-Components and Accessories	Paragraph 1.5
Section 16500-Luminaires	Paragraph 1.4
Section 16520-Exterior Luminaires	Paragraph 1.7

**Item 6: Timber Sheeting Left in Place**

- A. Work under this item shall be measured for payment by the unit “square foot”.
- B. Furnishing and installing permanent timber sheeting shall be paid for at the contract unit price per square foot "Timber Sheeting Left in Place", which price and payment shall include the furnishing of all materials including timber, tools, labor, equipment and all other items incidental to complete the work, in place and accepted.
- C. No timber sheeting will be paid for which the Engineer has not ordered to be left in place.
- D. No payment will be made for temporary timber sheeting and bracing under this Item.
- E. Where the Engineer directs the Contractor to leave timber sheeting in place, either wholly or partially, payment will be made only for the portion so ordered to be left in place. The surface area of permanent timber sheeting so ordered to be left in place and to be measured for payment, will be the product of the horizontal length of timber sheeting along each side of the excavation times the applicable height of timber sheeting below the specified cutoff level within the limits as ordered.

SECTION 700  
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<b>SPECIAL TOOLS, SPARE PARTS, EXTRA MATERIALS AND SHELF SPARES</b>	
Section 15181-Hydrionic Piping	Paragraphs 1.10 and 2.6
Section 15195 – Natural Gas Piping	Paragraph 1.6
Section 15300-Fire Protection Piping	Paragraph 1.8
Section 15410- Plumbing Fixtures	Paragraph 1.6
Section 15440-Plumbing Pumps	Paragraph 1.8
Section 15835-Centrifugal Fans	Paragraph 2.4
Section 15850 – Air Outlets and Inlets	Paragraph 2.5
Section 16230-Packaged Engine Generator Systems (Diesel Fuel)	Paragraphs 1.8 and 1.9
Section 16265 – AC Adjustable Frequency Drives	Paragraph 1.5
Section 16421-Enclosed Motor Starters	Paragraph 1.5
Section 16490-Components and Accessories	Paragraph 1.5
Section 16500-Luminaires	Paragraph 1.4
Section 16520-Exterior Luminaires	Paragraph 1.7

**Item 6: Timber Sheeting Left in Place**

- A. Work under this item shall be measured for payment by the unit “square foot”.
- B. Furnishing and installing permanent timber sheeting shall be paid for at the contract unit price per square foot "Timber Sheeting Left in Place", which price and payment shall include the furnishing of all materials including timber, tools, labor, equipment and all other items incidental to complete the work, in place and accepted.
- C. No timber sheeting will be paid for which the Engineer has not ordered to be left in place.
- D. No payment will be made for temporary timber sheeting and bracing under this Item.
- E. Where the Engineer directs the Contractor to leave timber sheeting in place, either wholly or partially, payment will be made only for the portion so ordered to be left in place. The surface area of permanent timber sheeting so ordered to be left in place and to be measured for payment, will be the product of the horizontal length of timber sheeting along each side of the excavation times the applicable height of timber sheeting below the specified cutoff level within the limits as ordered.

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- F. No allowance will be made for quantity of timber wasted in cutting of sheeting below surface of ground, nor for timber wasted in cutting and fitting sheeting.
- G. No separate payment will be made for bracing.

**Item 7: Steel Sheeting Left in Place**

- A. Work under this item shall be measured for payment by the unit "square foot".
- B. ~~Furnishing and installing permanent steel sheeting shall be paid for at the contract unit price per square foot "Steel Sheeting Left in Place", as listed in the bid, which price and payment shall include the furnishing of all materials including steel sheeting, tools, labor, equipment and other items incidental to complete the work, in place and accepted.~~
- C. No steel sheeting will be paid for which the Engineer has not ordered to be left in place.
- D. No separate payment will be made for temporary steel sheeting and bracing under this item.
- E. Where the Engineer directs the Contractor to leave steel sheeting in place, either wholly or partially, payment will be made only for the portion so ordered left in place. The surface area of permanent steel sheeting so ordered to be left in place and to be measured for payment, will be the product of the horizontal length of steel sheeting along each side of the excavation times the applicable height of steel sheeting below the specified cutoff level within the limits as ordered.
- F. No allowance will be made for quantity of steel wasted in cutting of sheeting below surface of ground, nor for steel wasted in cutting and fitting sheeting.
- G. No separate payment will be made for bracing.

**Item 8: Sedimentation Control System**

- A. This Item, paid for on a lump sum basis, shall consist of all sedimentation control systems including hay bales, silt fence, posts, stakes, geotextile, catch basin sediment filters, erosion control matting, sediment control check dams, periodic and final removal of accumulated silt, disposal of surplus and unsuitable material.
- B. Payment under this Item shall constitute full compensation for all materials, equipment, tools, labor and work incidental to or necessary for completion of the Item, in place and accepted.
- C. Payment under this Item shall also include daily inspection and maintenance and/or repair of the sedimentation control system during the life of the Contract or until it is no longer

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required and is removed as approved by the Engineer.

- D. Work under this item shall strictly follow all regulatory approvals.
- E. At the end of the Contract or when the sedimentation control system is no longer needed, as approved by the Engineer, the sedimentation control system shall be completely removed and disposed of by the Contractor. There will be no separate measurement or payment for removing and disposing of the sedimentation control system.
- F. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 9: Test Pits**

- A. Work under this Item shall be measured for payment by the unit "Cubic Yard" and shall consist of excavation, backfill and compaction (gravel in paved areas and areas to be paved; or suitable excavated material in unpaved areas), pavement replacement, including saw cutting and sealing, turf restoration, curb replacement, driveway and sidewalk replacement, and appurtenant work, and all other work incidental and necessary.
- B. Payment under this Item shall constitute full compensation for all materials, equipment, tools, labor and work incidental to or necessary for completion of the Item, in place and accepted.

**Item 10: Wetland Plantings for Shrubs, Seedlings, Vines and Ground Cover Plants**

- A. This Item, paid for on a lump sum basis, shall consist of wetland plantings as approved by the City of Middletown Inland Wetland and Watercourses Agency (IWWA), at the Sumner's Creek force main crossing and at the Utility Bridge Crossing, as instructed in Exhibit "E", Plates A and B, and all other regulatory conditions of permit authorization.
- B. Payment under this item shall include full compensation for all plants, shrubs, seedlings, vines and ground cover, materials, equipment, tools, labor and work incidental to or necessary for completion, in place and accepted by the City of Middletown IWWA, as per permit conditions of approval in Exhibit "E" to these specifications. No plantings are required under the Army Corps Category 2 Programmatic General Permit in Exhibit "F1" of these specifications.
- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

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**Item 11: Turf Establishment**

- A. Work under this Item shall be measured for payment by the unit “Square Yard” and shall consist of all work incidental and necessary to complete the work.
- B. This item shall be used for restoration or completion of turf areas along new sewer line installation and at the site of the proposed Pump Station, as shown on the Drawings and as required.
- C. Payment under this item shall include furnishing and placement of fertilizer, grass seed and mulch as per City Specification Section 614.
- D. This work shall be measured and paid as described in Sections 9.50.04 and 9.50.04 of Standard Form 816.
- E. The Contractor shall be responsible for the restoration of all damaged areas. Payment will be made for only that restored area within 20’ of the centerline of the new sewer installation.
- F. Turf restoration for test pits shall be paid under bid item “Test Pits”.

**Item 12: Clearing and Grubbing**

- A. This Item, paid for on a lump sum basis, shall consist of all cutting, felling, handling, hauling, removal and disposal, and other work incidental and necessary to complete the clearing and grubbing operation and related work, in accordance with the provisions of the drawings and specifications and as directed.
- B. Payment for this Item shall constitute full compensation for all labor, equipment, tools, supplies, and materials to complete the work, in place and accepted.
- C. The Contractor has Army Corps of Engineer permission to cut trees as needed during installation of the Utility Bridge in accordance with permit conditions. The Owner has secured an access easement from RLO Properties to this work area.
- D. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.
- E. Payment for furnishing and installing the Utility Bridge shall be paid under lump sum bid item “Utility Bridge and Support Piers”.

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**Item 13: Bank Run Gravel**

- A. This item shall be measured in place within the payment lines shown or as specified by the Engineer.
- B. This work will be paid for at the contract unit price per cubic yard for "Bank-Run Gravel" complete, in place, which price shall include all materials, tools, equipment and labor incidental thereto, complete, in place and accepted.
- C. This item is specifically for payment of bank-run gravel used as backfill in sewer trenches in paved roads, as specified in Section 102 of these specifications. Bank-Run Gravel specifically included in the payment of another bid item will not be measured or paid under this item.

**Item 14: Maintenance and Protection of Traffic**

- A. This Item, paid for on a lump sum basis, shall consist of all services involved in furnishing, erecting, maintaining, moving, adjusting, relocating and storing signs, barricades, traffic cones and traffic delineators as well as all cost of labor and equipment involved in the maintenance of traffic lanes and detours ordered or included in the approved scheme for maintenance of traffic.
- B. This Item will be paid for at the contract lump sum price for "Maintenance and Protection of Traffic." This price shall include all costs for labor, equipment, materials, supplies and labor incidental thereto, complete, in place and accepted.
- C. This Item shall also include temporarily relocating existing signs and sign supports as many times as deemed necessary and furnishing, installing, and removing temporary sign supports and foundations if necessary during construction of the project.
- D. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 15: Selective Demolition; Exclusive of Work Related to ACM, PCB Containing Materials < 50 PPM and Universal Waste Reclamation**

- A. This Item, paid for on a lump sum basis, shall consist of the work outlined below and will not be measured for payment.
- B. Work under this item shall conform to Section 02060 and shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary to complete this work, in place and accepted.

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- C. The work described under this bid item shall include:
1. Protect and maintain existing “CRITICAL” sanitary sewer pipes, manholes and sanitary structures during construction.
  2. Protect the existing pump station and sanitary chamber during the full duration of construction of this bid item.
  3. Selective demolition of existing building mechanical, electrical and plumbing (MEP) contents, not containing ACM or non-hazardous PCB<50 PPM.
  4. Selective demolition of above grade superstructures at 34 East Main Street, including Sewage Pump Building, Incinerator Building, and Fire Training Tower.
  5. Remove and dispose existing asphalt paving and underlying concrete within the construction Limits of Disturbance.
  6. Remove and stockpile site entrance concrete sidewalk and curbing for reuse.
  7. Remove and dispose trees, fencing, and miscellaneous debris within the construction Limits of Disturbance. Signs, sign posts, sign post foundations, utility poles, wires, hydrants and traffic control devices shall be removed and disposed unless otherwise noted on the drawings.
  8. Existing fences and their foundations shall be cleared and removed from the project site and disposed.
  9. Remove and dispose, or abandon in place, existing on-site utilities, including: catch basins, sanitary manholes, water, electrical and sewer piping, including the East Main Street Interceptor Sewer and the Maple Street Sewer, within the construction Limits of Disturbance, unless otherwise shown on the contract drawings.
  10. Remove, haul and dispose of all non-ACM containing and non-hazardous PCB < 50 PPM site and building related solid waste debris off - site. No reuse of site or building materials will be allowed on site without prior permission.
  11. Crushed building foundation and other structural materials shall not be considered suitable for reuse as granular fill, sub-base or pervious structural backfill. No crushing of building materials will be permitted on-site.
  12. Off-site crushing of concrete, brick and asphaltic materials generated from the demolition of building substructures and superstructures and paved areas shall conform to Section M.02 of the “State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction

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Supplemented Form 816", dated July 2008.

- 13. PCB and lead abatement, asbestos abatement and universal waste reclamation and related substrate demolition and disposal shall be paid for under other applicable unit price items.
- D. Shoring, sheeting and bracing to protect the existing pump station and sanitary chamber shall be paid under bid items "Timber Sheeting" or "Steel Sheeting".
- E. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 16: Maintain Sewer Flows (Bypassing) - Maple Street Gravity Sewer and East Main Street Interceptor Sewer**

- A. This Item, paid for on a lump sum basis, shall consist of maintaining combined sewer flows and furnishing and maintaining temporary sewage bypass pumping for Maple Street sewer flows and maintaining flows through the existing 10 inch gravity sewer on Maple Street during construction of the new replacement 12 inch gravity sewer on Maple Street and maintaining all temporary plugs, pipes and appurtenances prior to permanently plugging and abandoning these sewers. These flows shall be maintained at all times during construction.
- B. This Item, paid for on a lump sum basis, shall consist of maintaining combined sewer flows and furnishing and maintaining a temporary sewage bypass for the existing 36 inch gravity Interceptor sewer on East Main Street during construction of the new 36 inch gravity sewer and maintaining all temporary plugs, pipes and appurtenances prior to permanently plugging and abandoning these sewers. These flows shall be maintained at all times during construction.
- C. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary to complete this work, in place and accepted.
- D. Payment for furnishing and installing new interceptor or replacement sewers shall be paid under bid items "East Main Street Interceptor Sewer" and "Maple Street Sewer".
- E. Payment for abandonment of existing interceptor and replacement sewers shall be under bid item "Selective Demolition; Exclusive of Work Related to ACM, PCB Containing Materials < 50 PPM and Universal Waste Reclamation".
- F. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the

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Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 17: Maintain Sewer Flows (Bypassing) - 42 inch River Road Interceptor Sewer**

- A. This Item, paid for on a lump sum basis, shall consist of maintaining combined sewer flows through the City's existing 42 inch interceptor sewer on River Road, and furnishing and maintaining temporary sewage bypass pumping while constructing the new 30-inch and 36-inch River Road sewers and interceptor tie-ins and maintaining all temporary plugs, pipes and appurtenances prior to permanently plugging and abandoning these sewers. These flows shall be maintained at all times during construction.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary to complete the work, in place, and accepted.
- C. Payment for furnishing and installing new sewers shall be paid under bid items "30-inch River Road Sewer"; "36-inch River Rd Sewer"; "42-inch River Road Sewer"; "Pipe Crossing under Railroad" and "Pipe Crossing under Highway".
- D. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 18: Remove and Dispose Piles inside the Footprint of the Proposed Improvements and which Interfere with the Proposed New Work**

- A. Work under this item shall be measured for payment by the unit "Per each" pile removed and disposed, complete, in place and accepted.
- B. Payment under this item shall include the furnishing of all materials including tools, labor, equipment, supplies, materials, and all other items incidental to removal and disposal of former treatment tank piles, pile caps, foundation and walls, complete, in place and accepted.
- C. Former treatment tanks will be excavated and exposed and piles, caps, foundation and wall locations surveyed and as-built by the Contractor prior to removal and disposal.
- D. All site areas shall be backfilled with compacted granular material, or with on-site excavated re-usable materials, as approved by the Engineer.
- E. Excavation, disposal and reuse of controlled materials shall be measured and paid for under bid items "Controlled Materials Excavation"; "Disposal of Controlled Materials"; and "Management of Reusable Controlled Material".

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- F. Reuse of non-controlled materials shall be measured and paid for under bid item “Management of Reusable Non Controlled Material”.
- G. Dewatering shall be paid for under bid item “Handling Contaminated Groundwater Discharges to Sanitary Sewer”.

**Item 19: Cut and Cap Piles inside the Footprint of the Proposed Improvements but which do not Interfere with the Proposed New Work**

- A. Work under this item shall be measured for payment by the unit “Per each” pile cut and capped to a minimum depth of three feet below final grade.
- B. Payment under this item shall include the furnishing of all materials including tools, labor, equipment, supplies, materials, and all other items incidental to remove and dispose piles, punch holes in existing building foundations to remain, complete, in place and accepted.
- C. Where building substructures are located within the project Limits of Disturbance, but do not interfere with the construction of the proposed pump station, or the final site grading, remove and cut piles and pile caps to a minimum depth of three (3) feet below final grading if necessary.

D. No payment will be made for any piles left in place which do not interfere with the proposed improvements.

- E. All site areas shall be backfilled with compacted granular material, or with on-site excavated materials as approved by the Engineer as suitable for reuse.
- F. Excavation, disposal and reuse of controlled materials shall be measured and paid for under bid items “Controlled Materials Excavation”; “Disposal of Controlled Materials”; and “Management of Reusable Controlled Material”.
- G. Reuse of non-controlled materials shall be measured and paid for under bid item “Management of Reusable Non Controlled Material”.
- H. Dewatering shall be paid for under bid item “Handling Contaminated Groundwater Discharges to Sanitary Sewer”.
- I. Demolition of above grade structures shall be paid under bid item “Selective Demolition; Exclusive of Work Related to ACM, PCB Containing Materials < 50 PPM and Universal Waste Reclamation”

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**Item 20:      Furnish and Install Micro-Piles**

- A.      Work under this item shall be measured for payment by the unit “Per Linear foot” of drilled shaft installed from the steel plate to the contract specified bottom of the rock socket.
- B.      Payment under this item shall include Micro-Piles at Pump Station Building and Valve Vault, Micro-piles at Surge Tank, Micro-Piles at Pipe Utility Bridge, Micro-Piles at East Main Street Interceptor, and Micro-Piles at River Road Interceptor - Open Cut Section between Manholes 104 and 105, complete, in place and accepted.
- C.      Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary to complete the work, including specified verification testing, complete, in place, and accepted.
- D.      Additional verification testing requested by the Engineer shall be paid for under bid item “Micro-Piles - Additional Verification Testing as Ordered by Engineer”.
- E.      Greater depths than called for on the structural drawings for socketing the micro-piles should these fail the verification testing shall be paid for under other applicable unit price bid items.

**Item 21:      Pump Station Boiler Insulation**

- A.      This Item, paid for on a lump sum basis, shall consist of disposal of asbestos containing boiler insulation on exterior surfaces of boiler.
- B.      Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary including proper containment, decontamination unit, and proper disposal of decontamination unit waste water, complete, in place and accepted.
- C.      No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

**Item 22:      Pump Building Wall Wood Panel and Associated Glue**

- A.      This Item, paid for on a lump sum basis, shall consist of wood wall panels and residual glue on wall substrate to be removed and disposed of as asbestos containing material (ACM).
- B.      Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary including proper containment, decontamination unit, and proper disposal of decontamination unit waste water, complete,

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in place and accepted.

- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 23: Pump Building Windows**

- A. This Item, paid for on a lump sum basis, shall consist of proper removal and disposal of window systems containing asbestos and PCB (< 50 ppm) containing materials.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary including proper containment, decontamination unit, and proper disposal of decontamination unit waste water, complete, in place and accepted.
- C. Payment under this item shall include proper removal and disposal of all caulking and glazing containing asbestos, and gray paint on windows containing PCB < 50 ppm.
- D. It is anticipated that the Abatement Contractor will remove the windows as exterior abatement with critical barriers in place. Window to be removed as intact unit with polyethylene sheeting covering ground surface. Windows to be wrapped in poly sheeting and placed in appropriate dumpster for off-site disposal as mixed asbestos and PCB (<50 ppm) waste.
- E. Abatement Contractor to remove and dispose of any residual caulking or window paint along masonry window opening.
- F. Cost for remote decontamination unit shall be included under other Bid Items.
- G. Containment is not needed for this work as it is considered exterior abatement.
- H. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 24: Incinerator Building Windows**

- A. Work under this Item shall be measured for payment by the unit price "Per Window Removed and Disposed as Mixed Asbestos and PCB Containing Material" based on the size of the masonry opening.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary including proper containment,

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decontamination unit, and proper disposal of decontamination unit waste water, to properly remove and dispose of window systems containing asbestos and PCB (< 50 ppm) materials, complete, in place and accepted.

- C. Exterior window glazing contains asbestos and gray paint on windows contains PCB < 50 ppm. Currently there are 4 exposed windows associated with the Incinerator Building. However, there are 4 window openings that are covered with CMU (interior and exterior) and may contain additional window systems.
- D. It is anticipated that the Contractor will remove the existing 4 windows as exterior abatement with critical barriers in place. Window to be removed as intact unit with polyethylene sheeting covering ground surface. Windows to be wrapped in poly sheeting and placed in appropriate dumpster for off-site disposal. Abatement Contractor to remove and dispose of any residual caulking or window paint along masonry window opening. The contractor will be responsible for conducting exploratory demolition of CMU to expose former window openings and confirm no caulking, glazing or window unit exists. If windows exist, coordinate with General Contractor to expose windows and remove in accordance with procedures stated above.
- E. Cost for remote decontamination unit to be included under other bid items.
- F. Containment is not needed for this work as it is considered exterior abatement.

**Item 25: Pump Building and Incinerator Building Roofing**

- A. This Item, paid for on a lump sum basis, shall consist of complete removal and disposal of all roofing materials (including all layers, flashing, joint caulking and sealants) from both the Pump Building and Incinerator Building as asbestos containing materials.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary including proper containment, decontamination unit, and proper disposal of decontamination unit waste water, complete, in place and accepted.
- C. This work is to be coordinated with General Contractor and demolition activities under a “demo segregate” scenario.
- D. Payment under this item shall include one remote decontamination unit. This remote decontamination unit should remain intact for the duration of the abatement.
- E. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

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**Item 26: Pipe Insulation**

- A. Work under this Item shall be measured for payment by the unit price “Per Linear Foot”, as measured along the length of the insulated pipe, and including mudded fitting and elbows, if exist, behind walls and ceiling and determined to be ACM.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C. Pipe insulation was not observed in either the Pump Building or Incinerator Building during inspections. However, there may be pipe insulation behind walls or above ceilings. If pipe insulation exists the Engineer will collect representative samples to determine asbestos content. If this material contains asbestos, the Abatement Contractor will remove and dispose.
- D. Coordinate with General Contractor to conduct selective demolition to expose pipe chases.
- E. The price for containments should not be included as they are listed under other Bid Items.

**Item 27: Glove Bag**

- A. Work under this Item shall be measured for payment by the unit price “Per Glove Bag” for Pipe insulation/mudded fittings (<3 LF/SF) \*if exists behind walls and ceilings and determined to be ACM. Remove and dispose as ACM.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C. ACM may exist in small quantities (< 3 LF / 3 SF) behind wall and ceilings. If encountered the Engineer will collect representative samples to determine asbestos content. If this material contains asbestos, the Abatement Contractor will remove using Glove Bag Procedures.

**Item 28: Preparation of a Small Containment Area**

- A. Work under this Item shall be measured for payment by the unit price “Per Containment Area” for Abatement of Asbestos (>3 LF/SF, but <10 SF/25 LF) with Decontamination Unit.
- B. Payment for this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary including proper containment, decontamination unit, and proper disposal of decontamination unit waste water, complete, in place and accepted.

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- C. This Item shall include work specified in 02080 and shown on the HBM drawings.

**Item 29: Preparation of a Medium Containment Area**

- A. Work under this Item shall be measured for payment by the unit price “Per Containment Area” for Abatement of Asbestos (>10 SF/25 LF, but <500 LF/1500 SF) with Decontamination Unit.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary including proper containment, decontamination unit, and proper disposal of decontamination unit waste water, complete, in place and accepted.

**Item 30: Fire Doors**

- A. Work under this Item shall be measured for payment by the unit price “Per Door” Removed and Disposed as ACM.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C. Doors were observed to not contain fire rating labels, but may contain asbestos cores.
- D. Engineer to coordinate with General Contractor prior to demolition activities to remove doors and observe for core material. If core material exists, Abatement Contractor shall dispose of door as ACM. If no sampling is conducted of this material it will treated as ACM.

**Item 31: Gaskets Associated with Piping**

- A. Work under this Item shall be measured for payment by the unit price “Per Gasket” Associated with Piping \*If Exists and Determined to be ACM. Remove and dispose as ACM.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C. Gaskets may exist between piping joints associated with the Pump Building and underground piping associated with former buried wastewater treatment tanks. If gaskets are encountered they are to be removed intact and disposed of as ACM. This work will need to be coordinated with the General Contractor during demolition and excavation activities.

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**Item 32:      Transite Piping Underground**

- A.      Work under this Item shall be measured for payment by the unit price “Per Linear Foot” of Transite Pipe Removed and Disposed as ACM.
- B.      Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C.      Transite pipe may exist underground in association with former wastewater treatment operations (none observed during test pitting activities). If this material is encountered, notify Engineer prior to disturbance. Transite piping is to be removed intact to the extent possible and disposed of as ACM.

**Item 33:      Tar/Waterproofing**

- A.      Work under this Item shall be measured for payment by the unit price “Per Square Foot” of Tar/Waterproofing \*If exists and determined to contain ACM and/or PCB. Remove and dispose of tar and concrete substrate as Mixed Asbestos and PCB<50 PPM.
- B.      Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C.      Tar/or waterproofing materials were not identified on building foundations during test pitting activities. A thin black material (similar to paint) was observed during test pitting activities on underground concrete structures (digester and clarifier tanks) and on a metal valve. This material was sampled and found not to contain asbestos or PCBs. However, not all underground structures could be observed by test pitting activities and therefore, additional tar or waterproofing materials containing ACM or PCB < 50 PPM may exist.
- D.      If additional materials are encountered in areas not previously sampled, notify the Engineer. This material will be sampled by the Engineer to determine asbestos or PCB content. If material is determined to contain asbestos or PCBs the Abatement Contractor shall properly remove and dispose of the source material and concrete substrate.

**Item 34:      Pump Building Basement and First Floor Walls and Incinerator Building Basement Ceiling**

- A.      This Item, paid for on a lump sum basis, shall consist of complete removal and disposal of concrete materials coated in PCB (<50 PPM) containing white paint on pump building basement concrete walls and first floor CMU walls; and on Incinerator Building basement concrete ceiling containing white paint. Remove and dispose as PCB containing material < 50 PPM.
- B.      Payment under this item shall include full compensation for all labor, equipment, tools,

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supplies and materials incidental and necessary, complete, in place and accepted.

- C. These source paint and concrete substrate materials are to be disposed of as PCB < 50 ppm waste.
- D. This work is to be coordinated with General Contractor and demolition activities under a “demo segregate” scenario.
- E. While this work will be measured on a lump sum basis and therefore not measured for payment, the quantities provided on the bid form were based on the assumption that the incinerator building basement ceiling and only a small portion of the pump building basement walls will be demolished where the basement walls interfere with proposed construction. It is assumed that a majority of the pump station basement walls will be left in place.
- F. Coordinate with the General Contractor to determine actual quantities and location of work under this bid item.
- G. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

**Item 35: Pump Building Basement Concrete Walls to Remain in Place**

- A. This Item, paid for on a lump sum basis, for complete removal and disposal of PCB containing white paint, shall consist of removal and disposal of source paint material and surface of concrete substrate via scarification and grinding and disposal as PCB Containing Material <50 PPM.
- B. Payment under this item shall include all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C. This work is to be coordinated with General Contractor and is expected to be conducted under full containment with HEPA filtration.
- D. While this work will be measured on a lump sum basis and therefore not measured for payment, the quantities provided on the bid form were based on the assumption that the incinerator building basement ceiling and only a small portion of the pump building basement walls will be demolished where the basement walls interfere with proposed construction. It is assumed that a majority of the pump station basement walls will remain in place.
- E. Coordinate with the general contractor to determine actual quantities and location of work under this bid item.

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- F. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 36: Pump Building Metal Stair Components and Metal Stairwell Doors**

- A. This Item, paid for on a lump sum basis, shall consist of metal stair components and metal door systems coated in PCB<50 PPM gray /black paint, to be removed and disposed of as PCB Containing Material <50 PPM.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C. Estimated quantities are based on the door opening size and stair width multiplied by the diagonal length of the stairs.
- D. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 37: Concrete Floor in Pump Building**

- A. This Item, paid for on a lump sum basis, shall consist of concrete first floor coated in PCB containing PCB < 50 PPM red paint. Remove and dispose as PCB Containing Material < 50 PPM.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C. This work is to be coordinated with General Contractor and demolition activities under a "demo segregate" scenario.
- D. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 38: Plaster Ceiling in Pump Building**

- A. This Item, paid for on a lump sum basis, shall consist of plaster ceiling in Pump Building First and Second floor with Gray/Green paint. Remove and dispose as PCB Containing Material <50 PPM.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.

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- C. This work is to be coordinated with General Contractor and should be removed prior to initiating building demolition activities.
- D. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 39: Steel I-Beams**

- A. This Item, paid for on a lump sum basis, shall consist of steel I-Beams in Pump Building as well as steel I-Beams and metal stair components in Incinerator Building coated in Red/Orange/Brown paint containing PCB < 50 PPM.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C. Estimated quantities are based on the door opening size and stair width multiplied by the diagonal length of the stairs.
- D. This work is to be coordinated with General Contractor and demolition activities under a "demo segregate" scenario.
- E. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 40: Buried Structures**

- A. Work under this Item shall be measured for payment by the unit price "Per Square Foot" based on the overall gross dimensions of the item observed in place.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C. Red and Green layers of paint were observed on a metal valve, metal hatch, and some concrete during test pitting activities. This paint was found to contain PCBs < 50 ppm. Test pit observations were limited and this paint may exist on other buried structures.
- D. All structures with this paint encountered during excavation activities are to be removed and disposed as PCB < 50 ppm waste.
- E. This work is to be coordinated with General Contractor and excavation activities under a "manage what you encounter" scenario.

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- F. No exploratory excavations will be conducted to unearth additional materials beyond project area.

**Item 41: Universal Wastes**

- A. This Item, paid for on a lump sum basis, shall consist of proper removal and recycling of universal wastes, in Pump Building, Incinerator Building and Fire Training Tower, including lighting ballasts and fluorescent lighting tubes. Removal and Proper Recycling.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C. Removal of these items is to be conducted prior to initiating building demolition activities.
- D. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 42: Disposal of Concrete Containing PCB<50 PPM**

- A. Work under this Item shall be measured for payment by the unit price "Per Ton" for disposal of concrete as PCB < 50 ppm as measured at the disposal facility (if wastes are segregated from other wastes) or based on estimated weights if acceptable to the Engineer.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C. This Item shall include work specified in section 02085 that is not shown on the drawings or included in any other bid item, but may be required.

**Item 43: Earth Excavation and Screened Gravel BELOW Normal Grade**

- A. Work under this Item will be measured for payment by the "Cubic Yard" equal to the number of cubic yards of unsuitable material excavated, measured to the extent of work done as ordered.
- B. Payment under this item price shall constitute full compensation for furnishing all labor, materials, tools, and equipment necessary and for excavation and disposal of excavated material below normal grade (as directed by the Engineer), and for furnishing, placing and compacting screened gravel in such excavations, complete, in place and accepted.
- C. When, in the opinion of the Engineer, the material at or below normal grade is unsuitable for foundation, it shall be removed to such depths and widths within the lines of payment as may be ordered. Normal grade is defined as the bottom of the normal trench along the

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proposed pipe grade and the bottom of the normal excavation for the base of structures shown on the contract drawings.

- D. All such excavations shall be backfilled with screened gravel.

**Item 44: Rock Excavation, Disposal and Backfill**

- A. Work under this Item will be measured for payment by the “Cubic Yard” as the number of cubic yards of rock, measured in place before excavation, within the limits of normal excavation as defined in the plans, unless rock excavation beyond such limits has been authorized in writing by the Engineer, in which case measurement shall be made to the authorized limits.
- B. Payment under this item shall constitute full compensation for furnishing all labor, materials, tools, and equipment necessary, complete, in place and accepted.
- C. This Item is intended to cover rock excavation anywhere within the normal limits of excavation called for on the contract drawings and in the specifications and rock excavation below normal grade. Normal grade is defined as the bottom of the normal trench along the proposed pipe grade, including mainline pipe and the bottom of the normal excavation for the base of structures shown on the contract drawings.
- C. Where rock is encountered, it shall be uncovered but not excavated until measurements have been made by the Engineer, unless in the opinion of the Engineer, satisfactory measurements can be made in some other manner.
- D. Excavated rock of acceptable dimension and quality may be used as rip rap in locations where rip rap is indicated on the drawings. Excavated rock not so used and not disposed of in an approved manner shall not be included for payment.
- F. The bidder should include in his bid, under all items involving excavation, the cost of doing the entire excavation as earth; the price for this Item is intended to cover the difference between the cost of rock excavation and the cost of earth excavation. The unit price shall include all labor, materials and equipment necessary for rock excavation; disposal as directed by the Engineer; furnishing, placing and compacting all additional material needed for backfill; and the pre-blast survey.

**Item 45: Removal of Obstructions (Bore and Jack)**

- A. Work under this Item will be measured for payment by the “Cubic Yard” as each boulder of 1 cubic foot and larger in volume and/or rock which requires drilling, chipping, wedging and/or splitting with power tools for removal. The quantity of rock removal shall be equal to the pipe casing outside diameter plus six (6) inches.

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- B. Payment under this item shall constitute full compensation for furnishing all labor, materials, tools, and equipment necessary, and for removal of boulders and rock, complete, in place and accepted.
- C. All work associated with the requirements of this Item, as well as required and related to the boring and jacking installation of the proposed 36 inch ductile iron gravity sewer under the railroad and under the highway will be measured and paid for under this bid Item.
- D. Furnishing and installing new ductile iron carrier pipe and steel casing under the highway and railroad shall be paid under Bid items "Pipe Crossing under Railroad" and "Pipe Crossing under Highway".

**Item 46: Supporting Interfering Obstructions**

- A. This Item will be measured for payment by the unit price "Per Linear Foot" of interfering obstructions within the trench pay limit that require support and shall be measured along the centerline of the obstruction. Un-supported utilities or obstructions, any supported utility services, pipes or conduits less than 4 inches in diameter or direct buried wires will not be measured for payment.
- B. The unit price for this Item shall include full compensation for all supporting materials required to properly support the obstruction, installation, maintaining the supports, and all labor, equipment and tools necessary to complete this Item, complete, in place and accepted.
- C. This item shall not include any excavation or backfilling costs which shall be paid under other applicable unit priced bid items for installing pipe.
- D. The Owner may elect to replace the obstruction instead of supporting it. Should the Owner elect replacement, the Contractor shall be compensated for replacement at the unit prices of the appropriate Items shown in the Contract. If no bid unit prices are available in the Contract, a cost for the replacement work shall be negotiated in accordance with the General Conditions of the Contract.

**Item 47: Supporting Parallel Obstructions**

- A. This Item will be measured for payment by the unit price "Per Linear Foot" of parallel obstructions within the trench pay limit that require support and shall be measured along the centerline of the obstruction. Un-supported utilities or obstructions, any supported utility services, pipes or conduits less than 4 inches in diameter or direct buried wires will not be measured for payment.
- B. The unit price for this Item shall include full compensation for all supporting materials required to properly support the obstruction, installation, maintaining the supports, and all

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labor, equipment and tools necessary to complete this Item, complete, in place and accepted.

- C. This item shall not include any excavation or backfilling costs which shall be paid under other applicable unit priced bid items for installing pipe.
- D. The Owner may elect to replace the obstruction instead of supporting it. Should the Owner elect replacement, the Contractor shall be compensated for replacement at the unit prices of the appropriate Items shown in the Contract. If no bid unit prices are available in the Contract, a cost for the replacement work shall be negotiated in accordance with the General Conditions of the Contract.

**Item 48: Trafficmen (City Police)**

- A. Work under this Item will be paid for under the contract stated Allowance for this Item, and in accordance with "Section 01020 - Allowances" of these Specifications. The allowance amount may be increased or decreased depending upon the actual expenses incurred and approved by the Owner.
- B. The method of measurement shall be by review of invoices submitted by the municipal Police Department to the Contractor documenting the actual number of man-hours spent by uniformed police officers or private-duty uniformed individuals directing and maintaining flow of traffic in construction areas. The use of Police Department Vehicles, if requested by the Contractor, will be measured for payment by the number of hours the vehicle is used.
- C. Payment shall be made to cover the actual payroll invoices received by the Contractor for the services of uniformed police officers required for the maintaining and control of traffic, which price shall include all equipment, City vehicles, labor, overtime pay, and insurance necessary to perform the work. No markup will be allowed.
- D. The minimum hours for payment for any one policeman, in any one day, shall be four (4) hours, unless otherwise specified. No uniformed officer shall work more than twelve (12) hours in any one day. Overtime wages are considered included in the unit price established for this Item.
- F. The unit price established for this work Item shall include all compensation, insurance, benefits and any other cost, or liability, incidental to the furnishing of Trafficmen (Municipal Police) and Police Department Vehicles, complete, in place and accepted.

**Item 49: Trafficmen (State Police)**

- A. Work under this Item will be paid for under the contract stated Allowance for this Item, and in accordance with "Section 01020 - Allowances" of these Specifications. The

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allowance amount may be increased or decreased depending upon the actual expenses incurred and approved by the Owner.

- B. The method of measurement shall be by review of invoices submitted by the State Police Department to the Contractor documenting the actual number of man-hours spent by State police officers directing and maintaining flow of traffic in construction areas. The use of State Police Department Vehicles and associated equipment will not be measured for payment but shall be considered as included in the man-hour invoices submitted.
- C. Payment shall be made to cover the actual payroll invoices received by the Contractor for the services of State police officers required for the maintaining and control of traffic, which price shall include all equipment, State vehicles, labor, overtime pay, and insurance necessary to perform the work. No markup will be allowed.
- D. The unit price established for this work Item shall include all compensation, insurance, benefits and any other cost, or liability, incidental to the furnishing of Trafficmen (State Police), complete, in place and accepted.

**Item 50: Trafficmen (Uniformed Flagmen)**

- A. Work under this Item will be paid for under the contract stated Allowance for this Item, and in accordance with "Section 01020 - Allowances" of these Specifications. The allowance amount may be increased or decreased depending upon the actual expenses incurred and approved by the Owner.
- B. The method of measurement shall be by review of invoices submitted by the Contractor documenting the actual number of man-hours spent by Trafficmen (Uniformed Flagmen) directing and maintaining flow of traffic in construction areas.
- C. Payment shall be made to cover the actual payroll costs incurred by the Contractor for the services of Trafficmen (Uniformed Flagmen) required for the maintaining and control of traffic, which price shall include all equipment, labor, overtime pay, approved overhead, and insurance necessary to perform the work. No markup will be allowed.
- D. The unit price established for this work Item shall include all compensation, insurance, benefits and any other cost, or liability, incidental to the furnishing of Trafficmen (Uniformed Flagmen), complete, in place and accepted.

**Item 51: Temporary and Permanent Pavement Replacement (City Roads)**

- A. Work under this item shall be measured for payment by the unit price "Square Yards" of pavement placed as specified and measured along the route of the pipe trench. The width of trench measured for payment shall not exceed the limits shown on the drawings.

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- B. Payment under this item for Temporary Pavement Replacement shall include furnishing, placement and compaction of Processed Aggregate Base, at the required width and thickness, as in accordance with the contract documents and details, complete, in place and accepted. No payment shall be made for maintaining temporary pavement as required by the specifications.
- C. Payment under this item for Permanent Pavement Replacement shall include full compensation for removal and disposal of temporary pavement; furnishing, placing and compacting such additional processed aggregate base course, as required to bring the base up to final grade and saw cutting the existing pavement for Permanent Pavement Replacement, complete, in place and accepted.
- D. Payment under these Items shall further include all cutting or trimming, pavement/base removal, all excavation, pavement repair material (subbase, base and surface), pavement markings, saw cutting, and any additional material or labor required for corrective work necessitated by settlement through the guarantee period of this Contract, complete in place and accepted.
- F. Payment under this item shall further include full compensation for all dust control, materials, equipment, tools, labor and work incidental to or necessary for the completion of the item and the cost of resetting to proposed grade all existing or newly constructed grates, frames, covers, valve boxes, access covers, and other items which must have a fixed relationship to finished grade.

**Item 52: Temporary Waste Stockpile Area (WSA)**

- A. This work shall be paid for at the Contract Lump Sum price, which shall include all materials, tools, labor, equipment, permits, and work needed to secure, construct, decontaminate, and manage the WSA, including all clearing, grubbing, grading, clean-up and site restoration, complete, in place and accepted.
- B. All materials, labor and equipment associated with compliance with the General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer) in Exhibit F2, will be considered incidental to this item.
- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 53: Temporary Soil Classification Area (SCA)**

- A. This work shall be paid for at the Contract Lump Sum, which shall include all materials, tools, labor, equipment, permits, and work needed to secure, construct, decontaminate, and manage the WSA, including all clearing, grubbing, grading, clean-up and site restoration,

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complete, in place and accepted.

- B. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 54: Testing Laboratory Services**

- C. This Item is for payment to the Contractor for testing ordered by the Engineer in accordance with the provisions of Special Conditions Section 6.24 and Section 01020 "Allowances". Payment will be made based on actual invoice cost plus 5% for tests demonstrating Work in compliance with the contract documents.
- D. This Item does not include testing of controlled materials, testing of HBM materials, or testing required under "SPECIAL INSPECTIONS" as stipulated in the Structural Drawings Notes. These items shall be paid for by the Owner.
- E. The allowance amount may be increased or decreased depending upon the actual expenses incurred and approved by the Owner.

**Item 55: Removal and Disposal of Underground Storage Tanks**

- A. This item will be paid for at the contract lump sum price for "Removal and Disposal of Underground Storage Tanks".
- B. Payment under this item shall include full compensation for all related necessary work, including labor, equipment, tools, supplies and materials associated with the excavation, removal and disposal of the three (3) UST, registration for state and local tank-pull permits, material recycling and disposal, air monitoring, backfilling, temporary fencing, barricades, and lighting, shoring, bracing, pumping and bailing, complete, in place and accepted.
- C. Excavation of controlled materials shall be paid under bid item "Controlled Materials Excavation".
- D. Disposal of controlled materials shall be paid under bid item "Disposal of Controlled Materials".
- E. Handling and disposal of contaminated groundwater shall be paid under bid item "Handling Contaminated Groundwater".
- F. Removal of Residuals shall be paid under bid item "Remove and Dispose Residual Contents".
- G. No separate payment will be made for any incidental items of work and/or materials that

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are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 56: Disposal of Controlled Materials**

- A. "Disposal of Controlled Materials" shall be measured for payment by the actual net weight, unit price "Per Ton" for material delivered to the treatment/recycling/disposal facility. Weight 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 treatment facility.
- B. Payment under this item shall include full compensation for the loading and transportation of controlled materials from the WSA to the treatment/recycling/disposal facility; the fees paid to the facility for treatment/recycling/disposal; the preparation of all related paperwork; equipment decontamination; the collection of residuals generated during decontamination and placement of such material in the WSA; the collection and disposal of liquids generated during equipment decontamination activities and all equipment, materials, tools, and labor incidental to this work, complete, in place and accepted.
- C. This unit price will be applicable to any of the Engineer approved Contractor-selected disposal facilities and will not change for the duration of the Project.
- D. Materials generated through excess excavations made by the Contractor beyond the payment limits as shown on the Environmental drawings or specified by the Engineer will not be measured for payment and the Contractor shall assume full responsibility for all costs associated with the appropriate handling and management as well as disposal of this material.
- E. The disposal of excavated materials, originally anticipated to be controlled materials, but determined by characterization sampling by the Owner not to contain concentrations of regulated chemicals will not be measured for payment under this bid item but will be considered as surplus excavated materials and shall be compensated in accordance with the bid item "Management of Reusable Non- Controlled Material".
- F. Construction and management of the WSA shall be paid for under bid item "Temporary Waste Stockpile Area."
- G. Excavation of the Controlled Material will be paid for under bid item "Controlled Materials Excavation".
- H. Reuse of controlled materials shall be measured and paid for bid item "Management of Reusable Controlled Material".
- I. Reuse of non-controlled materials shall be measured and paid for under bid item

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“Management of Reusable Non Controlled Material”.

**Item 57:      Controlled Materials Excavation**

- A.      “Controlled Materials Excavation” shall be measured for payment by the number of cubic yards of material excavated within the payment limits of the on-site AOEC’s and LLAOECs shown on the Environmental drawings and transported to the WSA, and stockpiled within the storage bins for sampling by the Owner/Engineer.
- B.      Payment under this item shall include all transportation from the excavation to the WSA, including any intermediate handling steps; and stockpiling controlled materials at the WSA; equipment decontamination; the collection of residuals generated during decontamination, placement of such material in the WSA; the collection and disposal of liquids generated during equipment decontamination activities and all tools, equipment, material and labor incidental to this work, complete, in place and accepted.
- C.      Material kept in proximity to the site of the excavation and reused on site as it is generated will not be measured for payment.
- D.      Excess excavations made by the Contractor beyond the payment limits as shown on the Environmental drawings or specified by the Engineer will not be measured for payment and the Contractor shall assume full responsibility for all costs associated with the appropriate handling, management and disposal, as well as excavation of this material.
- E.      Construction and management of the WSA shall be paid for under bid item “Temporary Waste Stockpile Area.”
- F.      Disposal of the Controlled Material will be paid for under bid item “Disposal of Controlled Materials.”
- G.      Handling and disposal of contaminated groundwater will be paid for under bid items “Handling Contaminated Groundwater Discharge to Sanitary Sewer” and “Handling Contaminated Groundwater Discharge to Surface Water.”

**Item 58:      Management of Reusable Controlled Material**

- A.      “Management of Reusable Controlled Material” shall be measured for payment by the number of cubic yards of material loaded and transported from the WSA and placed at re-fill areas located within the Project Limits of Disturbance in accordance with the contract requirements.
- B.      Payment under this item shall include all materials, equipment, tools and labor necessary to load and transport reusable controlled materials from the WSA to re-fill areas located within the Project Limits of Disturbance and to place and compact the reusable controlled

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material, complete, in place and accepted.

- C. This price shall include any decontamination of soil handling equipment, and the treatment/recycling/disposal of wastes generated in conjunction with such decontamination.
- D. No separate payment shall be made for consolidating previously tested individual stockpiles that have been deemed reusable, but shall be considered incidental to the work.
- E. The disposal of any controlled material that fails to meet material testing requirements for the intended use in accordance with the contract requirements, as well as any excess controlled material, shall be paid for under bid item "Disposal of Controlled Materials."

**Item 59: Management of Reusable NON-Controlled Material**

- A. "Management of Reusable Non-Controlled Material" shall be measured for payment by the number of cubic yards of material loaded and transported from the SCA and placed at re-fill areas located within the Project Limits of Disturbance in accordance with the Contract requirements.
- B. Payment under this item shall include all materials, equipment, tools and labor necessary to load and transport non controlled materials from the SCA to re-fill areas located within the Project Limits of Disturbance as per contract requirements, to place and compact the reusable material, decontamination of soil handling equipment and the treatment/recycling/disposal of wastes generated in conjunction with such decontamination complete, in place and accepted.
- C. No separate payment shall be made for consolidating previously tested individual stockpiles that have been deemed reusable, but shall be considered incidental to the work.
- D. No payment shall be made for the disposal of any reusable non controlled material that fails to meet material testing requirements for the intended use in accordance with the contract requirements, as well as any excess reusable non controlled material, but shall be considered incidental to the work.

**Item 60: Handling Contaminated Groundwater Discharges to Sanitary Sewer**

- A. This work will be paid for at the contract lump sum price for "Handling Contaminated Groundwater Discharges to Sanitary Sewer" which price shall include handling, treating and discharging contaminated groundwater from within the GWAOEC.
- B. Payment under this item shall include all equipment, materials, tools and labor incidental and necessary to remove the contaminated groundwater from the area of excavation; convey contaminated groundwater from the dewatering point to temporary settling and

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containment tanks; settlement and conveyance of discharges of settled groundwater to the City's sanitary sewer, recycling of used treatment media (i.e. bag filters and spent carbon); electrical costs; sampling and documentation costs; laboratory costs; design and monitoring; mobilization, operation, and maintenance of the system; required equipment decontamination; transportation of solids to the WSA and equipment demobilization.

C. Within fourteen (14) calendar days after addressing the Engineer's comments on the proposed system(s) for Handling Contaminated Groundwater, the contractor shall submit to the Engineer for approval a cost breakdown of its lump sum bid price. The submission must include substantiation showing that the cost breakdown submitted is reasonable based on the Contractor's lump sum bid. The cost breakdown shall be in accordance with the following payment schedule:

1. The cost to prepare the design for proposed system(s) for Handling Contaminated Groundwater in accordance with these specifications. Design and submittal costs shall not exceed 10% of the total cost of the item.
2. The procurement and installation cost for the proposed system(s) for Handling Contaminated Groundwater in accordance with these specifications. Procurement and installation costs shall not exceed 20% of the total cost of the item.
3. Equipment decontamination and demobilization and restoration of site. Decontamination and demobilization costs shall not exceed 10% of the total cost of the item.
4. The remaining costs for operation, monitoring, permit compliance, sampling and analysis, disposal costs, and maintenance of the proposed system(s), including cleaning of the temporary containment tanks of settled solids, transporting of solids to the WSA, and conveyance of the groundwater to the City's sanitary sewer system in accordance with these specifications shall be divided evenly throughout the duration of the project at the discretion of the Engineer.

D. The contractor shall operate and manage its Contaminated Groundwater Dewatering System so as to comply with the DEEP requirements stipulated in the General Permits included under Exhibit F2.

E. Sedimentation Control associated with work under this Item will be paid under the bid item "Sedimentation Control System".

F. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

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**Item 61: Handling Contaminated Groundwater Discharges to Surface Water – Sub-Aqueous Stream Crossing**

- A. This work will be paid for at the contract lump sum price for “Handling Contaminated Groundwater Discharges to Surface Water” which price shall include handling, treating and discharging contaminated groundwater and surface water from within the area of excavation of the sub-aqueous force main stream crossing of Sumner’s Creek.
- B. Payment under this item shall include all equipment, materials, tools and labor incidental and necessary to remove the contaminated groundwater and surface water from the area of excavation; convey contaminated groundwater from the dewatering point to temporary settling and containment tanks; settlement and conveyance of discharges of settled groundwater to Sumner’s Creek, recycling of used treatment media (i.e. bag filters and spent carbon); electrical costs; sampling and documentation costs; laboratory costs; design and monitoring; mobilization, operation, and maintenance of the system; required equipment decontamination; transportation of solids to the WSA and equipment demobilization.
- C. Within fourteen (14) calendar days after addressing the Engineer’s comments on the proposed system(s) for Handling Contaminated Groundwater, the contractor shall submit to the Engineer for approval a cost breakdown of its lump sum bid price. The submission must include substantiation showing that the cost breakdown submitted is reasonable based on the Contractor's lump sum bid. The cost breakdown shall be in accordance with the following payment schedule:
1. The cost to prepare the design for proposed system(s) for Handling Contaminated Groundwater, in accordance with these specifications. Design and submittal costs shall not exceed 10% of the total cost of the item.
  2. The procurement and installation cost for the proposed system(s) for Handling Contaminated Groundwater in accordance with these specifications. Procurement and installation costs shall not exceed 20% of the total cost of the item.
  3. Equipment decontamination and demobilization and restoration of site. Decontamination and demobilization costs shall not exceed 10% of the total cost of the item.
  4. The remaining costs for operation, monitoring, permit compliance, sampling and analysis, disposal costs, and maintenance of the proposed system(s), including cleaning of the temporary containment tanks of settled solids, transporting of solids to the WSA, and conveyance of the groundwater in accordance with these specifications shall be divided evenly throughout the duration of the project at the discretion of the Engineer.

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- D. The contractor shall operate and manage its Contaminated Groundwater Dewatering System so as to comply with the DEEP requirements stipulated in the General Permits included under Exhibit F2.
- E. Sedimentation Control associated with work under this Item will be paid under the bid item "Sedimentation Control System".
- F. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 62: Overcoming Obstacles during Drilling Micro-Piles**

- A. This Item shall be measured for payment by the unit price "Per Hour"; the actual number of hours expended on the drill rig utilized in overcoming obstructions for each type of micro-pile installation and at each specified location, which were encountered but not expected and/or notified at the time of bid.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.

**Item 63: Micro-Piles - Rock Socket – Pump Station Building and Valve Vault – Depth Greater than 10 Feet**

- A. This Item shall be measured for payment by the unit price "Per Linear Feet", of rock socket in excess of the depths called for on the Structural Drawings to adjust the basis of design in order to develop the specified tension requirements.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C. Furnishing and Installing micro-piles to the basis of design depths as shown on the structural drawings will be paid for under bid item "Furnish and Install Micro-Piles."

**Item 64: Micro-Piles - Rock Socket – Surge Tank- Depth Greater than 5.5 Feet**

- A. This Item shall be measured for payment by the unit price "Linear Feet", of rock socket in excess of the depths called for on the Structural Drawings to adjust the basis of design in order to develop the specified tension requirements.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.

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- C. Furnishing and Installing micro-piles to the basis of design depths as shown on the structural drawings will be paid for under bid item “Furnish and Install Micro-Piles.”

**Item 65: Micro-Piles - Rock Socket –Utility Bridge Crossing – Depth Greater than 4 Feet**

- A. This Item shall be measured for payment by the unit price “Linear Feet”, of rock socket in excess of the depths called for on the Structural Drawings to adjust the basis of design in order to develop the specified tension requirements.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.
- C. Furnishing and Installing micro-piles to the basis of design depths as shown on the structural drawings will be paid for under bid item “Furnish and Install Micro-Piles.”

**Item 66: Micro-Piles – Additional Verification Testing As Ordered by Engineer**

- A. This Item shall be measured for payment by the unit price “Per Test”, for the actual number of additional verification tests ordered by the Engineer.
- B. Payment under this item shall include full compensation for all labor, equipment, tools, supplies and materials incidental and necessary, complete, in place and accepted.

**Item 67: 24 Inch Ductile Iron Pressure Force Main**

- A. This Item shall be measured for payment by the unit price “Per Linear Foot” for the linear feet of new pipe, furnished and installed from the surge tank nozzle neck flange to the 30 inch force main 30” x 24” tee; AND, furnished and installed from the upstream 24” Force Wye to the downstream 24” Wye. The piping inside of the flow meter vault to the exterior limits shown on the contract drawings will be paid under bid item “Flow Meter Vault”. The ductile iron pipe shall be measured to the nearest 0.5 ft.
- B. Payment under this Item shall include full compensation for earth excavation and trench support; removal and disposal of existing abandoned utilities/structures within the proposed trench limits, furnishing, laying, and jointing of force main pipe and fittings, joint restraints, extended deflection coupling and telescoping sleeve, adapters and accessories; concrete thrust blocks at horizontal and vertical bends; pipe bedding; marker tape and tracer wire; earthen backfill and compaction; disposal of surplus excavated non-controlled materials; and all labor, materials, tools, equipment and incidentals necessary for the completion of the Item in accordance with the contract documents, complete, in place and accepted.
- C. Excavation of unsuitable trench bottom material and screened gravel backfill shall be

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measured and paid for under bid item “Earth Excavation and Screened Gravel BELOW Normal Grade”.

- D. Rock Excavation, disposal and backfill as encountered shall be measured and paid for under bid item “Rock Excavation, Disposal and Backfill”.
- E. Support of existing active utilities/structures within the proposed trench limits shall be measured and paid for under bid items “Supporting Interfering Obstructions” and “Supporting Parallel Obstructions”.
- F. Excavation, disposal and reuse of controlled materials shall be measured and paid for under bid item “Controlled Materials Excavation”; “Disposal of Controlled Materials”; and “Management of Reusable Controlled Material”.
- G. Reuse of non-controlled materials shall be measured and paid for under bid item “Management of Reusable Non Controlled Material”.
- H. Dewatering shall be paid for under bid item “Handling Contaminated Groundwater Discharges to Sanitary Sewer”.
- I. Pipe encasements, pipe cradles, horizontal and vertical thrust blocks, stop collars, shall not be measured and paid for under lump sum bid item “Miscellaneous Concrete”.

**Item 68: 30 inch Ductile Iron Pressure Force Main**

- A. This Item shall be measured for payment by the unit price “Per Linear Foot” for the linear feet of new pipe, furnished and installed from the restrained coupling five (5) feet to the exterior of the Pump Station Valve Vault to the 24 inch WYE upstream of Flow Meter Vault; AND from the 24 inch WYE downstream of Flow Meter Vault to “Horizontal Bend with Thrust Block” at Sta. 206+20 +/- ; AND from the “22.5 Vertical Bend w/ Thrust Block” at Sta. 208+10 +/- to the point of connection to the 30” ductile iron force main at Sta. 208+63 on DeKoven Drive as shown on the drawings. The ductile iron pipe shall be measured to the nearest 0.5 ft.
- B. Payment under this item shall include full compensation for earth excavation and trench support; removal and disposal of existing abandoned utilities/structures within the proposed trench limits, furnishing, laying, and jointing of force main pipe and fittings, joint restraints, adapters and accessories; concrete thrust blocks at horizontal and vertical bends; pipe bedding; marker tape and tracer wire; earthen backfill and compaction; disposal of surplus excavated non-controlled materials and all labor, materials, tools, equipment and incidentals necessary for the completion of the Item in accordance with the contract documents, complete, in place and accepted.
- C. Excavation of unsuitable trench bottom material and screened gravel backfill shall be

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measured and paid for under bid item “Earth Excavation and Screened Gravel BELOW Normal Grade.

- D. Rock Excavation, disposal and backfill as encountered shall be measured and paid for under bid item “Rock Excavation, Disposal and Backfill”.
- E. The force main crossing of Sumner’s Creek shall be measured and paid for under bid item “30 inch Ductile Iron Pressure Force Main – Sub-Aqueous Crossing.
- F. Support of existing active utilities/structures within the proposed trench limits shall be measured and paid for under bid items “Supporting Interfering Obstructions” and “Supporting Parallel Obstructions”.
- G. Excavation, disposal and reuse of controlled materials shall be measured and paid for under bid items “Controlled Materials Excavation”; “Disposal of Controlled Materials”; and “Management of Reusable Controlled Material”.
- H. Reuse of non-controlled materials shall be measured and paid for under bid item “Management of Reusable Non Controlled Material”.
- I. Dewatering shall be paid for under bid item “Handling Contaminated Groundwater Discharges to Sanitary Sewer”.
- J. Sheeting and Shoring shall be measured and paid for under bid items “Timber Sheeting” or “Steel Sheeting”.
- K. Pipe encasements, pipe cradles, horizontal and vertical thrust blocks, stop collars, shall not be measured and paid for under lump sum bid item “Miscellaneous Concrete”.

**Item 69: 30 inch Ductile Iron Pressure Force Main - Sub-Aqueous Crossing**

- A. This Item shall be measured for payment by the unit price “Per Linear Foot” for the number of linear feet of pipe furnished and installed from the “Horizontal Bend with Thrust Block” at Sta. 206+20 +/- to the “22.5 Vertical Bend w/ Thrust Block” at Sta. 208+10 +/- as shown on the drawings. The ductile iron pipe shall be measured to the nearest 0.5 ft.
- B. Payment under this item shall include full compensation for streambed and earth excavation within the pay limits and trench support; furnishing, laying and jointing of force main pipe and fittings, joint restraints, adapters and accessories; concrete thrust blocks at horizontal and vertical upward bends; pipe bedding; marker tape and tracer wire; earthen backfill and compaction; force main drain manhole, and all labor, materials, tools, equipment and incidentals necessary for the completion of the Item in accordance with the contract documents, complete, in place and accepted.

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- C. All excavated material is to be considered “controlled material” and will require transport to the WSA and paid for under the unit priced bid items “Controlled Materials Excavation” and “Disposal of Controlled Materials”. This material will not be reused.
- D. Excavation of unsuitable trench bottom material and screened gravel backfill shall be measured and paid for under bid item “Earth Excavation and Screened Gravel BELOW Normal Grade.
- E. Rock Excavation, disposal and backfill as encountered shall be measured and paid for under bid item “Rock Excavation, Disposal and Backfill”.
- F. Dewatering shall be paid for under bid item “Handling Contaminated Groundwater Discharges to Surface Sewer – Sub Aqueous Stream Crossing”.
- G. Sheet piling and Shoring shall be measured and paid for under bid items “Timber Sheet piling” or “Steel Sheet piling”.
- H. Wetlands restoration shall be measured and paid for under bid item “Wetland Plantings for Shrubs, Seedlings, Vines and Ground Cover Plants”.
- I. Pipe encasements, pipe cradles, horizontal and vertical thrust blocks, stop collars, shall not be measured and paid for under lump sum bid item “Miscellaneous Concrete”.
- J. The bidder’s attention is directed to Exhibit “E” City of Middletown Inland Wetlands and Watercourses Agency Permit Requirements”.
- K. The bidder’s attention is directed to Exhibit “F1”- U.S. Army Corps of Engineer Category 2 Programmatic General Permit Approval Letter: (August 8, 2013).
- L. The bidder’s attention is directed to Exhibit “F2” State of CT Department of Energy and Environmental Protection Permits, inclusive of all General and Individual Permits, for permit conditions influencing methods and techniques of construction, monitoring, final appearances, and management, handling and disposal of excavated material.

**Item 70: Flow Meter Vault**

- A. This Item shall be at the contract lump sum price for “Flow Meter Vault” within the limits shown on the contract drawings.
- B. Payment under this item shall include full compensation for earth excavation; removal and disposal of existing abandoned utilities/structures within the proposed limits of construction, furnishing and installing a precast concrete structure including screened gravel base and geotextile; base sections, risers, and top sections; joint sealants; ladders and safety pole extensions; access doors and safety grates; vent pipes and painting; interior

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ductile iron piping and valves, fittings and adapters; flow meter, pipe supports; backfill and compaction; disposal of surplus excavated non-controlled materials; and all labor, materials, tools, equipment and incidentals for the completion of the Item in accordance with the contract documents, complete, in place and accepted.

- C. Rock Excavation, disposal and backfill as encountered shall be measured and paid for under bid item “Rock Excavation, Disposal and Backfill”.
- D. Excavation, disposal and reuse of controlled materials shall be measured and paid for under bid items “Controlled Materials Excavation”; “Disposal of Controlled Materials”; and “Management of Reusable Controlled Material”.
- E. Reuse of non-controlled materials shall be measured and paid for under bid item “Management of Reusable Non Controlled Material”.
- F. Dewatering shall be paid for under bid item “Handling Contaminated Groundwater Discharges to Sanitary Sewer”.
- G. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

**Item 71: Hydrostatic Testing Force Main**

- A. This Item will be paid for on a lump sum basis.
- B. Payment under this Item shall constitute full compensation for furnishing and installing all materials, labor, tools and equipment, and the cost of all incidental work and materials, in accordance with the provisions of the Drawings and Specifications and as directed by the Engineer, complete, in place and accepted.
- C. The cost for locating, excavating, repairing and backfilling leaks and subsequent retesting until successfully passing the hydrostatic test shall be at the sole expense of the Contractor and included in his bid price for this Item of Work.
- D. Water shall be measured and paid for under bid item “Water for Force Main Testing”.
- E. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

**Item 72: Water for Force Main Testing**

- A. The method of measurement shall be by tanks or tanker trucks of predetermined capacity,

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or by means of satisfactorily installed City approved meters. Quantities of water wasted will not be paid.

- B. Payment under this Item will be under the contract stated Allowance for this Item, and in accordance with "Section 01020 - Allowances" of these Specifications. Payment shall be made to cover cost of the actual number of 1,000 cubic feet of water, charged at the Owner's usage rate in effect at the time of the Work, for filling and testing the force main in accordance with the contract documents. The allowance amount may be increased or decreased depending upon the actual expenses incurred and approved by the Owner. No mark-up will be allowed.

**Item 73: East Main Street Interceptor Sewer**

- A. This Item shall be measured for payment by the unit price "Per Linear Foot" for the linear feet of pipe, furnished and installed to the lines and grades as shown on the drawings; including precast and doghouse style sanitary manholes, frames and covers, from SMH-111 to SMH-105. The PVC pipe shall be measured to the nearest 0.5 ft.
- B. Payment under this Item shall include full compensation for earth excavation and trench support; removal and disposal of existing abandoned utilities/structures within the proposed trench limits, furnishing and installing sanitary manholes shown on the drawings, furnishing, laying, and jointing gravity sewer pipe and fittings, adapters and accessories; pipe bedding; marker tape; earthen backfill and compaction; disposal of surplus excavated non-controlled materials; cleaning and televising new pipe, and all labor, materials, tools, equipment and incidentals necessary for the completion of the Item in accordance with the contract documents, complete, in place and accepted.
- C. Payment for SMH 105 shall be under the bid item "36 inch River Road Sewer"
- D. Excavation of unsuitable trench bottom material and screened gravel backfill shall be measured and compensated for under bid item "Earth Excavation and Screened Gravel BELOW Normal Grade.
- E. Rock Excavation, disposal and backfill as encountered shall be measured and compensated for under bid item "Rock Excavation, Disposal and Backfill".
- F. Furnish and install micro-pile supports at the locations shown on the contract documents shall be measured and paid for under bid item "Furnish and Install Micro-Piles".
- G. Maintaining the existing 36 inch East Main Street Interceptor Sewer throughout the duration of construction of this bid item shall be paid for under bid item "Maintain Sewer Flows (Bypassing) – Maple Street Gravity Sewer and East Main St. Interceptor Sewer".
- H. Abandonment of the existing 36-inch PVC East Main Street Interceptor Sewer shall be

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paid for under bid item “Selective Demolition, Exclusive of Work Related to ACM, PCB Containing Materials < 50 PPM and Universal Waste Reclamation”.

**Item 74: Maple Street Sewer**

- A. This Item shall be measured for payment by the unit price “Per Linear Foot” for the linear feet of pipe, furnished and installed to the lines and grades as shown on the drawings, including all sanitary manholes from SMH 118 to SMH 109, complete, in place, and accepted. The PVC pipe shall be measured to the nearest 0.5 ft.
- B. Payment under this Item shall include full compensation for earth excavation and trench support; removal and disposal of existing abandoned utilities/structures within the proposed trench limits; furnishing and installing all sanitary manholes shown on the drawings, furnishing, laying, and jointing of gravity sewer pipe and fittings, adapters and accessories; pipe bedding; marker tape; earthen backfill and compaction; disposal of surplus excavated non-controlled materials; cleaning and televising new pipe, and all labor, materials, tools, equipment and incidentals necessary for the completion of the Item in accordance with the contract documents, complete, in place and accepted.
- C. Payment for SMH 109 shall be measured and paid for under “East Main Street Interceptor Sewer”.
- D. Excavation of unsuitable trench bottom material and screened gravel backfill shall be measured and compensated for under bid item “Earth Excavation and Screened Gravel BELOW Normal Grade.
- E. Rock Excavation, disposal and backfill as encountered shall be measured and compensated for under bid item “Rock Excavation, Disposal and Backfill”.
- F. Maintaining the existing 10 inch gravity sewer throughout the duration of construction of this bid item shall be paid for under bid item “Maintain Sewer Flows (Bypassing) – Maple Street Gravity Sewer and East Main St. Interceptor Sewer”.
- G. Abandonment of the existing 10 inch PVC gravity sewer shall be paid for under bid item “Selective Demolition, Exclusive of Work Related to ACM, PCB Containing Materials < 50 PPM and Universal Waste Reclamation”.

**Item 75: 30 inch - River Road Sewer**

- A. This Item shall be measured for payment by the unit price “Per Linear Foot” for the linear feet of pipe, furnished and installed to the lines and grades as shown on the drawings, including all sanitary manholes, from SMH 102 to SMH 103, complete, in place, and accepted. The ductile iron pipe shall be measured to the nearest 0.5 ft.

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- B. Payment under this Item shall include full compensation for earth excavation and trench support; removal and disposal of existing abandoned utilities/structures within the proposed trench limits; furnishing and installing sanitary manhole 102, furnishing, laying, and jointing of pipe and fittings, adapters and accessories; pipe bedding; marker tape; tracer wire; earthen backfill and compaction; disposal of surplus excavated non-controlled materials; cleaning and televising new pipe, and all labor, materials, tools, equipment and incidentals necessary for the completion of the Item in accordance with the contract documents, complete, in place and accepted.
- C. Payment for SMH 103 shall be under the bid item “42 inch River Road Sewer”.
- D. Excavation of unsuitable trench bottom material and screened gravel backfill shall be measured and compensated for under bid item “Earth Excavation and Screened Gravel BELOW Normal Grade.
- E. Rock Excavation, disposal and backfill as encountered shall be measured and compensated for under bid item “Rock Excavation, Disposal and Backfill”.
- F. Maintaining the existing 30 inch gravity sewer throughout the duration of construction of this bid item shall be paid for under bid item “Maintain Sewer Flows (Bypassing) – 42 inch River Road Interceptor Sewer”

**Item 76: 36 Inch - River Road Sewer**

- A. This Item shall be measured for payment by the unit price “Per Linear Foot” for the linear feet of pipe, furnished and installed to the lines and grades as shown on the drawings, including all sanitary manholes, from SMH 104 to SMH 105; AND, from SMH 105 to the pump station inlet works/treatment room, complete, in place, and accepted. The ductile iron pipe shall be measured to the nearest 0.5 ft.
- B. Payment under this item shall include full compensation for earth excavation and trench support; removal and disposal of existing abandoned utilities/structures within the proposed trench limits; furnishing and installing pile supported sanitary manhole 104 and pile supported sanitary manhole 105, furnishing, laying, and jointing of 36 inch pipe and 48 inch pipe from SMH 105 to pump station inlet works/treatment room, all fittings, adapters and accessories; pipe bedding; marker tape; tracer wire; earthen backfill and compaction; disposal of surplus excavated non-controlled materials; cleaning and televising new pipe, and all labor, materials, tools, equipment and incidentals necessary for the completion of the Item in accordance with the contract documents, complete, in place and accepted.
- C. Excavation of unsuitable trench bottom material and screened gravel backfill shall be measured and compensated for under bid item “Earth Excavation and Screened Gravel

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BELOW Normal Grade.

- D. Rock Excavation, disposal and backfill as encountered shall be measured and compensated for under bid item “Rock Excavation, Disposal and Backfill”.
- E. Furnish and install micro-pile supports at the locations shown on the contract documents shall be measured and paid for under bid item “Furnish and Install Micro-Piles”.
- F. Pipe encasements, pipe cradles, horizontal and vertical thrust blocks, stop collars, shall not be measured and shall be paid for under lump sum bid item “Miscellaneous Concrete”.
- G. Furnish and install cast iron slide gate SG-1 and wall thimble will not be measured for payment and shall be paid for under other applicable lump sum bid items.

**Item 77: 42 inch Sewer - River Road**

- A. This Item shall be measured for payment by the unit price “Per Linear Foot” for the linear feet of pipe, furnished and installed to the lines and grades as shown on the drawings, including all sanitary manholes, from SMH 101 to SMH 103. The ductile iron pipe shall be measured to the nearest 0.5 ft.
- B. Payment under this item shall include full compensation for earth excavation and trench support; removal and disposal of existing abandoned utilities/structures within the proposed trench limits; furnishing and installing sanitary manholes 101 and 103, furnishing, laying, and jointing of pipe and fittings, adapters and accessories; pipe bedding; marker tape; tracer wire; earthen backfill and compaction; disposal of surplus excavated non-controlled materials; cleaning and televising new pipe, and all labor, materials, tools, equipment and incidentals necessary for the completion of the Item in accordance with the contract documents
- C. Excavation of unsuitable trench bottom material and screened gravel backfill shall be measured and compensated for under bid item “Earth Excavation and Screened Gravel BELOW Normal Grade.
- D. Rock Excavation, disposal and backfill as encountered shall be measured and compensated for under bid item “Rock Excavation, Disposal and Backfill”.
- E. Maintaining the existing 42 inch sewer into the POTW throughout the duration of construction of this bid item shall be paid for under bid item “Maintain Sewer Flows (Bypassing) – 42 inch River Road Interceptor Sewer”
- F. Pipe encasements, pipe cradles, horizontal and vertical thrust blocks, stop collars, shall not be measured and paid for under lump sum bid item “Miscellaneous Concrete”.

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**Item 78: Pipe Crossing Under Railroad**

- A. This Item shall be measured for payment by the unit price “Per Linear Foot” for the linear feet of steel casing, furnished and installed to the lines and grades as shown on the drawings. The steel casing shall be measured to the nearest 0.5 ft.
- B. Payment for this item shall include full compensation for furnishing of all plant, labor, tools, equipment, materials and incidentals; mobilization and demobilization; excavation, establishment of entry and exit pits, backfills, refills and compactions, sheeting, shoring, furnishing and installing jacking and boring equipment and performing all operations in connection with the bore/jack of a 54-inch steel casing and 36 inch carrier pipeline crossing within the railroad right-of-way, complete, in place and approved.
- C. Furnish and install end seal and casing spacers; modular seals, 54-inch steel casing pipe; 36” ductile iron carrier pipe, restrained solid sleeve transition couplings on each side of the railroad ROW; pipe and casing jointing materials; marker signs; and, replacing or restoring all existing items of work removed or disturbed as a result of the Contractor’s operations.
- D. Furnish, install, maintain and remove all temporary construction and work required by contract operations, construction and controlling authorities.
- E. Provide all work and precautionary measures necessary to protect persons, property and the work from injury or damage.
- F. Provide all work in connection with all other related and appurtenance work, in strict accordance with the specifications, drawings and requirements of the ConnDOT and the Providence and Worcester Railroad.
- G. Sheeting and Shoring shall be measured and paid for under bid item “Timber Sheeting” or “Steel Sheeting”.
- H. Rock Excavation, disposal and backfill shall be measured and paid for under bid item “Rock Excavation, Disposal and Backfill”.
- I. Excavation of controlled materials shall be paid under bid item “Controlled Materials Excavation”.
- J. Disposal of controlled materials shall be paid under bid item “Disposal of Controlled Materials”.
- K. Reuse of controlled materials shall be paid under bid item “Management of Reusable Controlled Material”.
- L. Reuse of non-controlled materials shall be measured and paid for under bid item

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“Management of Reusable Non Controlled Material”.

- M. Dewatering shall be paid for under bid item “Handling Contaminated Groundwater Discharges to Sanitary Sewer”.

**Item 79: Utility Bridge and Support Piers**

- A. This item will be paid for at the contract lump sum price for “Utility Bridge and Support Piers” as shown on the contract drawings.
- B. Ductile iron gravity sewer pipe shall be furnished and installed to the lines and grades as shown on the drawings, complete, in place, and accepted.
- C. Payment under this item shall include full compensation for all necessary engineering and design as required, supervision, labor, materials, equipment and delivery to perform all work necessary to furnish, fabricate and install a clear span pipe utility bridge system of galvanized steel construction, including all base plates, leveling plates, anchor rods, non-shrink grout, mounting plates required for pipe support, truss members including any diagonal bracing required to meet deflection or strength requirements and miscellaneous lateral bracing as required to prevent buckling of primary members.
- D. Payment under this item shall include full compensation for all customized cast iron roller supports, hardware, insulated ductile iron pipe with stainless steel jacket, extended deflection and extension couplings for seismic protection on both sides of the bridge, temporary fall protection, bridge abutment support piers and final field verification of bridge abutment locations based on existing conditions
- E. Payment under this item shall include full compensation for all work and precautionary measures necessary to protect persons, property and the work from injury or damage, providing all work necessary for compliance with requirements of ConnDOT and for all costs in connection with other related and appurtenant work, complete in place and accepted, in accordance with the specifications and Drawings and the requirements of ConnDOT.
- F. Furnish and install micro-pile supports at the locations shown on the contract documents shall be measured and paid for under bid item “Furnish and Install Micro-Piles”.
- G. Cutting down trees shall not be measured and paid for under lump sum bid item “Clearing and Grubbing”.
- H. Constructing a temporary access roadway down to the work site shall be considered incidental to this work and not separately paid.
- I. Excavation of controlled materials shall be paid under bid item “Controlled Materials

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Excavation”.

- J. Disposal of controlled materials shall be paid under bid item “Disposal of Controlled Materials”.
- K. Dewatering shall be paid for under bid item “Handling Contaminated Groundwater Discharges to Sanitary Sewer”.
- L. The bidder’s attention is directed to Exhibit “E” City of Middletown Inland Wetlands and Watercourses Agency Permit Requirements”.
- M. The bidder’s attention is directed to Exhibit “F1”- U.S. Army Corps of Engineer Category 2 Programmatic General Permit Approval Letter: (August 8, 2013).
- N. The bidder’s attention is directed to Exhibit “F2” State of CT Department of Energy and Environmental Protection Permits, inclusive of all General and Individual Permits, for permit conditions influencing methods and techniques of construction, monitoring, final appearances, and management, handling and disposal of excavated material.
- O. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

**Item 80: Pipe Crossing Under Highway**

- A. This Item shall be measured for payment by the unit price “Per Linear Foot” for the linear feet of steel casing, furnished and installed to the lines and grades as shown on the drawings, complete, in place, and accepted. The steel casing shall be measured to the nearest 0.5 ft.
- B. Payment for this item shall include full compensation for furnishing of all plant, labor, tools, equipment, materials and incidentals; mobilization and demobilization; excavation, establishment of entry and exit pits, backfills, refills and compactions, sheeting, shoring, furnishing and installing jacking and boring equipment and performing all operations in connection with the bore/jack of a 54 inch steel casing and 36 inch carrier pipeline crossing at the approximate locations shown on the drawings, complete, in place and approved.
- C. Furnish and install end seal and casing spacers; modular seals, 54-inch steel casing pipe; 36” ductile iron carrier pipe, restrained solid sleeve transition couplings on each side of the railroad ROW; pipe and casing jointing materials; marker signs; and, replacing or restoring all existing items of work removed or disturbed as a result of the Contractor’s operations.
- D. Furnish, install, maintain and remove all temporary construction and work required by contract operations, construction and controlling authorities.

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- E. Provide all work and precautionary measures necessary to protect persons, property and the work from injury or damage.
- F. Provide all work in connection with all other related and appurtenance work, in strict accordance with the specifications, drawings and requirements of the ConnDOT and the Providence and Worcester Railroad.
- G. Sheeting and Shoring shall be measured and paid for under bid item “Timber Sheeting” or “Steel Sheeting”.
- H. Rock Excavation, disposal and backfill shall be measured and paid for under bid item “Rock Excavation, Disposal and Backfill”.
- I. Excavation of controlled materials shall be paid under bid item “Controlled Materials Excavation”.
- J. Disposal of controlled materials shall be paid under bid item “Disposal of Controlled Materials”.
- K. Reuse of controlled materials shall be paid under bid item “Management of Reusable Controlled Material”.
- L. Reuse of non-controlled materials shall be measured and paid for under bid item “Management of Reusable Non Controlled Material”.
- M. Dewatering shall be paid for under bid item “Handling Contaminated Groundwater Discharges to Sanitary Sewer”.
- N. The bidder’s attention is directed to Exhibit “E” City of Middletown Inland Wetlands and Watercourses Agency Permit Requirements”.
- O. The bidder’s attention is directed to Exhibit “F1”- U.S. Army Corps of Engineer Category 2 Programmatic General Permit Approval Letter: (August 8, 2013).
- P. The bidder’s attention is directed to Exhibit “F2” State of CT Department of Energy and Environmental Protection Permits, inclusive of all General and Individual Permits, for permit conditions influencing methods and techniques of construction, monitoring, final appearances, and management, handling and disposal of excavated material.

**Item 81: Abandonment of Existing 36 inch Gravity Interceptor Sewer and Timber Utility Bridge**

- A. This Item shall be measured for payment by the unit price “Per Linear Foot” for the linear feet of existing 36 inch RCP, to be removed and disposed, or to be abandoned, as shown

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on the drawings.

- B. Payment for this item shall include full compensation for removal and disposal of all above ground features of the RCP pipe and timber support bridge and abandoning below grade portions of the pipe using an Engineer approved flowable fill and furnishing of all plant, labor, tools, equipment, materials and incidentals; mobilization and demobilization; at the approximate locations shown on the drawings, complete, in place and approved.
- C. This Interceptor Sewer shall be protected and maintained until such time as the pump station is receiving 100% of the City's flows.
- D. Protection and maintaining existing "CRITICAL" sewers, manholes and structures during construction of this bid item shall not be measured for payment under this bid item but shall be paid for under lump sum bid item "Selective Demolition; Exclusive of Work Related to ACM, PCB Containing Materials < 50 PPM and Universal Waste Reclamation".
- E. The bidder's attention is directed to Exhibit "F2" State of CT Department of Energy and Environmental Protection Permits, Structures, Dredging and Fill Permit, OLISP.

**Item 82: Pump Station Foundation**

- A. This item will be paid for at the contract lump sum price for "Pump Station Foundation".
- B. Payment under this item shall include full compensation for all earth excavation; dewatering, removal and disposal of excavated materials, removal and disposal of existing abandoned utilities/structures, sheeting, shoring and stay-bracing and all labor, materials, tools, equipment and incidentals for the completion of the Item in accordance with the contract documents, complete, in place and accepted.
- C. Rock Excavation, disposal and backfill as encountered shall be measured and paid for under bid item "Rock Excavation, Disposal and Backfill".
- D. Micro-piles and rock sockets shall be paid for under bid item "Furnish and Install Micro-Piles".
- E. Structural sub-grade building materials shall be paid for under bid item "Structural Concrete".
- F. Excavation of controlled materials shall be paid under bid item "Controlled Materials Excavation".
- G. Disposal of controlled materials shall be paid under bid item "Disposal of Controlled Materials".

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- H. Reuse of controlled materials shall be measured and paid for under bid item “Management of Reusable Controlled Material”.
- I. Reuse of non-controlled materials shall be measured and paid for under bid item “Management of Reusable Non Controlled Material”.
- J. Dewatering shall be paid for under bid item “Handling Contaminated Groundwater Discharges to Sanitary Sewer”.
- K. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

**Item 83: Miscellaneous Site Work Not Included in Other Bid Items**

- A. This item will be paid for at the contract lump sum price for “Miscellaneous Site Work Not Included in Other Bid Items”.
- B. Payment under this item shall include full compensation for construction entrance, bituminous concrete access driveway and metal beam rail, driveway apron, 24’ double wide gate, 4’ and 8’ chain link fencing, retaining walls, drainage areas 1 and 2, outlet control structures, rip rap overflows, site drainage piping, catch basins, drainage manholes, concrete culverts, final site grading, temporary and permanent paving, site fixture details, potable water piping, hydrants and gate valves, fittings, thrust restraints and appurtenances, gas line and gas meter, concrete sidewalk, bituminous asphaltic curbing, pre-cast concrete curbing, cast stone and washed stone perimeter, concrete entrance pad, plantings for trees and shrubs, protection of existing trees, and access and parking markings, complete, in place and accepted.
- C. Rock Excavation, disposal and backfill as encountered shall be measured and paid for under bid item “Rock Excavation, Disposal and Backfill”.
- D. Reuse of controlled materials shall be measured and paid for under bid item “Management of Reusable Controlled Material”.
- E. Reuse of non-controlled materials shall be measured and paid for under bid item “Management of Reusable Non Controlled Material”.
- F. Dewatering shall be paid for under bid item “Handling Contaminated Groundwater Discharges to Sanitary Sewer”.
- G. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

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**Item 84: Division 3 – Structural Concrete**

- A. This item will be paid for at the contract lump sum price for “Structural Concrete”.
- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, forms, bracing, mixing, delivering, placing, compacting, furnishing, curing and protection, incidental and necessary to complete the concrete formwork, concrete reinforcement, and cast-in-place concrete in accordance with the specifications, the structural drawings and as directed by the Engineer, complete, in place and accepted.
- C. Precast Concrete Structures will be paid for separately under bid item “Flow Meter Vault” and in various unit priced gravity sewer bid items and Division 2 Site Work.
- D. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

**Item 85: Miscellaneous Concrete**

- A. “Miscellaneous Concrete” shall be measured for payment by the number of cubic yards of plain Portland cement-concrete for pipe encasements, pipe cradles, horizontal, vertical upward and downward thrust blocks, stop collars, etc., to the limits shown on the drawings and/or as directed by the Engineer.
- B. Payment shall constitute full compensation for all equipment, plant, tools, materials, forms, bracing, mixing, delivering, placing, compacting, furnishing, curing and protection, installing miscellaneous materials to be embedded in concrete and for all labor, and incidentals necessary to complete the item in accordance with the specifications, the drawings and as directed by the Engineer, complete, in place and accepted.
- C. No payment will be made for concrete until it has been satisfactorily cured.
- D. This item shall also include epoxy coated rebar for vertical downward concrete thrust blocks as shown on the details or as directed by the Engineer.

**Item 86: Division 4 – Masonry**

- A. This item will be paid for at the contract lump sum price for “Masonry”.
- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the architectural drawings and as directed by the Architect, complete in place and accepted.

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- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 87: Division 5 – Metals**

- A. This item will be paid for at the contract lump sum price for "Metals".
- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the architectural drawings and as directed by the Architect, complete, in place and accepted.
- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 88: Division 6 – Carpentry**

- A. This item will be paid for at the contract lump sum price for "Carpentry".
- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the architectural drawings and as directed by the Architect, complete, in place and accepted.
- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 89: Division 7 – Thermal and Moisture Protection**

- A. This item will be paid for at the contract lump sum price for "Thermal and Moisture Protection".
- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the architectural drawings and as directed by the Architect, complete, in place and accepted.
- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

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**Item 90: Division 8 – Doors and Windows**

- A. This item will be paid for at the contract lump sum price for “Doors and Windows”.
- B. Tubular daylighting device will not be measured for payment but will be paid for under Bid Item 3.
- C. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the architectural drawings and as directed by the Architect, complete, in place and accepted.
- D. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

**Item 91: Division 9 – Finishes**

- A. This item will be paid for at the contract lump sum price for “Finishes”.
- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the architectural drawings and as directed by the Architect and the Engineer, complete, in place and accepted.
- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

**Item 92: Division 10 – Specialties**

- A. This item will be paid for at the contract lump sum price for “Specialties”.
- B. Metal lockers, metal storage shelving, flag pole and building plaques will not be measured for payment but will be paid for under Bid Item 3.
- C. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the architectural drawings and as directed by the Architect and the Engineer, complete, in place and accepted.
- D. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

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**Item 93: Division 11 – Process Equipment**

- A. This item will be paid for at the contract lump sum price for “Process Equipment”.
- B. Appliances will not be measured for payment but will be paid for under Bid Item 3.
- C. Extended Warranty will not be measured for payment but will be paid for under Bid Item 100.
- D. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the process drawings and as directed by the Engineer, complete, in place and accepted.
- E. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

**Item 94: Division 12 – Furnishings**

- A. This item will be paid for at the contract lump sum price for “Furnishings”.
- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the architectural drawings and as directed by the Architect, complete, in place and accepted.
- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor’s construction sequencing to complete the work as specified and as indicated.

**Item 95: Division 13 – Special Construction – Exclusive of Hydropneumatic Surge Control System**

- A. This item will be paid for at the contract lump sum price for “Special Construction-Exclusive of Hydropneumatic Surge Control System”.
- B. Hydropneumatic Surge Control System shall be paid for under bid item “Hydropneumatic Surge Control System”.
- C. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the process and instrumentation drawings and as directed by the Engineer, complete, in place and accepted.

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- D. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 96: Division 13 – Hydropneumatic Surge Control System**

- A. This item will be paid for at the contract lump sum price for one (1) "Hydropneumatic Surge Control System", inclusive of interior and exterior plant water piping, valves, fittings and appurtenances for flushing the hydropneumatic tank, and interior and exterior compressed air piping, valves, fittings and appurtenances to control the hydropneumatic surge control tank water level, as shown on the drawings.
- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the Process EP drawings, the Site drawings, drawing details, and as directed by the Engineer, complete, in place and accepted.
- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 97: Division 14 – Conveying Systems**

- A. This item will be paid for at the contract lump sum price for "Conveying Systems".
- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the Process EP drawings and as directed by the Engineer, complete, in place and accepted.
- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 98: Division 15 – Mechanical/ HVAC**

- A. This item will be paid for at the contract lump sum price for "Mechanical / HVAC".
- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the Mechanical/HVAC drawings and as directed by the Engineer, complete, in place and accepted.
- C. No separate payment will be made for any incidental items of work and/or materials that

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are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 99: - Division 15 - Plumbing**

- A. This item will be paid for at the contract lump sum price for "Plumbing".
- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the Plumbing drawings and as directed by the Engineer, complete, in place and accepted.
- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 100: - Division 15 – Fire Protection**

- A. This item will be paid for at the contract lump sum price for "Fire Protection".
- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the architectural drawings and as directed by the Architect, complete, in place and accepted.
- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 101: Division 16 – Electrical**

- A. This item will be paid for at the contract lump sum price for "Electrical".
- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the Electrical drawings and as directed by the Engineer, complete, in place and accepted.
- C. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 102: Extended Warranty (Maintenance Bond)**

- A. This item will be paid for at the contract lump sum price for "Extended Warranty (Maintenance Bond)".

SECTION 700  
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- B. Payment under this item shall include full compensation for all labor, equipment, plant, tools, supplies, materials, incidental and necessary to complete the work in accordance with the specifications, the drawings and as directed by the Engineer, complete, in place and accepted.
- C. The cost shall be for one (1) additional year of coverage, beyond the manufacturer's standard warranty in accordance with the contract documents.
- D. The equipment requiring an additional year of warranty include:
  - a. Grit Removal System (11322)
  - b. Mechanical Bar Screen (11330)
  - c. Screenings Wash Press (11331)
  - d. Packaged Engine Generator Systems (Diesel Fuel) (16230)
  - e. Automatic Transfer Switch (16415)
- E. No separate payment will be made for any incidental items of work and/or materials that are inherently required to fulfill the intent of this Contract or required as a result of the Contractor's construction sequencing to complete the work as specified and as indicated.

**Item 103: Railroad Inspection – Exhibit D**

- A. The method of measurement shall be by review of invoices submitted by the Providence and Worcester Railroad Company to the Contractor documenting the actual number of man-hours spent by inspection personnel and flagman. The use of vehicles and associated equipment will not be measured for payment but shall be considered as included in the man-hour invoices submitted.
- B. Comply with Section 01020 "Allowances" of these specifications.
- C. Payment shall be made to cover the actual invoices received by the Contractor for the services of Railroad inspection or flag personnel required, which price shall include all equipment, vehicles, labor, overtime pay, and insurance necessary to perform the work. No markup will be allowed.
- D. Work under this Item will be paid for under the contract stated allowance for this Item, and in accordance with "Section 01020 - Allowances" of these Specifications. The allowance amount may be increased or decreased depending upon the actual expenses incurred and approved by the Owner.

SECTION 700  
MEASUREMENT AND PAYMENT

**Item 104: CT DOT Permit Fees, Bonds and Insurances – Exhibit C**

- A. The method of measurement shall be by review of invoices submitted by the CTDOT to the Contractor documenting the insurance, bond and permit application fee.
- B. Payment shall be made to cover the actual invoices received by the Contractor. No markup will be allowed.
- C. Comply with Section 01020 "Allowances" of these specifications.
- D. Work under this Item will be paid for under the contract stated allowance for this Item, and in accordance with "Section 01020 - Allowances" of these Specifications. The allowance amount may be increased or decreased depending upon the actual expenses incurred and approved by the Owner.

END OF SECTION

BID ADDENDUM 1

SECTION 2

BID PROPOSAL

**CITY OF MIDDLETOWN  
CONTRACTOR'S CHECK LIST**

\*\*\*\*\*

**BID # 2016-011**

**FRANCIS T. PATNAUDE INTER-MUNICIPAL PUMPING STATION  
MATLABASSETT REGIONALIZATION PROJECT**

The following forms are required for submittal for the above referenced bid and shall be submitted with the bid proposal pages by the time and date specified. This check list is provided for the bidder's use and shall not be required for submittal. **The following forms shall be submitted in duplicate. Bids not including these completed forms shall be considered incomplete and will be rejected.**

**Bidders please enclose the following forms with your bid:**

\_\_\_\_\_ 1. Section 2- BID PROPOSAL

SECTION 3

\_\_\_\_\_ 2. NON-COLLUSIVE STATEMENT (Notarized Original)

\_\_\_\_\_ 3. BID BOND (5%)

\_\_\_\_\_ 4. CERTIFICATE OF SURETY

\_\_\_\_\_ 5. WORKERS' COMPENSATION ACT CONFORMANCE FORM

\_\_\_\_\_ 6. CONTRACTOR'S QUALIFICATION STATEMENT: (Notarized Original)

\_\_\_\_\_ 7. LIST OF SUBCONTRACTORS (Submit within fourteen (14) days after bid opening)

\_\_\_\_\_ 8. BID RETURN LABEL

\_\_\_\_\_ 9. CT DEEP CLEAN WATER FUND MEMORANDUM REGARDING DISADVANTAGED BUSINESS ENTERPRISE (DBE) SUBCONTRACTOR PARTICIPATION ON CLEAN WATER FUND CONSTRUCTION PROJECTS (Submit executed MBE/WBE subcontracts within fourteen (14) days after Contract Award and Execution).

Note: EPA's 6100 form is no longer applicable to projects that are expected to bid after March 7, 2016. For this reason, this requirements will not pertain to this project.

\_\_\_\_\_ 10. DBE SUBCONTRACTOR VERIFICATION FORM (Submit within fourteen (14) days after bid opening)

\_\_\_\_\_ 11. STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES (DAS) CONTRACTOR PREQUALIFICATION UPDATE (BID) STATEMENT

\_\_\_\_\_ 12. STATE OF CONNECTICUT WAGE CERTIFICATION FORM: (Refer to Information for Bidders Article 1.23) (Notarized Original)

\_\_\_\_\_ 13. STATEMENT OF BIDDERS COMPLIANCE WITH EEO

\_\_\_\_\_ 14. CERTIFICATION OF MATERIAL CONFORMANCE WITH THE SPECIFICATIONS

\_\_\_\_\_ 15. CONTRACTOR EMPLOYER INFORMATION & TRAINING VERIFICATION FORM PART 1 & PART 2

\_\_\_\_\_ 16. CONTRACTOR HAZARD COMMUNICATION

\_\_\_\_\_ 17. PROPOSAL TO BE SUBMITTED IN DUPLICATE (ORIGINAL & ONE COPY)

BID ADDENDUM 1

SECTION 2

BID PROPOSAL

**BID #2016-011**  
**FRANCIS T. PATNAUDE PUMP STATION**  
**MATTABASSETT REGIONALIZATION PROJECT**

Issue Date: **June 2, 2016**

Reply Date: **July 28, 2016**

To: Supervisor of Purchases  
City of Middletown  
Municipal Building, Room 112  
245 DeKoven Drive  
Middletown, CT 06457

We the undersigned have thoroughly examined the contract documents which include the contract plans and specifications as prepared by CDR Maguire of Rocky Hill, CT dated February 23, 2016. Included in these contract documents are the Invitation to Bid, Information for Bidders, Technical Specifications, General Conditions, Special Conditions, General Specifications, Agreement, and other related Contract Documents and Exhibits.

Further, we the undersigned have carefully examined project documentation included on the CD delivered with the Project Specifications; including, but not limited to, drawings of the original buildings at 34 East Main Street, environmental reports, geotechnical reports, boring logs, etc.

We the undersigned propose and agree to contract with the City of Middletown (herein called the Owner) in the form of a contract, to provide all necessary labor, machinery, tools, apparatus, equipment and other means of construction and to oversee the work and furnish all materials called for/or shown on the drawings, specifications and other documents in the manner prescribed and according to the requirements of the owner, within the time set for in the contract documents at the bid prices incorporated herein. Should there be a discrepancy in the language within the contract documents, the more stringent language shall apply.

We the undersigned agree that the following schedule of values submitted with this Bid Proposal is a true representation of the distribution of the costs of this project and equals the guaranteed maximum cost shown herein.

The bid is made with the understanding that it cannot be withdrawn for a period of ninety (90) days after the date set for opening of the bids.

**THE BID MUST BE SIGNED BY THE BIDDER TO BE ACCEPTED**

\_\_\_\_\_  
COMPANY NAME

\_\_\_\_\_  
SIGNATURE AND TITLE

BID ADDENDUM 1

SECTION 2

BID PROPOSAL

Bid Bond or Check is attached to this bid in the amount of:

\_\_\_\_\_ (\$ \_\_\_\_\_ )

Written figures

Bid Security from: \_\_\_\_\_

(Insert Bonding Company/Bank name and address on the line provided.)

BIDDER acknowledges receipt of the following ADDENDA, if applicable:

No. 1            Date: \_\_\_\_\_

No. 3            Date: \_\_\_\_\_

No. 2            Date: \_\_\_\_\_

No. 4            Date: \_\_\_\_\_

BID ADDENDUM 1

SECTION 2

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In the bid items that follow, Bidder shall include all applicable taxes, fees and other incidental costs. Bidder must bid on every item to be considered a valid bid. Prices are to be written in words and figures. In case of a discrepancy, the bid amount in words shall prevail.

Bid Item #	Ref. Spec. Section/Drawing	Est. Qty	Unit of Measure	Item Description	Unit Price Words And Figures	Extension In Figures
1	Contract Requirements and Division 1	1	Lump Sum	Information for Bidders, General Conditions, Special Conditions, General Specifications, Pollution Control and Environmental Protection; Division 1 (01010-01820)	_____ Written Figures	\$ _____
2	General and Special Conditions	N/A	Allowance	Utility Fees and Inspections	TEN THOUSAND DOLLARS AND NO CENTS Written Figures	\$ 10,000.00
3	Architectural Specifications 086250, 101416, 105113, 105613, 107500, 113000	1	Lump Sum	Furnish & Install Tubular Daylighting Device, Metal Lockers, Metal Storage Shelving, Flag Pole, Appliances and Plaques	_____ Written Figures	\$ _____
4	02072	100 Indeterminate	Per Gallon	Remove and Dispose Residual Contents (Gasoline, Heating Oil and Sludge) Two (2) Underground Storage Tanks	_____ Written Figures	\$ _____
5	Technical Specifications Div. 11, 15, 16	1	LS	Special Tools, Spare Parts, Extra Materials and Shelf Spares (Divisions 11, 15 and 16)	_____ Written Figures	\$ _____
6	02377	5,000	Square Feet	Timber Sheeting left in Place	_____ Written Figures	\$ _____

BID ADDENDUM 1

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BID PROPOSAL

Bid Item #	Ref. Spec. Section/Drawing	Est. Qty	Unit of Measure	Item Description Unit Price Words And Figures	Extension In Figures
7	02378	5,000	Square Feet	Steel Sheeting left in Place  Written Figures	\$ _____
8	119 Civil Drawings	1	Lump Sum	Sedimentation Control System  Written Figures	\$ _____
9	110	100	Cubic Yard	Test Pits  Written Figures	\$ _____
10	City IWWA Exhibit E-Plates A & B 02900	1	Lump Sum	Wetland Plantings for Shrubs, Seedlings, Vines and Ground Cover Plants  Written Figures	\$ _____
11	614	200	SY	Turf Establishment  Written Figures	\$ _____
12	104	1	LS	Clearing and Grubbing  Written Figures	\$ _____
13	106	700	CY	Bank Run Gravel  Written Figures	\$ _____
14	120	1	LS	Maintenance and Protection of Traffic  Written Figures	\$ _____

BID ADDENDUM 1

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Bid Item #	Ref. Spec. Section/Drawing	Est. Qty	Unit of Measure	Item Description Unit Price Words And Figures	Extension In Figures
15	02060; 01505; Drawing G-0.4; C-1. 2	1	Lump Sum	Selective Demolition, exclusive of work related to ACM, PCB Containing Materials < 50 PPM and Universal Waste Reclamation  Written Figures	\$ _____
16	02062; Drawing G-0.4; C-1.5; C-2.2; C-2.3	1	Lump Sum	Maintain Sewer Flows (Bypassing) - Maple St Gravity Sewer and East Main St Interceptor Sewer  Written Figures	\$ _____
17	02062; Drawings G-0.4; C-2.4	1	Lump Sum	Maintain Sewer Flows (Bypassing)- 42 inch River Road Interceptor Sewer  Written Figures	\$ _____
18	01011; 02060; Drawing C-1.2; C-7.2 and Civil Details	186	Each	Remove and Dispose Piles inside the footprint of the proposed improvements and which interfere with the proposed new work  Written Figures	\$ _____
19	01011; 02060, Drawing C-1.2; C-7.1; C-7.2; Civil Details	15	Each	Cut and Cap piles inside the footprint of the proposed improvements and which do not interfere with the proposed new work  Written Figures	\$ _____
20	02300; Structural And Civil Drawings	9,000	Per Linear Foot	Furnish and Install Micro-Piles  Written Figures	\$ _____
21	02080, Drawing HBM1.2	1	Lump Sum	Pump Building Boiler Insulation (est. 100 SF)  Written Figures	\$ _____

BID ADDENDUM 1

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BID PROPOSAL

Bid Item #	Ref. Spec. Section/Drawing	Est. Qty	Unit of Measure	Item Description Unit Price Words And Figures	Extension In Figures
22	02080, Drawing HBM1.2	1	Lump Sum	Pump Building Wall Wood Panel and Associated Glue (est. 630 SF)	\$ _____
				Written Figures	
23	02080 Drawings HBM 1.2 And HBM 1.3	1	Lump Sum	Pump Building Windows (est. 14 each)	\$ _____
				Written Figures	
24	02080, 02085, Drawings HBM 1.2 And HBM 1.3	8	Each	Incinerator Building Windows	\$ _____
				Written Figures	
25	02080, Drawing HBM1.2	1	Lump Sum	Pump Building and Incinerator Building Roofing (est. 3400 SF)	\$ _____
				Written Figures	
26	02080 and HBM Drawings	40 LF	Per Linear Foot	Pipe Insulation	\$ _____
				Written Figures	
27	02080 and HBM Drawings	10	Per Glove Bag	Glove Bag	\$ _____
				Written Figures	
28	02080 and HBM Drawings	1	Per Containment Area	Preparation of a Small Containment Area	\$ _____
				Written Figures	
29	02080 and HBM Drawings	1	Per Containment Area	Preparation of a Medium Containment Area	\$ _____
				Written Figures	
30	02080 and HBM Drawings	4	Per Door	Fire Doors	\$ _____
				Written Figures	

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Bid Item #	Ref. Spec. Section/Drawing	Est. Qty	Unit of Measure	Item Description Unit Price Words And Figures	Extension In Figures
31	02080 and HBM Drawings	50	Per Gasket	Gaskets Associated with Piping _____ Written Figures	\$ _____
32	02080 and HBM Drawings	50 LF	Per Linear Foot	Transite Piping Underground _____ Written Figures	\$ _____
33	02080, 02085, and HBM Drawings	100 SF	Per Square Foot	Tar/Waterproofing _____ Written Figures	\$ _____
34	02080 and HBM Drawings	1	Lump Sum	Pump Building Basement and First Floor Walls and Incinerator Building Basement Ceiling (est. 3500 SF) _____ Written Figures	\$ _____
35	02085 and HBM Drawings	1	Lump Sum	Pump Building Basement Concrete Walls to Remain in Place (est. 2900 SF) _____ Written Figures	\$ _____
36	02085, Drawing HBM 1.3	1	Lump Sum	Pump Building Metal Stair Components and Metal Stairwell Doors (est. 900 SF) _____ Written Figures	\$ _____
37	02085, Drawing HBM 1.3	1	Lump Sum	Concrete Floor in Pump Building (est. 1500 SF) _____ Written Figures	\$ _____
38	02085, Drawing HBM 1.3	1	Lump Sum	Plaster Ceilings in Pump Building (est. 2,135 SF) _____ Written Figures	\$ _____

BID ADDENDUM 1

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Bid Item #	Ref. Spec. Section/Drawing	Est. Qty	Unit of Measure	Item Description Unit Price Words And Figures	Extension In Figures
39	02085, Drawing HBM 1.3	1	Lump Sum	Steel I-Beams (est. 2,200 SF)  Written Figures	\$ _____
40	02085, Drawing HBM 1.1	1,000 SF	Per Square Foot	Buried Structures  Written Figures	\$ _____
41	02082, Drawing HBM 1.1	1	Lump Sum	Universal Wastes (est. 63 Lighting Ballasts and 350 LF of Fluorescent Lamps)  Written Figures	\$ _____
42	02085	100	Per Ton	Disposal of Concrete Containing PCB < 50 ppm  Written Figures	\$ _____
43	102	100 Indeterminate	C.Y.	Earth Excavation and Screened Gravel BELOW Normal Grade  Written Figures	\$ _____
44	103	100 Indeterminate	C.Y.	Rock Excavation, Disposal and Backfill  Written Figures	\$ _____
45	02433 & 103	4 Indeterminate	C.Y.	Removal of Obstructions (Bore and Jack)  Written Figures	\$ _____
46	102	100 Indeterminate	L.F.	Supporting Interfering Obstructions  Written Figures	\$ _____

BID ADDENDUM 1

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BID PROPOSAL

Bid Item #	Ref. Spec. Section/Drawing	Est. Qty	Unit of Measure	Item Description Unit Price Words And Figures	Extension In Figures
47	102	100 Indeterminate	L.F.	Supporting Parallel Obstructions  _____ Written Figures	\$ _____
48	121, 01020	N/A	Allowance	Trafficmen (City Police)  <u>FIFTY THOUSAND DOLLARS AND NO CENTS</u> Written Figures	<u>\$50,000.00</u>
49	121, 01020	N/A	Allowance	Trafficmen (State Police)  <u>TEN THOUSAND DOLLARS AND NO CENTS</u> Written Figures	<u>\$10,000.00</u>
50	121, 01020	N/A	Allowance	Trafficmen (Uniformed Flagmen)  <u>TWENTY-FIVE THOUSAND DOLLARS AND NO CENTS</u> Written Figures	<u>\$25,000.00</u>
51	605	500	SY	Temporary and Permanent Pavement Replacement (City Roads)  _____ Written Figures	\$ _____
52	01525; Environmental Details	1	Lump Sum	Temporary Waste Stockpile Area (WSA)  _____ Written Figures	\$ _____
53	01525/Env-4.2 Environmental Details	1	Lump Sum	Temporary Soil Classification Area (SCA)  _____ Written Figures	\$ _____
54	SPECIAL CONDITIONS 6.24; 01020, 01180	1	Allowance	Testing Laboratory Services  <u>FIFTEEN THOUSAND DOLLARS AND NO CENTS</u> Written Figures	<u>\$15,000.00</u>

BID ADDENDUM 1

SECTION 2

BID PROPOSAL

Bid Item #	Ref. Spec. Section/Drawing	Est. Qty	Unit of Measure	Item Description Unit Price Words And Figures	Extension In Figures
55	01011; 02072; CIVIL DRAWINGS	1	Lump Sum	Removal and Disposal of Two (2) Underground Storage Tanks  Written Figures	\$ _____
56	01011; 02215	3,600	Per Ton	Disposal of Controlled Materials  Written Figures	\$ _____
57	01011; 02314	4,400	C.Y.	Controlled Materials Excavation  Written Figures	\$ _____
58	01011; 02316	2,200	C.Y.	Management of Reusable Controlled Material  Written Figures	\$ _____
59	01011; 02316	3,800	C.Y.	Management of Reusable Non Controlled Material  Written Figures	\$ _____
60	01011; 02413	1	Lump Sum	Handling Contaminated Groundwater Discharges to Sanitary Sewer  Written Figures	\$ _____
61	01011; 02413	1	Lump Sum	Handling Contaminated Groundwater Discharges to Surface Water – Sub Aqueous Stream Crossing  Written Figures	\$ _____
62	02300	50 Indeterminate	Per Hour	Overcoming Obstacles During Drilling Micro-Piles  Written Figures	\$ _____

BID ADDENDUM 1

SECTION 2

BID PROPOSAL

Bid Item #	Ref. Spec. Section/Drawing	Est. Qty	Unit of Measure	Item Description Unit Price Words And Figures	Extension In Figures
63	02300	100 Indeterminate	Per Linear Feet	Micro-Piles – Rock Socket- Pump Station Building and Valve Vault – Depth Greater than 10 feet  _____ Written Figures	\$ _____
64	02300	10 Indeterminate	Per Linear Feet	Micro-Piles – Rock Socket- Surge Tank – Depth Greater than 5.5 feet  _____ Written Figures	\$ _____
65	02300	10 Indeterminate	Per Linear Feet	Micro-Piles – Rock Socket – 36 inch Pipe Utility Bridge Crossing – Depth Greater than 4 Feet  _____ Written Figures	\$ _____
66	02300	10 Indeterminate	Per Test	Micro-Piles – Additional Verification Testing as Ordered by Engineer  _____ Written Figures	\$ _____
67	C-1.5; C-2.1; Civil Details; EP-5.1; 02230; 02340; 02377; 02378; 02615	145	Per Linear Feet	24 inch Ductile Iron Pressure Force Main  _____ Written Figures	\$ _____
68	C-1.5; C-2.1; Civil Details; 02230; 02340; 02377; 02378; 02615	673	Per Linear Feet	30 inch Ductile Iron Pressure Force Main  _____ Written Figures	\$ _____
69	C-1.5; C-2.1; Civil Details; 02230; 02340; 02377; 02378; 02615; 02651	190	Per Linear Feet	30 inch Ductile Iron Pressure Force Main – Sub-Aqueous Crossing  _____ Written Figures	\$ _____
70	03400; 13420 (2.1.A-H); 11060; 11070	1	LS	Flow Meter Vault  _____ Written Figures	\$ _____

BID ADDENDUM 1

SECTION 2

BID PROPOSAL

Bid Item #	Ref. Spec. Section/Drawing	Est. Qty	Unit of Measure	Item Description Unit Price Words And Figures	Extension In Figures
71	02615	1	LS	Hydrostatic Testing Force Main  _____ Written Figures	\$ _____
72		N/A	Allowance	Water for Force Main Testing  <u>FIVE THOUSAND DOLLARS AND NO CENTS</u> Written Figures	\$ <u>5,000.00</u>
73	C-1.5; C-2.2; Civil Details; 02230; 02340; 02377; 02378; 02531; 02622; 03400	450	Per Linear Feet	East Main Street Interceptor Sewer  _____ Written Figures	\$ _____
74	C-1.5; C-2.3; Civil Details; 02230; 02340; 02377; 02378; 02531; 02622; 03400	806	Per Linear Feet	Maple Street Sewer  _____ Written Figures	\$ _____
75	C-2.4; Civil Details; 02230; 02340; 02377; 02378; 02531; 02615; 03400	48	Per Linear Feet	30-inch - River Rd Sewer  _____ Written Figures	\$ _____
76	C-2.4; Civil Details; 02230; 02340; 02377; 02378; 02531; 02615; 03400	92	Per Linear Feet	36-inch - River Road Sewer  _____ Written Figures	\$ _____
77	C-2.4; Civil Details; 02230; 02340; 02377; 02378; 02531; 02615; 03400	75	Per Linear Feet	42-inch - River Rd Sewer  _____ Written Figures	\$ _____
78	C-2.4; Civil Details; 673; 02230; 02377; 02378; 02433; 02531; 02615; 03400; EXHIBIT C AND EXHIBIT D	115	Per Linear Feet	Pipe Crossing under Railroad  _____ Written Figures	\$ _____

BID ADDENDUM 1

SECTION 2

BID PROPOSAL

Bid Item #	Ref. Spec. Section/Drawing	Est. Qty	Unit of Measure	Item Description Unit Price Words And Figures	Extension In Figures
79	C-2.4; 02377; 02378; 02615; Div. 3; S-9.1; S-9.2	1	Lump Sum	Utility Bridge and Support Piers  Written Figures	\$ _____
80	C-2.4; 02377; 02378; 02615; EXHIBIT C	404	Per Linear Feet	Pipe Crossing under Highway  Written Figures	\$ _____
81	C-2.4; DEEP Permit	900	Per Linear Feet	Abandonment of Existing 36 inch Gravity Interceptor Sewer and Timber Utility Bridge  Written Figures	\$ _____
82	Division 2	1	Lump Sum	Pump Station Foundation  Written Figures	\$ _____
83	Division 2	1	Lump Sum	Miscellaneous Site work Not Included in Other Bid Items  Written Figures	\$ _____
84	Division 3	1	Lump Sum	Structural Concrete  Written Figures	\$ _____
85	N/A	50	CY	Miscellaneous Concrete  Written Figures	\$ _____
86	Division 4	1	Lump Sum	Masonry  Written Figures	\$ _____
87	Division 5	1	Lump Sum	Metals  Written Figures	\$ _____

BID ADDENDUM 1

SECTION 2

BID PROPOSAL

Bid Item #	Ref. Spec. Section/Drawing	Est. Qty	Unit of Measure	Item Description Unit Price Words And Figures	Extension In Figures
88	Division 6	1	Lump Sum	Carpentry  Written Figures	\$ _____
89	Division 7	1	Lump Sum	Thermal and Moisture Protection  Written Figures	\$ _____
90	Division 8	1	Lump Sum	Doors and Windows  Written Figures	\$ _____
91	Division 9	1	Lump Sum	Finishes  Written Figures	\$ _____
92	Division 10	1	Lump Sum	Specialties  Written Figures	\$ _____
93	Division 11	1	Lump Sum	Process Equipment  Written Figures	\$ _____
94	Division 12	1	Lump Sum	Furnishings  Written Figures	\$ _____
95	Division 13	1	Lump Sum	Special Construction – Exclusive of Hydropneumatic Surge Control System  Written Figures	\$ _____
96	Division 13	1	Lump Sum	Hydropneumatic Surge Control System  Written Figures	\$ _____

BID ADDENDUM 1

SECTION 2

BID PROPOSAL

Bid Item #	Ref. Spec. Section/Drawing	Est. Qty	Unit of Measure	Item Description Unit Price Words And Figures	Extension In Figures
97	Division 14	1	Lump Sum	Conveying Systems  Written Figures	\$ _____
98	Division 15	1	Lump Sum	Mechanical/HVAC  Written Figures	\$ _____
99	Division 15	1	Lump Sum	Plumbing  Written Figures	\$ _____
100	Division 15	1	Lump Sum	Fire Protection  Written Figures	\$ _____
101	Division 16	1	Lump Sum	Electrical  Written Figures	\$ _____
102	INFORMATION FOR BIDDERS ART. 1.9 - Bonds; SEC 5-GENERAL CONDITIONS, ART. 10.3	1	Lump Sum	Extended Warranty (Maintenance Bond)  Written Figures	\$ _____
103	EXHIBIT D	N/A	Allowance	Railroad Inspector – Exhibit D  <u>FIFTY THOUSAND AND NO/100</u> Written Figures	<u>\$ 50,000</u>
104	EXHIBIT C	N/A	Allowance	CTDOT Permit Fees, Bonds & Insurances – Exhibit C  <u>TEN THOUSAND AND NO/100</u> Written Figures	<u>\$ 10,000</u>

**TOTAL AMOUNT OF BID:** Sum of Items 1 – 104 Inclusive of all equipment, materials, labor, transportation, installation, etc. to complete the project in accordance with the detailed specifications included herein:

( \_\_\_\_\_ (\$) )  
(Total Bid in Written Figures)

## BID ADDENDUM 1

### SECTION 2

#### BID PROPOSAL

IN SUBMITTING THIS BID, THE BIDDER ACKNOWLEDGES THAT:

1. It is the intent of the City to award one (1) general contract in the aggregate to the lowest responsible bidder complying with these specifications, submitting the lowest total cost to complete the work as specified, providing that there are sufficient funds available to award this contract. It is the intent of the City to accept bids from general contractors only for this project. The lowest responsible bid shall be determined based upon the sum of the base bid and bid alternates selected, if any. Additionally, in determining whether a bidder qualifies as the lowest responsible bidder, the City shall also review other subjective factors, such as the bidder's skill, ability and integrity to perform the work as specified, the bidders professional references (if required), the bidders reputation, information discovered during the interview process (if applicable) and whether the City in its sole discretion determines that awarding the bid to the bidder will be in the best interests of the City. The City shall award the contract to the lowest responsible bidder using the guidelines set forth herein, or shall reject all bids.
2. To the extent Unit Prices are contained in this Contract, the various UNIT PRICES BID WILL CONTROL in any CONTRACT which may be awarded arising from this BID; that the estimated quantities above are approximate only and are used solely for the purpose of comparison of BIDS; that the numerical products obtained by multiplication of the above unit prices with the estimated quantities and the total derived thereof have been inserted only for the convenience of the BIDDER and to facilitate consideration of the BIDS by the OWNER.
3. No representation of warranty has been made by the OWNER or the ENGINEER that the estimated quantities used for comparison of BIDS will even approximate the actual quantities required to satisfactorily complete the WORK required under this CONTRACT.
4. The unit and lump sum prices include all labor, materials, transportation, hauling, bailing, shoring and bracing, demolition and removals, surveying and engineering, overhead, fees and insurances, profit, and all other costs to cover the finished work of the several kinds called for in the Contract Documents. No additional payment of any kind in the form of a surcharge will be made for work provided under the unit/lump sum prices, as bid.
5. Upon receipt of written notice of acceptance of this bid by the owner, the bidder shall execute the contract attached to these documents within ten (10) calendar days and deliver the bonds as required in these documents. The bid security submitted with this bid will become the property of the owner in the event the contract and bonds are not executed within the time herein set forth.
6. In regard to all conditions affecting the WORK to be done and the labor and materials to be furnished, this BID is based solely on the BIDDERS investigations and findings and neither the OWNER nor the ENGINEER nor their officers, employees or agents shall be held responsible for the accuracy of, or be bound by any information contained in these Contract Documents including but not limited to soil boring information relative to rock, water or other subsurface conditions related to the WORK; that no warranty or representation has been made by the OWNER or the ENGINEER as to subsurface soil or rock conditions, ground water or other underground and similar conditions.
7. This bid is submitted in full compliance with the conditions outlined in the contract documents. The bidder has fully responded to and completely filled in all required spaces in the bid documents, including the non-collusive form, and obtained the necessary notary public signatures, where required.

BID ADDENDUM 1

SECTION 2

BID PROPOSAL

This BID must bear the written signature of the BIDDER under one of the following categories listed on the next page. If the BIDDER is a partnership, the BID must be signed by a partner. If the BIDDER is a corporation, the BID must be signed by a duly authorized officer of such corporation, under the seal of the corporation.

**PLEASE NOTE: All of the information below is REQUIRED. Please do not leave any information blank.**

\_\_\_\_\_  
Corporation Name (if applicable)

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

Mailing Address:  
\_\_\_\_\_  
Address  
\_\_\_\_\_

Payment Address (If different from mailing addr.):  
\_\_\_\_\_  
Address  
\_\_\_\_\_

\_\_\_\_\_  
City, State and Zip

\_\_\_\_\_  
City, State and Zip

**FEIN NUMBER:** \_\_\_\_\_ -- \_\_\_\_\_

**Type of Organization:** \_\_\_\_\_ **Individual / Sole Proprietor**  
**(Please Check One)**  
\_\_\_\_\_ **Limited Liability Company**  
\_\_\_\_\_ **Corporation**

**Contact Information**

**Contact Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_

**Additional Contact:** \_\_\_\_\_ **Title:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_ **Fax:** \_\_\_\_\_

**Email Address:** \_\_\_\_\_

**Website:** \_\_\_\_\_

**SIGN HERE: I hereby certify that the above information is correct.**

\_\_\_\_\_  
**Print or Type Name & Title**

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

BID ADDENDUM 1

SECTION 2

BID PROPOSAL

**WITH EACH PROPOSAL, THE BIDDER SHALL SUBMIT A SIGNED NON-COLLUSIVE STATEMENT ON THE FORM ENCLOSED IN SECTION 3**

## SECTION 02060

### SELECTIVE DEMOLITION

#### PART 1 GENERAL

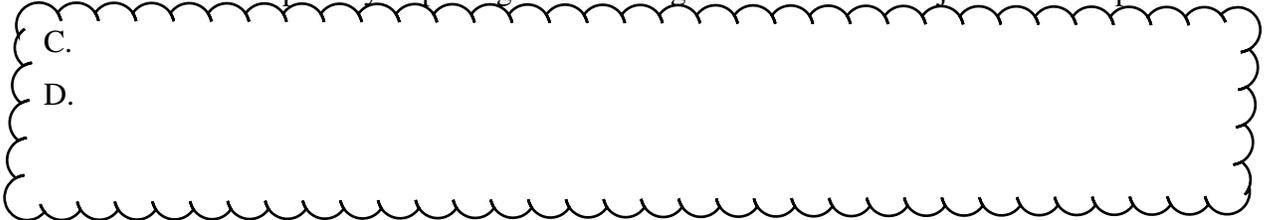
##### 1.01 SECTION INCLUDES

A. The Work of this Section includes the following:

1. Selective demolition of existing building structures at 34 East Main Street including sewage pump station (aka treatment building), incinerator building, and fire training tower (collectively, "the buildings") within the limits of disturbance as shown on the site plans.
2. Remove and dispose of all mechanical, electrical, plumbing equipment, including non-asbestos and non-PCB containing building materials and surfaces and non-universal waste reclamation building materials from within the interior of the pump station and incinerator buildings. Asbestos abatement, PCB containing material < 50 ppb, and universal waste reclamation are specified elsewhere in these specifications.
3. Remove and dispose former buried treatment tank piles and concrete substructures, including mats and walls, located within the project limits of disturbance and interfering with the proposed new work. Piles shall be exposed and locations surveyed by the Contractor and reported to the Engineer.
4. After remediating for universal waste, PCB and ACM, backfill the incinerator building basement with surplus soils generated from excavations from within the on-site AOEC areas.
5. There is no recorded documentation of pilings for the fire training tower; however, given the site conditions, the Engineer believes they exist. All areas shall be backfilled to final grade with compacted granular material, in accordance with Section 102 and as shown on the applicable contract Drawings.
6. All piles located outside the footprint of the proposed site improvements shall be left undisturbed provided that they do not interfere with the proposed work, or, cut and capped a minimum of 3 feet below final proposed grade as necessary.
7. Remove and dispose asphalt paving and underlying concrete within the limits of disturbance.
8. Remove and stockpile site entrance concrete sidewalk and curbing for reuse.

9. Remove and dispose trees, fencing, and debris within the limits of disturbance. Signs, sign posts, sign post foundations, utility poles, wires and hydrants designated for removal shall be removed and disposed unless otherwise noted on the drawings.
  10. Remove and dispose existing site utilities, including catch basins, sanitary manholes, water pipe, electrical and sewer pipe as shown on the contract drawings.
  11. Off-site crushing of concrete, brick and asphaltic materials generated from the demolition of building substructures and superstructures and paved areas shall conform to Section M.02 of the "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction Supplemented Form 816", dated July 2008. Remove, haul and dispose all site and building related solid waste debris off - site. Crushed building construction materials shall not be considered suitable for reuse as structural fill, roadway sub-base or utility backfill. No crushing will be permitted on-site.
- B. The Contractor shall be entitled to full salvage value of metals, including structural steel, steel rails, aluminum stairs, supports and siding, cast iron piping, and lead and copper pipes.
- C. The Contractor shall handle and process building demolition materials off-site in accordance with Section 01505 - Construction Waste Management for Demolition Projects.
- D. Scope of Work for on-site utilities includes the following:
1. The Contractor's attention is firmly drawn to the fact there are existing "CRITICAL" sanitary sewer and sanitary structures that must be protected and maintained during construction. These include the sanitary chamber adjacent to the existing pump station building; the 36 inch sewer interceptor (East Main Street) entering and leaving the sanitary chamber; and downstream sanitary manholes up to and including the manhole on River Road in front of the City's Water Pollution Control Plant; and the 10 inch sewer (Maple Street) that enters the existing pump station.
  2. Install shoring, sheeting, bracing and protection for the existing pump station sanitary chamber which must remain in service throughout the period of construction.
  3. Storm Drainage: Manholes and catch basins within the project limit of disturbance shall be protected and maintained.
  4. Water: All water pipes, valves, hydrants, etc. within the limits of disturbance shall be excavated, removed and disposed off-site unless otherwise noted on the Drawings. Locations of these devices are indicated on the Drawings but are to be confirmed by the Contractor in the field. Any valve closures are to be

- B. The Contractor shall demonstrate the pumping equipment can operate for an extended period of time running dry. After this period of time, the pump shall have the capability of pulling a 25-inch Hg vacuum without adjustment or repair.



- F. The Contractor shall provide a list of phone and pager numbers to call for 24-hour service.
- G. The bypass system, including all pumps, pipes, hoses, valves and fittings, shall be provided by one (1) bypass Subcontractor. The fusion of any pipe or the bypass system shall be provided by the Subcontractor. All hydraulic calculations and drawings required by the submittals shall be provided by the bypass vendor and stamped and signed by a Connecticut Professional Engineer.

1.4 CITY REQUIREMENTS

- A. The City shall continue to report to DEEP any planned or unforeseen bypasses related to referenced project following established protocols and within stipulated timeframes pursuant to NPDES permit # Ct-0100323 issued to the City of Middletown.

1.5 EQUIPMENT

- A. All pumps used shall be centrifugal, end suction and fully automatic self-priming pumps that do not require the use of foot-valves, vacuum pumps, diaphragm pumps or isolation valves in the priming system. All pumps used must be constructed to allow dry running for long periods of time to accommodate the cyclical nature of effluent flows pump and shall immediately develop a 25-inch Hg vacuum without adjustment or repair or employ level control devices to regulate on/off or variable speed of the pump. Hydraulic submersible or well point type pumps are prohibited.
- B. Seals shall be high pressure, mechanical self-adjusting type with silicon carbide faces capable of withstanding suction pressures to 100 psi running. The mechanical seal shall be cooled and lubricated in an oil bath reservoir, requiring no maintenance or adjustment. Pumps shall be capable of running dry, with no damage, for extended periods of time. All metal parts shall be of stainless steel. Elastomers shall be Viton. Pumps shall be manufactured to meet ISO 9002 certifications.
- C. Each pump shall be driven by a Diesel engine or electric motor. Diesel engine shall be water cooled. If the Contractor uses electric motor driven pumps, power

costs are the responsibility of the Contractor as well as any costs associated with bringing power to the site for the electric motor driven pumps. A generator is required with electric driven pumps.

- D. If using Diesel driven pumps, the Contractor shall skid-mount each pump and Diesel engine with an integral fuel tank and skid lifting bracket. The Contractor shall be responsible for all required Diesel fuel to ensure reliable operation throughout the duration of the work.
- E. The Contractor shall provide the necessary start/stop controls for each pump.
- F. The Contractor shall furnish one (1) emergency stand-by pump for each size to be operated on site.
- G. Stand-by pumps shall be on-line, isolated from the primary system by a valve.
- H. Pump shall not be connected by a common suction manifold. The use of PVC or steel pipe with flexible couplings shall not be accepted. All pipe or hose shall be rated for 25 inches Hg vacuum.
- I. In order to prevent the accidental spillage of flows, all discharge systems must be constructed of HDPE pipe with fused joints quick disconnect discharge pipe with positive restrained joints and leak proof connections. Discharge hose shall only be allowed by specific permission of the Engineer. PVC pipe with glued joints, aluminum "irrigation pipe", steel or PVC pipe with flexible couplings shall not be accepted. All joints must be 100 percent restrained. All discharge pipe must have a minimum working pressure of 50 psi. All force main connections shall be made by using flanged composite hose with a working pressure of 150 psi.
- J. Allowable piping materials shall be fused HDPE pipe, quick disconnect pipe or flanged composite pressure class hose. The DR of the discharge the piping shall be suitable for the calculated discharge pressures. The Subcontractor fusing the pipe shall have a minimum of five (5) years' experience fusing HDPE pipe of the same diameters required for the Project.
- K. Spill containment of 110 percent of the fuel/oil capacity for each pump shall be provided.
- L. The Contractor shall repair any damage that occurs to existing pipes and structures to the satisfaction of and at no additional expense to the Owner. The repair work performed shall be part of this item.
- M. The Contractor shall not allow dry weather sanitary sewage to discharge to any water body or wetlands by means of overflow, bypass pumping or any other method that may contaminate the water bodies or wetlands.

## 1.6 SYSTEM DESCRIPTION

### A. Design Requirements

- 1. The Contractor shall provide temporary bypass pumping systems to handle the peak flow anticipated during the bypass period. The Contractor shall be responsible for researching available information and taking measurements necessary to estimate peak and average flows to be

2. The Contractor shall provide all necessary means to safely convey the sewage past the work area. The Contractor shall not be permitted to stop or impede the main flows under any circumstances.
3. The Contractor shall maintain sewage flow around the work area in a manner that shall not cause surcharging of sewers and damage to sewers and that shall protect the public and private property from damage and flooding.
4. The bypass system shall not require excavation to reduce the suction lift without the specific approval of the Engineer prior to the Bid.
5. The Contractor shall protect water resources wetlands and other natural resources.
6. The Contractor shall be responsible to meet noise requirements (68 dbA @ 30 feet). All diesel-driven primary and standby pumps shall be sound attenuated.

## **PART 2 – PRODUCTS**

Not used.

## **PART 3 – EXECUTION**

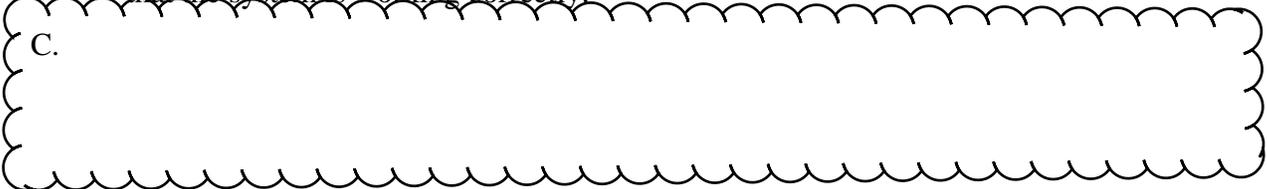
### **3.1 HANDLING EXISTING COMBINED WASTEWATER FLOWS**

- A. The Contractor shall maintain the existing flows around the Work area in a manner that does not cause surcharging of sewers and damage to sewers and protects public and private property from damage and flooding.
- B. All procedures for maintaining existing flows must meet the approval of the Engineer. The Contractor shall submit to the Engineer, for approval, a detailed written plan of all methods of flow management as specified in other sections.

### **3.2 FIELD QUALITY CONTROL AND MAINTENANCE**

- A. Test: The Contractor shall perform leakage and pressure tests of the bypass pumping discharge piping using clean water prior to actual operation. The Engineer shall be given 24-hour notice prior to testing. The Contractor is responsible for providing the test water.
- B. Inspection: The Contractor shall inspect the bypass pumping system to ensure that the system is working correctly.

C.



2. Shipping papers and Certificates of Destruction/Recycling from the approved scrap metal recycling facility indicating receipt and acceptance of scrap metal debris (tank, piping, etc.).

## **PART 2 PRODUCTS**

- A. The fill material shall be as specified in Section 102 - Earth Excavation, Backfill, Fill and Grading.

## **PART 3 EXECUTION**

### 3.01 GENERAL PROVISIONS

- A. The Contractor shall clean (removal of sludges and residuals), remove and dispose of: one 1,000-gallon heating oil UST and one 1,000-gallon gasoline UST located at 34 East Main Street in Middletown, Connecticut, as indicated on the Contract Plans.
- B. Removal and disposal shall include the removal of all appurtenances associated with the tanks (manways, fuel piping, vent piping, conduits, tank and piping monitoring devices, etc.). Removal shall also include all necessary vapor purging, defuming, cleaning, etc.
- C. Disposal of residual petroleum product and water from within the tanks and piping structures shall be at licensed disposal facility. The Contractor shall utilize licensed transport vehicles that hold a "Waste Transportation Permit" for contaminated liquids per CGS 22a-454. Disposal of residual contents will be separately bid.
- D. Excavation and disposal of controlled materials shall be performed by the Contractor in accordance with Section 02314, "Controlled Materials Excavation" and Section 02215, "Disposal of Controlled Materials".
- E. Handling of contaminated groundwater shall be performed by the Contractor in accordance with Section 02413, "Handling Contaminated Groundwater".
- F. The Contractor shall exercise all necessary precautions for fire prevention. Acceptable fire extinguishers shall be made available at all times. Flame/torch cutting is prohibited.
- G. The Contractor shall prevent damage to any existing utilities, structures, equipment and appurtenances that are to remain in service.

- B. The abated PCB containing materials and wastes generated throughout the project **MUST** be managed in accordance with appropriate Sections. Also refer to Section 02120 – Transportation and Disposal of Contaminated Building Materials.
- E. All disposal facilities require pre-approval by the Engineer.
- F. Provide evidence that the PCB waste has been received at a licensed disposal or recycling facility approved for accepting PCB waste. Such proof shall be truck weight slips from an approved disposal facility. Transport of all materials off site shall be in accordance with applicable Department of Transportation Regulations.

END OF SECTION

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SECTION 02651

**SUB-AQUEOUS FORCE MAIN CROSSING**

**PART 1 GENERAL**

1.01 WORK INCLUDED IN THIS SECTION

- A. The Work of this Section shall consist of furnishing all labor, material, tools, equipment, and incidentals and performing all operations required for the conventional open cut and cover installation of 30 inch pressure class 200 ductile iron pipe beneath Sumner Creek. These operations include the design, installation and final adjustment of sheet pile cofferdam and such other structures as may be necessary for the conveyance of water beyond the limits of disturbance, the diversion and handling of groundwater, compliance with any terms and conditions imposed by the DEEP's General Permit Registration (GRS000198) presented in Exhibit F2, the DEEP's (Office of Long Island Sound) individual permit authorization presented in Exhibit F2, and the City of Middletown's Inland Wetlands and Watercourses Agency approval, presented in Exhibit E, restoring the site to pre-construction conditions.
- B. The Contractor shall be responsible for submitting a comprehensive Work Plan at least 30 days prior to beginning work. No construction will occur until the Work Plan is submitted and approved by the Engineer. This plan shall detail the Contractor's choice of materials, method of construction, means and methods of approach to designated work areas, design calculations, evidence of understanding the sub-surface conditions underlying the bottom of the trench, depth of proposed sheet pile cofferdam required to divert water and shore the trench, work schedule, anticipated construction equipment, methods of dewatering, sizing and location of portable sediment removal tanks, number of filter bags or proposed means of filtering solids prior to discharge downstream of the work area, and a sedimentation and erosion control plan and other conditions of approval by the City in Exhibit E.
- C. The work shall also include all work required for the diversion of water beyond the limits of disturbance including the furnishing, installation, and removal of temporary piping, temporary sandbags, portable sediment removal tanks, sediment/filter bags, sedimentation and erosion control measures, and proposed location of dewatering discharge back to Sumner Creek.

1.02 RELATED SECTIONS

- A. All of the Contract Documents, including the General Conditions and Special Conditions, General Specifications, Pollution Control and Environmental Protection, Division 1 Technical Specifications, and the Exhibits apply to this Section.

B. General Notes

- C. Section 102 – Earth Excavation, Backfill, Fill and Grading

- d. "Pozzolith 100-XR"; Master Builders.
3. High-Range Water-Reducing Admixture (Superplasticizer): The admixture shall conform to ASTM C494, Type "F" or Type "G" and not contain more than 0.05 percent chloride ions.

Products: Provide one of the following:

- a. "Eucon 37/1037" or "Plastol 341/5000"; The Euclid Company.
- b. "Daracem-100" or "ADVA Flow"; W.R. Grace & Co.

c. "Rheobuild 1000" or "Glenium 3030"; Master Builders

d. "Sikament 686" or "Sika Viscocrete Series"; Sika Chemical Corporation

4. Non-corrosive, Non-chloride Accelerator Admixture: The admixture shall conform to ASTM C494, Type "C" or "E" and not contain more than 0.05 percent chloride ions. The admixture manufacturer must have long-term non-corrosive test data from an independent testing laboratory (of at least a year's duration) using an acceptable accelerated corrosion test method such as that using electrical potential measures.

Products: Provide one of the following:

- a. "Accelguard 80"; The Euclid Chemical Co.
- b. "Daraset"; W.R. Grace & Co.
- c. "Pozzutec-20"; Master Builders.
- d. "Plastocrete 161 FL"; Sika Chemical Corp.

5. Air-Entraining Admixture: The admixture shall conform to ASTM C260 and be certified by the manufacturer to be compatible with other required admixtures.

Products: Provide one of the following:

- a. "Air-Mix or AEA 92"; The Euclid Chemical Co.
  - b. "Sika AER"; Sika Chemical Corporation.
  - c. "MBVR"; Master Builders.
  - d. "Daravair"; W.R. Grace & Co.
6. Silica Fume (Microsilica) Admixture: Silica fume admixture shall consist of a silica fume pozzolanic material containing a high content of amorphous silicon dioxide (90 to 95 percent) meeting the requirements of ASTM C1240.

Product: Provide one of the following:

- a. "Force 10,000"; W.R. Grace & Co.
  - b. "Eucon MSA"; The Euclid Chemical Co.
  - c. "Rheomac SF100"; Master Builders.
  - d. Sikacrete-950DP - Sika Chemical Corporation
7. Fly Ash Admixture: Fly ash admixture shall consist of finely divided coal fly ash meeting the requirements of ASTM C 618 Class F and L.O.I. maximum of 2% +/- .5%.

Product: Provide one of the following:

- a. "ProAsh" by Separations Technologies, Inc.
  - b. Processed fly ash with low and consistent Loss on Ignition (LOI) indicating low carbon that could otherwise affect concrete properties.
  - c. Acceptance of type and quantity of fly ash shall be subject to demonstration by a successful onsite placement.
9. Corrosion Inhibiting Admixture: 30% calcium nitrite (where called for in the specifications or on the drawings). The admixture shall

conform to ASTM C494, Type "C" and not contain more than 0.05 percent chloride ions .

The admixture shall be used at dosages of 3 gallons per cubic yard for all cast-in-place concrete at parking levels .

Products: Provide one of the following;

- a. "Eucon CIA"; The Euclid Chemical Co.
- b. "Darex Corrosion Inhibitor (DCI)"; W.R. Grace & Co.
- c. "Rheocrete CNI"; Master Builders
- d. Sika CNI - Sika Chemical Corporation

10. Alkali-Silica Reactivity Inhibitor: A specially formulated lithium nitrate admixture for the prevention of alkali-silica reactivity (ASR) in concrete. Provide "Eucon Integral ARC" by The Euclid Chemical Company. The admixture must have test data indicating conformance to ASTM C1293, "Standard Test Method for Concrete Aggregates by Determination of Length Change of Concrete Due to Alkali-Silica Reaction" Sika Control ASR-Sika Chemical Corporation, or equal.
11. Viscosity Modifying Admixture (VMA): Liquid admixture used to optimize viscosity of Self-Consolidating Concrete (SCC).

Products: Subject to compliance with requirements, provide the following at dosage rates per manufacturer's recommendation:

- a. "Visctrol", The Euclid Chemical Company
  - b. "Boral SL", Boral Material Technologies
  - c. "Rheomac VMA Series" Master Builders
  - d. Sika Stabilizer Series - Sika Chemical Corporation
12. Prohibited Admixtures: Calcium chloride, thiocyanate or admixtures containing more than 0.05% chloride ions are not permitted.
  13. Certification: Written conformance to the above-mentioned requirements and the chloride ion content of the admixture will be required from the admixture manufacturer prior to mix design review by the Engineer and/or Architect.

## 1.6 MANUFACTURER'S STANDARD WARRANTY

- A. Standard Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace access doors and frames that fail in materials or workmanship within specified warranty period, at no cost to the owner.
1. Failures include the following:
    - a. Failure to meet performance requirements.
    - b. Structural failures including excessive deflection, water leakage, air infiltration, or condensation.
    - c. Deterioration of metals, other materials, and metal finishes beyond normal weathering.
  2. Standard Warranty Period:
    - a. Access doors and frames: Two (2) years from date of Substantial Completion

## PART 2 - PRODUCTS

### 2.1 FLOOR ACCESS DOORS AND FRAMES

- A. Manufacturers
1. Bilco Company (The).
  2. Cendrex Inc.
  3. Or Equal
- B. Floor Doors, General: Equip each door with adjustable counterbalancing springs, heavy-duty hold-open arm that automatically locks door open at 90 degrees, release handle with red vinyl grip that allows for one-handed closure, and recessed lift handle.

- C. Watertight Steel Gutter-Frame Floor Door: In the Maintenance room for accessing the pumps below. Single and Double-leaf opening. Galvanized structural-steel channel frame forming gutter with NPS 1-1/2 drainage coupling and 1/4-inch-thick, diamond-pattern, galvanized structural-steel tread plate door; watertight; match floor loading capacity as noted on structural drawing S-0.1.
1. Fire-Resistance Rating: Not less than 2 hours
    - a. Finish: Yellow with wording "FIRE DOOR - DO NOT STORE MATERIALS ON SURFACE."

- D. Hardware: Provide the following:
1. Hinges: Heavy-duty, stainless-steel butt hinges with stainless-steel pins.
  2. Latch: Stainless-steel slam latch.
  3. Hardware Material: Stainless steel, including latch and lifting mechanism assemblies, hold-open arms, and all brackets, hinges, pins, and fasteners.

- E. Insulation: Fiberglass or Urethane with liner pan for hatches exposed to the exterior only.

## 2.2 MATERIALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36.
- B. Rolled-Steel Floor Plate: ASTM A 786, rolled from plate complying with ASTM A 36 or ASTM A 283, Grade C or D.
- C. Steel Sheet: Uncoated or electrolytic zinc coated, ASTM A 879, with cold-rolled steel sheet substrate complying with ASTM A 1008, Commercial Steel (CS), exposed.
- D. Metallic-Coated Steel Sheet: ASTM A 653, Commercial Steel (CS), Type B; with minimum G60 or A60 metallic coating.
- E. Rolled-Stainless-Steel Floor Plate: ASTM A 793, manufacturer's standard finish.
- F. Stainless-Steel Sheet, Strip, Plate, and Flat Bars: ASTM A 666, Type 316. Remove tool and die marks and stretch lines or blend into finish.
- G. Frame Anchors: Same type as door face.

## 2.3 FABRICATION

- A. General: Provide access door and frame assemblies manufactured as integral units ready for installation.
- B. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.
- C. Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish attachment devices and fasteners of type required to secure access doors to types of supports indicated.

SECTION 08630

**METAL FRAMED SKYLIGHTS  
(MULTIWALL GLAZING)**

**PART 1 - GENERAL**

1.1 PERFORMANCE REQUIREMENTS

- A. General: Provide metal-framed skylights capable of withstanding loads and thermal and structural movements indicated without failure. Failure includes the following:
  - 1. Deflection exceeding specified limits.
  - 2. Thermal stresses transferred to the building structure.
  - 3. Skylight framing members transferring stresses, including those caused by thermal and structural movement, to glazing.
  - 4. Weakening of fasteners, attachments, and other components.
- B. Deflection Limits: As follows:
  - 1. Deflection of the entire length of framing members in direction normal to glazing plane is limited to 1/175 of clear span.
- C. Lateral Support: Compression flanges 75% of flexural members requiring lateral be laterally braced by cross members with minimum depths equal to flexural member depth and by anchors to the building structure. Glazing material does not provide lateral support.
- D. Structural Performance: Provide metal-framed skylights, including anchorage, capable of withstanding pressures indicated without material and deflection failures and permanent deformation of structural members exceeding 0.2 percent of span when tested according to ASTM E 330.
- E. Air Infiltration: Provide metal-framed skylights with maximum air leakage of 0.06 cfm/sq. ft. of surface when tested according to ASTM E 283 at a minimum static-air-pressure differential of 6.24lb/sq. ft.
- F. Water Penetration: Provide metal-framed skylights that do not evidence water penetration when tested according to ASTM E 331 at a minimum differential static pressure of 20 percent of positive design wind pressure, but not less than 15 lb/sq. ft.
- G. Thermal Movement: Provide metal-framed skylights that allow for thermal movements resulting from the following maximum change (range) in ambient temperatures by preventing buckling, sealant failure, and other detrimental effects.
  - 1. Temperature Change (Range): 100 degrees F.

## 1.2 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions and profiles of components, and finishes for metal-framed skylights.
- B. Shop Drawings: For metal-framed skylights. Include plans, elevations, sections, details, and attachments to other work as required.
- C. Samples for Initial Selection: Manufacturer's color charts consisting of sections of units showing the full range of colors available for factory-finished aluminum.
- D. Samples for Verification: Provide color sample of selected finish on 2"x3" aluminum sheet.
- E. Installer Certificates: If required, signed by manufacturer certifying that installers comply with requirements.
- F. Product Test Reports: From a qualified testing agency indicating skylights comply with requirements, based on comprehensive testing of current products.

## 1.3 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has specialized in installing metal-framed skylights similar to those indicated for this Project and who is acceptable to manufacturer.
- B. Professional Engineer Qualifications: A professional engineer who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of skylights that are similar to those indicated for this Project in material, design, and extent.
- C. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.

## 1.4 PROJECT CONDITIONS

- A. Field Measurements: Where metal-framed skylights are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

## 1.5 WARRANTY

- A. Standard Manufacturer's Warranty: Written warranty, executed by manufacturer agreeing to repair or replace components of metal-framed skylights that fail in materials or workmanship, within specified warranty period.at no cost to the owner
  - 1. System Warranty Period: 5 years from date of substantial completion.
- B. Manufacturer's Standard Finish Warranty: Twenty (20) years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 Skylight: six ft square, double dome polycarbonate, manually operable skylights.

- 1. Manufacturers
  - a. Wasco Products Inc.
  - b. AIA Industries
  - c. Nucor Building Systems
  - d. OR Equal

### 2.2 FRAMING MATERIALS

- A. Framing Members: Extruded aluminum alloy 6063-T5 or T6, ASTM B 221
- B. Concealed Flashing: Manufacturer's standard corrosion-resistant, non-staining, non-bleeding flashing; compatible with adjacent materials.
- C. Exposed Flashing and Closures: Aluminum sheet alloy and temper of 1100-H14, thickness as require for proper performance.
- D. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, non-staining, non-bleeding fasteners and accessories; compatible with adjacent materials.
- E. Framing-System Sealants: Single-component, non-sag, high performance, non-priming, gun-grade elastomeric polyurethane sealant furnished by skylight manufacturer.
- F. Sealant complies with ASTM C920, Type S, Grade NS, Class 25.
- G. Sealant conforms to USDA approval standards.

H. Bituminous Paint: Cold-applied asphalt mastic paint complying with SSPC-Paint 12, except containing no asbestos, and formulated for 30-mil thickness per coat.

## 2.3 GLAZING MATERIALS

A. Multiwall Polycarbonate: 1-inch multiwall polycarbonate panels that meet the requirements of the 2009 International Energy Conservation code,

1. Outer Double Dome : Clear/Crystal with Lumira Aerogel;
2. Inner Double Dome: Clear

B. Glazing Gaskets: Glazing gaskets to be extruded thermoplastic elastomer by the skylight manufacturer.

C. Glazing Weatherseal Sealant: Neutral-curing silicone sealant recommended by skylight and sealant manufacturers for this use and furnished by skylight manufacturer.

1. Sealant is capable of withstanding 50 percent movement in both extension and compression (total of 100 percent movement) when tested for adhesion and cohesion under maximum cyclic movement according to ASTM C 719.
2. Sealant complies with ASTM C 920 for Type S, Grade NS, Class 25, Uses NT, G, A, and O, as applicable to substrates including other sealants with which it comes in contact.
3. Color: Black.

D. Flashing Sealant: Single-component, non-sag, high performance, non-priming, gun-grade elastomeric polyurethane sealant furnished by skylight manufacturer.

1. Sealant complies with ASTM C920, Type S, Grade NS, Class 25, Use T, NT, M, A, G, and O. Canadian Specification CAN/CGSB-19.13-M87, Classification MCG-2-25-A-N.
2. Sealant conforms to USDA approval standards.

## 2.4 FABRICATION

A. Framing Components:

1. Factory fit and assemble components, where practical.
2. Fabricate components that, when assembled, will have accurately fitted joints with ends coped or mitered to produce hairline joints free of burrs and distortion.

3. Fabricate components to drain water passing joints and to drain condensation and moisture occurring or migrating within skylight system to the exterior.
  4. Fabricate components to accommodate expansion, contraction, and field adjustment, and to provide for minimum clearance and shimming at skylight perimeter.
  5. Fabricate components to ensure that glazing is thermally and physically isolated from framing members.
  6. Form shapes with sharp profiles, straight and free of defects or deformations, before finishing.
  7. Fit and assemble components to greatest extent practicable before finishing.
  8. Reinforce members as required to retain fastener threads.
  9. Weld components before finishing and in concealed locations to greatest extent practicable to minimize distortion.
- B. Before shipping, shop assemble, mark, and disassemble components that cannot be permanently shop assembled.
- C. Provide continuous aluminum frame with weatherproof splice joints and locked and sealed or fully welded corners. Locate weep holes in the frame at each rafter connection to drain condensation.
- D. Prepare framing to receive anchor and connection devices and fasteners.
- E. Field Glazing: Locate and size extruded elastomeric setting blocks and spacers in accordance with the glazing manufacturer's recommendations. At no point shall the glazing come in contact with the skylight frame or fasteners.

## 2.5 ALUMINUM FINISHES

- A. General: Comply with NAAMM "Metal Finishes Manual" recommendations for application and designations of finishes.
- B. Finish designations prefixed by AA conform to the system for designations of aluminum finishes established by the Aluminum Association.
  1. Kynar Fluoropolymer- complying with AAMA 2605. Color as selected from manufacturer's range of colors.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting skylight performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.2 PREPARATION**

- A. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.
- B. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- C. Where aluminum will contact pressure-treated wood, separate dissimilar materials by methods recommended by manufacturer.

### **3.3 INSTALLATION**

- A. General: Comply with manufacturer's written instructions for protecting, handling, and installing skylight components.
  - 1. Fit frame joints to produce hairline joints free of burrs and distortion.
  - 2. Rigidly secure non-movement joints.
  - 3. Accommodate thermal and mechanical movements.
  - 4. Install framing components to drain water passing joints and to drain condensation and moisture occurring or migrating within skylight system to the exterior.
  - 5. Coordinate installation of flashings at skylight perimeters to maintain continuity of water barriers.

6. Set continuous curbs and flashings in a full sealant bed, unless otherwise indicated.  
Comply with requirements in Division 7 Section "Joint Sealants."
- B. Erection Tolerances: Install skylight components true in plane, accurately aligned, and without warp or rack. Adjust framing to comply with the following tolerances:
    1. Variation from Plane: Limit variation from plane or location shown to 1/8 inch in 10 feet; 1/4 inch over total length.
    2. Alignment: Where surfaces abut in line and at corners and where surfaces are separated by less than 3 inches, limit offset from true alignment to less than 1/32 inch; otherwise, limit offset from true alignment to 1/8 inch.
  - C. Field Glazing: Locate and size extruded elastomeric setting blocks and spacers in accordance with the glazing manufacturer's recommendations. At no point shall the glazing come in contact with the skylight frame or fasteners
  - D. Install secondary-sealant weatherseal according to sealant manufacturer's written instructions to provide weatherproof joints. Install joint fillers behind sealant as recommended by sealant manufacturer.

### 3.4 CLEANING

- A. Clean skylights inside and outside, immediately after installation and after sealants have cured, according to manufacturer's written recommendations.
  1. Remove temporary protective coverings and strippable coatings from pre-finished metal surfaces. Remove labels and markings from all components.
- B. Remove excess sealant according to sealant manufacturer's written recommendations.

END OF SECTION

## SECTION 101416

### PLAQUES

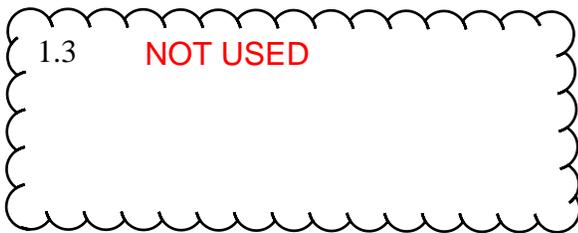
#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

##### 1.2 SUMMARY

- A. Section includes plaques.



##### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For plaques.
  - 1. Include fabrication and installation details and attachments to other work.
  - 2. Show plaque mounting heights, locations of supplementary supports to be provided by others, and accessories.
  - 3. Show message list, typestyles, graphic elements and layout for each plaque at least quarter size
- C. Samples for Initial Selection: For each type of plaque, exposed component, and exposed finish.
  - 1. Include representative Samples of available typestyles and graphic symbols.
- D. Samples for Verification: Plaque showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:

##### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and manufacturer.

gripping wedges. The flange adapter shall be capable of deflection during assembly, or permit lengths of pipe to be field cut, to allow a minimum of 0.6” gap between the end of the pipe and the mating flange without affecting the integrity of the seal. The flange adapter shall have a minimum safety factor of 2:1 for ductile iron pipe. The flange adapter castings shall receive shop applied baked-on epoxy coating for corrosion resistance. Hardware shall be 304 stainless steel. Flange adapters shall be EBAA Iron Series 2100 MEGAFLANGE, Ford Meter Box Uni-Flange, or equal.

## 2.03 COMPRESSED AIR PIPING AND FITTINGS

### A. General

1. All compressed air piping in sizes 1-1/2 inch and smaller shall be PE-AL-PE composite pipe made with high density polyethylene and aluminum conforming to ASTM F1282 and CSA B137.9. PE-AL-PE pipe shall meet the health and safety requirements of OSHA.
2. All compressed air fittings in sizes 1-1/2” and smaller shall be 316 stainless steel and shall conform to the dimensional and physical requirements of ASTM F1974 and CSA B137.9.
3. All pipe, fittings and accessories shall be Duratec Air-Line as manufactured by IPEX, or equivalent by KiTec Industries, or equal.

### B. Pipe Material

1. High Density polyethylene (HDPE) and aluminum used in the manufacture of pipe shall meet the requirements of ASTM F1282 and CSA B137.9.
2. HDPE raw materials used in the inner and outer layers of pipe shall be of Grade PE33 as per ASTM D3350 and shall contain defined amounts of color pigment, stabilizers and other basic additives. The HDPE shall have a hydrostatic design stress of 630 psi for water at 73 °F.
3. The outer pipe layer of HDPE shall include UV stabilizer that imparts resistance equivalent to 2 years of continuous outdoor exposure in Florida as evidenced in the manufacturer’s material specifications.
4. The inner pipe layer of HDPE shall be resistant to commonly used synthetic and natural compressor oils as evidenced in the manufacturer’s chemical resistance testing.
4. PE-AL-PE pipe shall meet the health and safety requirements of OSHA as evidenced by the manufacturer’s testing.

### C. Fitting Material

1. Stainless steel fittings shall meet the dimensional and performance requirements of ASTM F1974 and CSA B137.9, and shall be made with UNS S31600 stainless steel.

- C. All parts shall be properly protected so that no damage or deterioration will occur during a prolonged delay from the time of shipment until installation is completed and the units and equipment are ready for operation.
- D. Finished iron or steel surfaces not painted shall be properly protected to prevent rust and corrosion.
- E. After hydrostatic or other tests, all entrapped water shall be drained prior to shipment, and proper care shall be taken to protect parts from the entrance of water during shipment, storage and handling.
- F. Retain shipping flange protective covers and protective coatings during storage.
- G. Protect bearings and couplings against damage.
- H. Comply with pump manufacturer's written rigging instructions for handling.

## 1.8 MANUFACTURERS STANDARD WARRANTY

- A. Original Equipment Manufacturer shall provide to the Owner a standard five (5) year prorated limited warranty from date of Project Substantial Completion of pump system against defects in materials and workmanship. Coverage shall include replacement parts, labor, travel expenses, and labor to remove/reinstall equipment per the Manufacturer's limited warranty. Labor charges (i.e., removal or replacement of pumps, and motors) are excluded from this warranty except that manufacturer will be responsible, subject to standard rate limitations, for cost of partial removal, installation, and transportation for a failure occurring within ninety days of authorized and registered start-up.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Xylem Flygt N-3301.820 or equivalent product by one of the following:
  1. Flygt/Xylem Model- N-3301.820 ("N" Hydraulics Impeller)  
 Representative Peter R. Pastore PE  
 Vice President, Manager Municipal Group  
 G.A. Fleet Associates, Inc.  
 Fleet Pump and Service Group, Inc  
 55 Calvert Street  
 Harrison, NY 10528  
 Direct: 914-381-7905  
 Cell: 914-490-2280  
 fax: 914-835-1331  
[ppastore@gafleet.com](mailto:ppastore@gafleet.com)  
[www.gafleet.com](http://www.gafleet.com)
  2. HOMA Pump Technology Inc. - Model AKX12610-530/74HL-FM

Representative Mr. Ray Bahr  
Blake Equipment  
East Windsor, CT

3. Grundfos A/S Model S2 45 A100 1070.8.70H.D.520.G.N.D. ("Smart Trim" Impeller)

Representative Mr. Tim Fortner  
Grundfos Water Utility, Inc  
District Sales Manager  
Water Utility-Northeast  
Mobile 610-297-5412  
E-mail: tfortner@grundfos.com

4. Or Equal

## 2.2 PUMP TYPE

- A. Submersible, end-suction, single-stage, close-coupled, overhung-impeller, centrifugal non-clog effluent pump as defined in HI 1.1-1.2 and HI 1.3.

## 2.3 PUMP DESCRIPTION

- A. Pump shall be capable of operating in a continuous non-submerged condition in a vertical position in a dry pit pump room installation, permanently connected to inlet and outlet pipes. Pump shall be of submersible construction and will continue to operate satisfactorily should the dry pit be subjected to flooding. An inlet elbow as shown on the drawings with an inspection cover shall be provided.

## 2.4 PUMP REQUIREMENT

- A. Furnish and install two (2) submersible non-clog wastewater pumps. Each pump shall be equipped with a submersible electric motor, connected for operation on 460 volts, 3 phase, 60 hertz, 4 wire service, with sufficient submersible cable suitable for submersible pump applications. Pump power cabling shall be interchangeable between pumps. The power cable shall be sized according to NEC and ICEA standards. Sufficient multi-conductor submersible cable will be used to convey pump monitoring device signals. Multi-conductor shall likewise be interchangeable between pumps.

## 2.5 PUMP CONSTRUCTION

- A. Major pump components shall be of AISI 80-55-06 ductile iron or ASTM A-48, Class 35B cast iron with smooth surfaces devoid of blow holes or other irregularities. The lifting handle shall be constructed from 316 stainless steel. All exposed nuts or bolts shall be of 316 stainless steel construction. All metal surfaces coming into contact with the sewage, other than stainless steel or brass, shall be protected by a factory applied spray coating of acrylic dispersion zinc phosphate primer with a polyester resin paint finish on the exterior of the pump.

## 1.9 MANUFACTURER'S STANDARD WARRANTY

- A. Original Equipment Manufacturer shall provide to the Owner a standard five (5) year prorated limited warranty from date of Substantial Completion of pump system against defects in materials and workmanship. Coverage shall include replacement parts, labor, travel expenses, and labor to remove/reinstall said equipment per the Manufacturer's limited warranty. Labor charges (i.e., removal or replacement of pumps, and motors) are excluded from this warranty except that manufacturer will be responsible, subject to standard rate limitations, for cost of partial removal, installation, and transportation for a failure occurring within ninety days of authorized, and registered start-up.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Xylem Flygt N-3312 of equivalent product by one of the following:

1. Flygt/Xylem N-3312 ("N" Hydraulics Impeller)  
Representative Peter R. Pastore PE  
Vice President, Manager Municipal Group  
G.A. Fleet Associates, Inc.  
Fleet Pump and Service Group, Inc  
55 Calvert Street  
Harrison, NY 10528  
Direct: 914-381-7905  
Cell: 914-490-2280  
fax: 914-835-1331  
[ppastore@gafleet.com](mailto:ppastore@gafleet.com)  
[www.gafleet.com](http://www.gafleet.com)
2. HOMA Pump Technology Inc. Model-0  
Representative Mr. Ray Bahr  
Blake Equipment  
East Windsor, CT  
Cell: 860-986-1072  
[Ray.bahr@bghusa.com](mailto:Ray.bahr@bghusa.com)
3. Grundfos A/S Model S3.45.A120.3080.8.74M.D.628.G.N.D ("Smart Trim Impeller")  
Representative Mr. Tim Fortner  
Grundfos Water Utility, Inc  
District Sales Manager  
Water Utility-Northeast  
Mobile 610-297-5412  
E-mail: [tfortner@grundfos.com](mailto:tfortner@grundfos.com)
4. Or Equal

SECTION 111313  
**LOADING DOCK BUMPERS**

**PART 1 - GENERAL**

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes loading dock bumpers.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of loading dock bumper.
- B. Shop Drawings: For dock bumpers. Include plans, elevations, sections, details, and attachments to other work.

**PART 2 - PRODUCTS**

2.1 DOCK BUMPERS

- A. General: Surface-mounted bumpers; of type, size, and construction indicated; designed to absorb kinetic energy and minimize damage to loading dock structure.
  - 1. Manufacturers:
    - a. American Floor Products Company, Inc.
    - b. Super Seal Mfg. Ltd.
    - c. OR EQUAL
- B. Laminated-Tread Dock Bumper: Fabricated from multiple, uniformly thick plies cut from fabric-reinforced rubber tires. Laminate plies under pressure on not less than two 3/4-inch- diameter, steel supporting rods that are welded at one end to structural-steel end angle and secured with a nut and angle at the other end. Fabricate angles with predrilled anchor holes and sized to provide not less than 1 inch of tread plies extending beyond the face of closure angles.

1. Thickness: 10-inches.
  2. Horizontal Style: 10 inches high by 26 inches' long
- C. Anchorage Devices: Galvanized-steel anchor bolts, nuts, washers, bolts, sleeves, cast-in-place plates, and other anchorage devices as required to fasten bumpers securely in place and to suit installation type indicated. Hot-dip galvanized according to ASTM A 153 or ASTM F 2329.
- D. Materials: ASTM 36 for steel plates, shapes, and bars. Hot-dip galvanize according to ASTM A 123/A 123M.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### **3.2 INSTALLATION**

- A. Dock Bumpers: Attach dock bumpers to face of loading dock in a manner that complies with requirements indicated by manufacturer for spacing, arrangement, and position relative to top of platform and anchorage.
  1. Bolted Attachment: Attach dock bumpers to preset anchor bolts embedded in concrete or to cast-in-place inserts or threaded studs welded to embedded-steel plates or angles.

#### **3.3 ADJUSTING**

- A. After completing installation of exposed, factory-finished dock bumpers, inspect exposed finishes and repair damaged finishes.

END OF SECTION

C. Conform to applicable Local Building Codes.

#### 1.5 PROJECT CONDITIONS

- A. Install Work in locations shown on Drawings, unless prevented by Project conditions.
- B. Prepare drawings showing proposed rearrangement of Work to meet Project conditions, including changes to Work specified in other Sections. Obtain permission from the Engineer before proceeding.
- C. Provide a proposed, dimensioned electrical room layout showing all equipment to be installed in the room. Dimensions shown shall be those of the submitted and approved/"as-supplied" equipment. Equipment to be installed in the Electrical Room will only be considered acceptable if it all fits in the room per the NEC.
- D. Location of electrical equipment, devices, and similar items, as indicated, are approximate only. Exact locations are to be determined by the Contractor during construction. If any location is different from those indicated (greater than 5 feet away from location shown on Drawings), the Engineer must give approval to the change.
- E. Verify in field, existing conditions and final locations of equipment installed under other Sections that require electrical work.
- F. Equipment wiring
  - 1. Equipment power and control wiring is based on specific manufacturers and models. Actual wiring required may be different.
  - 2. Before pulling any power or control wire or installing conduit, obtain equipment electrical and control installation instructions and wiring diagrams. Any discrepancies from what is shown on the electrical drawings shall be brought to the attention of the Engineer. The Engineer will provide instructions for any changes that may be necessary.
  - 3. Installation of conduit or wire prior to obtaining the above specified information shall be at the Contractor's risk. The Owner will not be responsible for any extra costs related to removal or replacement of conduit or wire resulting from the failure to coordinate equipment conduit and wire requirements. In the event that additional conductors or larger conductors than shown on the Drawings are required, the Owner will not be responsible for any labor costs related to the installation of these materials unless it can be demonstrated by the Contractor to the satisfaction of the Engineer that these conductors could not have been installed at the same time as the conductors shown on the Drawings.
  - 4. Provide wiring shown on the Drawings unless specifically excluded