FEBRUARY 13, 2025

REPLACEMENT OF BRIDGE NO. 02713 ROUTE 156 OVER FOUR MILE RIVER AND BRIDGE NO. 06896 ROUTE 156 OVER ARMSTRONG BROOK

FEDERAL AID PROJECT NO. 0156(015)
STATE PROJECT NO. 0104-0175
TOWNS OF OLD LYME & EAST LYME

ADDENDUM NO. 2

SPECIAL PROVISION(S)

NEW SPECIAL PROVISIONS

The following Special Provisions are hereby added to the Contract:

- NOTICE TO CONTRACTOR – TREE CLEARING
- NOTICE TO CONTRACTOR – USE OF DBE FOR OLD LYME SHARED SEWER ALLIANCE (OLSSPA) SEWER CONSTRUCTION
- ITEM NO. 0601548A – CONCRETE PEDESTALS (SANITARY SEWER)
- ITEM NO. 0603591A – STRUCTURAL STEEL – MISCELLANEOUS
- ITEM NO. 1400004A – ROCK IN TRENCH EXCAVATION 0' – 10' DEEP (SANITARY SEWER)
- ITEM NO. 1400078A – 10" P.V.C. BELL AND SPIGOT FORCE MAIN (SANITARY SEWER)
  ITEM NO. 1400079A – 10" P.V.C. FUSIBLE FORCE MAIN (SANITARY SEWER)
  ITEM NO. 1400080A – 10" P.V.C. INSULATED DUCTILE IRON PIPE FORCE MAIN (SANITARY SEWER)
  ITEM NO. 1401973A – CONCRETE ENCASEMENT (SANITARY SEWER)
  ITEM NO. 1403117A – CLEANOUT CHAMBER (SANITARY SEWER)
  ITEM NO. 1403118A – BLOW OFF ASSEMBLY (SANITARY SEWER)
- ITEM NO. 1401261A – 10" DUCTILE IRON PIPE SUPPORTED ON BRIDGE (SANITARY SEWER)

REVISED SPECIAL PROVISIONS

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

- NOTICE TO CONTRACTOR – UTILITY GENERATED SCHEDULES
- SECTION 1.03 – AWARD AND EXECUTION OF CONTRACT
- SECTION 1.08 – PROSECUTION AND PROGRESS

- SECTION 1.10 – ENVIRONMENTAL COMPLIANCE
- ITEM NO. 0202590A – PROTECTIVE MATTING SYSTEM ACCESS ROAD
- ITEM NO. 0948015A – TIDAL WETLAND CREATION (THIN LAYER DEPOSITION)

CONTRACT ITEM(S)
NEW CONTRACT ITEMS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
0601548A	CONCRETE PEDESTALS	EA	4
0603591A	STRUCTURAL STEEL MISCELLANEOUS	CWT	11
1400004A	ROCK IN TRENCH EXCAVATION 0'- 10' DEEP (SANITARY SEWER)	CY	10
1400078A	10" P.V.C. BELL AND SPIGOT FORCE MAIN (SANITARY SEWER)	LF	1462
1400079A	10" P.V.C. FUSIBLE FORCE MAIN (SANITARY SEWER)	LF	108
1400080A	10" P.V.C INSULATED DUCTILE IRON PIPE FORCE MAIN (SANITARY SEWER)	LF	250
1401261A	10" DUCTILE IRON PIPE SUPPORTED ON BRIDGE (SANITARY SEWER)	LF	150
1401973A	CONCRETE ENCASEMENT (SANITARY SEWER)	CY	3
1403117A	CLEANOUT CHAMBER (SANITARY SEWER)	EA	3
1403118A	BLOW-OFF ASSEMBLY (SANITARY SEWER)	EA	4

REVISED CONTRACT ITEM

ITEM NO.	DESCRIPTION	ORIGINAL QUANTITY	REVISED QUANTITY
0202452A	TEST PIT	3 EA	5 EA
0212000	SUBBASE	2390 CY	2391 CY
0610001	DRILLING HOLES AND BONDING ANCHORS	8 EA	32 EA
0755014	GEOTEXTILE (SEPARATION-HIGH SURVIVABILITY)	500 SY	700SY

PLAN(S)
NEW PLANS
The following Plan Sheets are hereby added to the Contract:

13.04.A2
13.05.A2
15.01.A2 THROUGH 15.10.A2

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

02.01.A2
03.02.A2
03.03.A2
03.04.A2
03.06.A2
03.07.A2
03.11.A2 THROUGH 03.20.A2
04.02.A2
04.03.A2
04.05.A2
04.06.A2
05.02.A2 THROUGH 05.05.A2
06.02.A2 THROUGH 06.04.A2
06.09.A2
06.11.A2
06.13.A2 THROUGH 06.24.A2
07.02.A2
07.17.A2
07.18.A2
08.02.A2
08.04.A2
08.05.A2
09.03.A2
09.06.A2
12.03.A2
13.02.A2 & 13.03.A2
14.02.A2 & 14.03.A2

PERMIT
The following attached Permit is hereby added to the Contract:

- CTDEEP Land Management Request on State-Owned Land or Water

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

The Detailed Estimate Sheets do not reflect these changes.

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

The foregoing is hereby made a part of the contract.

NOTICE TO CONTRACTOR – TREE CLEARING

The Contractor is hereby given notice selective tree clearing work for Bridge No. 06896 will be performed prior to Award of the Contract by other forces. Under this Contract, completion of Section 2.01 "Clearing and Grubbing" for all locations shall proceed as specified in the contract documents.

NOTICE TO CONTRACTOR – USE OF DBE FOR OLD LYME SHARED SEWER PROJECT ALLIANCE (OLSSPA) SEWER CONSTRUCTION

CTDOT encourages the use of Disadvantaged Business Enterprise (DBE) subcontractors for the 10” sewer main construction and associated work for the Old Lyme Shared Sewer Project Alliance (OLSSPA). The overall OLSSPA sewer main project (performed by others) has a separate goal and will be required to make up any shortfall resulting from the work performed on Project 0104-0175.

ITEM #0601548A – CONCRETE PEDESTALS (SANITARY SEWER)

Description: Work under this item shall consist of furnishing and installing concrete pedestals to the proportions shown in the plans for support of the aerial sanitary force main on either side of Bridge 02713 at the locations shown in the plans. Work shall also include excavations required to place each pedestal to the elevations shown in the plans.

Materials: Concrete will be Class PCC04460 meeting the requirements of M.03 for cast in place pedestals, or Class PRC04060 in accordance with the requirements of M.14 for precast.

Construction Methods: Concrete Pedestal excavation shall be performed in accordance with 2.86.03 and the requirements of the plans. The pedestal trench shall be excavated to the required depth, the bottom of which shall be graded to the elevation of the bottom of the proposed structure or to ensure a uniform foundation for the structure.

Material under the footing shall be removed and replaced with approved granular fill, thoroughly compacted in lifts not to exceed 6 inches.

Backfilling of the pedestal shall be performed in accordance with 2.86.03.

Method of Measurement: Concrete Pedestals (Sanitary Sewer) is measured for payment on a per each basis by the appropriate number of concrete pedestals installed and accepted.

Basis of Payment: Concrete Pedestals (Sanitay Sewer) is paid for at the contract unit per each pedestal, complete and accepted, which price shall include all materials, equipment, tools, and labor incidental thereto including pedestal trench excavation.

Pay Item	Pay Unit
Concrete Pedestals (Sanitary Sewer)	EA

ITEM #0603591A – STRUCTURAL STEEL - MISCELLANEOUS

Description: Work under this item shall consist of furnishing and installing all necessary support members, connection plates, and necessary hardware for the support of the force main crossing Bridge 02713. This work shall be in conformance with Section 06.03 and supplemented as follows:

Materials: Steel plates and rolled shapes shall be AASHTO M270, GRADE 50 steel. All structural steel plates and shapes shall be fabricated and hot-dipped galvanized, in this order, in accordance with ASTM A123. Bolts shall be ASTM A325, Type 1.

Construction Methods: Support members shall be fabricated to the dimensions shown on the plans and securely bolted into place prior to placing other components of the support system.

Method of Measurement: This work, will be measured for payment by the hundredweight (cwt.) of utility support framing installed.

Basis of Payment: This work will be paid for at the Contract unit price per hundredweight (cwt.) for Structural Steel - Miscellaneous, complete and accepted, which price shall include all furnishing, fabricating, galvanizing, transporting, storing and all materials, equipment, tools, and labor incidental thereto.

Pay Item	Pay Unit
Structural Steel - Miscellaneous Bridge (Sanitary Sewer)	CWT.

ITEM #1400004A ROCK IN TRENCH EXCAVATION 0'- 10' DEEP (SANITARY SEWER)

Work under this item shall conform to the requirements of Section 2.86, amended as follows:

Description: Replace the words "Drainage Trench" with "Sewer Trench".

Add the following: Sanitary sewer trench excavation consists of the excavation necessary for the proper installation of sanitary structures, pipes, and any other affiliated and incidental items.

Construction Methods:

Add the following: The limits of sanitary sewer trench excavation and backfill will conform to the requirements as shown on the plans and detailed.

Method of Measurement:

Shall be amended as follows:

Rock in Sanitary Trench Excavation: Add the following:

1. Borrow or granular material utilized to replace rock in trench excavation will not be measured for separate payment.

Basis of Payment: Add the following

Rock In Sanitary Trench Excavation: Add the following: handling material, filling of excavation voids and disposal of materials including labor equipment and incidentals per the depth specified.

Pay Item	Pay Unit
Rock in Sanitary Sewer Trench Excavation 0' – 10' (Sanitary Sewer)	CY

ITEM #1400078A 10" P.V.C. BELL AND SPIGOT FORCE MAIN (SANITARY SEWER)
ITEM #1400079A 10" P.V.C. FUSIBLE FORCE MAIN (SANITARY SEWER)
ITEM #1400080A 10" P.V.C. INSULATED DUCTILE IRON PIPE FORCE MAIN (SANITARY SEWER)
ITEM #1401973A CONCRETE ENCASEMENT (SANITARY SEWER)
ITEM #1403117A CLEANOUT CHAMBER (SANITARY SEWER)
ITEM #1403118A BLOW OFF ASSEMBLY (SANITARY SEWER)

Description: Sanitary sewer work consists of piping and appurtenances for force main piping, sanitary sewer structures, connections to existing and future sanitary facilities, and portions of a heat trace system as shown on the plans and described herein or directed by the Engineer.

Definitions:

1. HDPE: High density polyethylene.
2. PVC: Polyvinyl chloride plastic.

Submittals

1. Product Certification: Pipe, valves, fittings, precast concrete units, metal items, and miscellaneous appurtenances.
2. Product Data: For the following:
    a. Submit manufacturer's catalog cuts, specifications and installation instructions, for pipe and coupling systems
        1) Piping QC/QA inspections and testing recommendation from the manufacturer.
        2) Manufacture's certified statement that pipe gaskets will be made of a material that will withstand a saltwater environment.
    b. Pipe, valves, and fittings.
        1) Precast concrete units.
        2) Metal items.
3. Shop Drawings: Include plans, elevations, details, and attachments for the following:
    a. Precast concrete manholes and structures, including frames and covers.

b. Buoyancy computations (with sketch) demonstrating the structure/manhole will not float with the water elevation taken to be the same as the existing ground. Soil side friction values will not be incorporated into the computations.

4. Design Mix Reports and Calculations: For each class of cast-in-place concrete.

5. Field Test Reports: Indicate and interpret test results for compliance with performance requirements.

6. Butt Fusion Documentation:

   a. Fusion Joint Records. Prepare and submit daily written records of each joint, identifying the following:

      1) Machine type, serial Number, time, joint number, project number, pipe or pipe and fitting size, joint cycle, date

      2) Compare actual with permissible values for the following:

   b. Bead pressure, joint pressure, drag, heater temperature, bead-up pressure, initial bead size, heat soak time, heat soak time, dwell time (change-over time) and fusion pressure.

   c. Submit daily report for a minimum of one week prepared by pipe manufacturer's representative certifying that observed installation meets manufacturer's guidelines.

      1) Thereafter, submit monthly reports by pipe manufacturer's representative certifying that observed installation meets manufacturer's guidelines until piping has been completely installed.

7. Heat Trace System

   a. Product Data: For UL/ULC Listed Heat Tracing Systems for Plumbing Piping including the following:

      1) Manufacturer's Data Sheets for Heat Cable, Components & Installation Accessories.

      2) Installation Instructions for Heat Tracing Systems for Plumbing Piping

   b. Complete bill of materials of components including manufacturer's cut-sheets, model number, and specifications for heat trace system.

8. Record Drawings: In accordance with Form 818 as supplemented:

   a. Submit two hardcopies and one electronic copy of black-line white prints of Record Contract Drawings and Record Shop Drawings.

b. Use qualified engineering or survey personnel to provide the following as-built information. A minimum of two horizontal ties (as close to right angles as possible) shall be provided to horizontally locate the items below:

1) Invert elevation of pipes entering and exiting structures and pipes every 50 ft.

2) Center line to center line measurements between underground structures.

3) Location and elevation of gate valves and fittings by station, offset and horizontal ties.

4) Rock location and elevations (minimum of every 25 ft.).

5) Horizontal and vertical crossing location with other utilities.

9. Installation manual and Operation and Maintenance Manuals

a. Heat Trace System

1) Operation & Maintenance Manuals for Heat Tracing Systems for Plumbing Piping

10. Quality Assurance

a. The Contractor shall furnish to the Owner notarized test reports from the pipe and gasket manufacturers including methods of tests by an approved independent testing laboratory to show compliance of all materials furnished under this section of the specifications with all specification requirements. A copy of each test report is to be attached to the shipping list of each shipment itemizing by size; class and wall type, serial number and date of manufacture. All required testing of pipe materials furnished under this section of the specifications shall be provided by the contractor at no additional expense to the Owner.

b. The Contractor shall furnish, at no additional expense to the Owner, the services of pipe manufacturer's representatives for such lengths of time as may be necessary to properly instruct the Contractor's personnel in the proper handling, installation and jointing of the piping in accordance with the printed recommendations of the manufacturer of the pipe.

c. The Contractor shall furnish to the Owner a written guarantee signed by the manufacturer of the pipe, pipe fittings and gaskets which he proposes to furnish, which shall warrant and guarantee that the pipe, fittings and gaskets shall not fail or be injured as a result of conveying sewage, industrial wastes or groundwater. The form of guarantee respects be satisfactory to the Owner.

d. For force main pipe provide fusible PVC pipe in accordance with AWWA C900 that is encased within a fusible PVC pipe when installed within 25 feet of a private well that yields less than 10 gal per minute. Distances shall be increased where well yields are higher.

e. For force main pipe provide fusible PVC pipe in accordance with AWWA C900 when installed between 25 feet from the private well to a distance of 75 feet from a private well that yields less than 10 gal per minute. Distances shall be increased where well yields are higher.

11. All premolded gasket joint polyvinyl chloride pipe of a particular manufacturer may be rejected if there are more than five unsatisfactory joint assembly operations or "belt breaks" in 100 consecutive joints, even though the pipe and joint conform to the appropriate ASTM specifications as specified. If the pipe is unsatisfactory as determined above, the Contractor shall, if required, remove all pipe of that manufacturer of the same shipment from the work and shall furnish pipe from another manufacturer which will conform to all of the requirements of these specifications.

12. Fusion Joining Training: Prior to commencing work, the pipe representative will be required to thoroughly train the Contractor in the processes of butt fusion and electrofusion. This shall be witnessed by Engineer or owner's representative.

13. Heat Trace System

    a. Equipment Manufacturers Qualifications

        1) Minimum of 10 years of experience in design, engineering, manufacturer and support of Heat Tracing Systems.

        2) Manufacturer shall be ISO-9001:2008 Registered

    b. Installer Qualifications

        1) System installer shall have a complete understanding of product from manufacturer prior to installation of Heat Tracing Systems for Plumbing Piping System.

        2) Electrical Connections shall be performed by a licensed electrician.

14. Delivery, Storage, and Handling

    a. Do not store PVC structures, pipe, and fittings in direct sunlight. Keep PVC items at ambient outdoor temperature.

    b. Protect pipe, pipe fittings, and seals from dirt and damage.

    c. Any HDPE or C900 PVC pipe gouged more than 10% of the pipe wall shall be construed as damaged and must not be used.

    d. Handle precast concrete manholes and other structures according to manufacturer's written rigging instructions.

    e. Inspection: Upon delivery of pipe, assist Engineer in inspecting pipe.

f. Straightness Tolerance: Maximum deviation of 1/16 inch per foot from straight line drawn between center of openings.

g. Immediately remove lengths of pipe that fail straightness requirement.

h. Rejection of Manufacturer and Product: Remove all pipe supplied by a manufacturer if more than five percent of shipment is rejected. Handle precast concrete manholes and other structures according to manufacturer's written rigging instructions.

i. Heat Trace System

1) Store products in manufacturer's unopened packaging and dry location with a temperature range of 0°F (-18°C) to 100°F (38°C) until ready for installation.

2) Protect Heating Cable from exposure to moisture, water & mechanical damage until ready for installation

j. Project Conditions

15. Prepare Record Project Documents as defined elsewhere.

Materials:

(1) Bell and Spigot C900 Force Main Sewer Pipe

1. PVC Sewer Pipe, NPS 15 and Smaller:

a. AWWA C900, DR 18, pressure class 235 psi

2. PVC Pipes shall be push-on bell and spigot joints. C-900 straight pipe will be furnished in lengths not more than 20 feet, respectively, unless otherwise indicated on the plans.

a. PVC compound meets ASTM D 1784, cell class 12454.

b. Integral bell pipe provided with factory-installed gaskets meeting requirements of ASTM F 477.

c. Gasketed joint assembly shall be in compliance with the requirements of ASTM D 3139

d. Gasketed joints will be able to withstand a saltwater environment.

e. Suitable for use as a pressure conduit. Expansion and contraction are accommodated by a properly assembled gasketed joint. Each bell section meets the same pressure capacity requirements as the pipe.

f. Each pressure pipe joint where there is a deviation in direction of more than 5 % and at bends and on each side of structures shall be restrained utilizing the manufactures approved method. The length of restraint shall be a minimum of 40 LF prior to the deviation in direction or structures.

g. C900 color shall be green.

(2) Fusible C900 Force Main Sewer Pipe

1. Fusible polyvinylchloride pipe shall conform to AWWA C900, ASTM D2241 or ASTM D1785 for standard dimensionality, as applicable. Testing shall be in accordance with the referenced AWWA standard.
   a. AWWA C900, DR 18, pressure class 235 psi
   b. Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.
   c. Fusible polyvinylchloride pipe shall be green in color for wastewater use.
   d. Pipe shall be marked as follows:
      1) Nominal pipe size
      2) PVC
      3) Dimension Ratio, Standard Dimension Ratio, or Schedule
      4) AWWA pressure class, or standard pressure rating for non-AWWA pipe, as applicable
      5) AWWA standard designation number, or pipe type for non-AWWA pipe, as applicable
      6) Extrusion production-record code
      7) Trademark or trade name
2. Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other visible deleterious faults.
3. Unless otherwise specified, fusible polyvinylchloride pipe lengths shall be assembled in the field with butt-fused joints. The Contractor shall follow the pipe supplier's written guidelines for this procedure. All fusion joints shall be completed as described in this specification.
4. Each pressure pipe joint at bends and on each side of structures shall be restrained utilizing the manufactures approved method. The length of restraint shall be a minimum of 40 LF prior to the deviation in direction at bend and at structures.

(3) PVC C900 Push-On Fittings

1. All fittings for C-900 pipe shall be manufactured in one piece of injection molded PVC compound meeting ASTM D1784.
2. Fittings shall be designed to withstand a minimum of 755 psi quick burst pressure @ 73^{o}F tested in accordance with ASTM D1599.

3. Bells shall be gasketed joint conforming to ASTM D3139 with gaskets conforming to ASTM F477.
4. Gasketed joints will be able to withstand a saltwater environment.
5. Ductile Iron or Cast-Iron Push-on Joint or M.J. will be allowed as alternative when PVC sizes are not available.
6. C900 color shall be green.

(4) PVC C900 Pipe Restraint

1. The type of restraint system chosen shall be manufactured specifically for PVC C900 pipe and installed according to the manufactures' instructions.
2. Restraint for AWWA C900 PVC Pipe shall consist of the following: The restraint shall be manufactured of ductile iron conforming to ASTM A536. The restraint devices shall have a protective coating. The method of restraint shall have a combination of the restraint(s) and fasteners shall have a pressure rating to the full pressure rating of the pipe. The restraint shall have a two to one safety factor.
3. Method 1: Split serrated ring shall be used to grip the plain-end of the pipe. A split serrated ring shall also be used to grip the barrel of the pipe behind the bell, and a sufficient number of bolts shall be used to connect the restraint rings. The restraint devices shall be coated.
4. Method 2: Split restraint rings, incorporating a plurality of individually -actuating gripping surfaces, shall be used to grip the pipe on either side of the bell. A sufficient number of tie bars casted from ASTM A536 shall be used to span the distance between the restraints and a sufficient number of bolts shall be used to connect each restraint to the tie bars. The restraint devices shall be coated.
5. Method 3: Self-Restraining Gasket, Installation will depend upon whether the original gasket are made same by the manufacture. Follow the manufacturer's recommendations and guidelines.

(5) Ductile Iron Pipe

1. Pipe shall be thickness Class 52, for push-on joint that conform to ASTM A746-03 "Standard specification for Ductile Iron Gravity Sewer Pipe."

1. Uninsulated pipe shall be wrapped in polyethylene encasement.
2. Pipe shall have an asphaltic outside coating is in accordance with ANSI/AWWA C151/A21.51.
3. Gaskets are furnished in accordance with ANSI/AWWA C111/A21.11
4. Material shall also be able to withstand a saltwater environment. (The standard Gasket is manufactured of SBR — styrene butadiene rubber).

5. Exterior Coating: Standard bituminous coating of either coal tar or asphalt base, 1 mil thick minimum.
6. Inside Lining: ANSI/AWWA C104/A21.4, cement mortar with double lining.
7. Encasement for Ductile Iron Pipe System shall comply with ANSI/AWWA C105/A21.5 for proper external protection procedures.

(6) Pre-Insulated 10-Inch Ductile Iron Pipe

1. Class 52, with push-on joints that is wrapped in Polyurethane foam insulation with an HDPE jacket.
2. The service pipe shall conform to the requirements above.
3. The insulation shall be a foamed in place closed cell polyurethane which completely fills the annular space between the carrier pipe and the exterior casing. The insulation shall have following physical properties:
   a. Minimum Density (lb./cu. ft.) 2.0 to 3.0 ASTM D-1622
   b. "K" Factor BTU/Hr. sq. ft. F/in. .16 ASTM C-177
   c. 90-95 % Closed Cell ASTM D-2856
4. The exterior HDPE jacket shall conform to the requirements:
   a. Jacket shall be Seamless, extruded white PVC Type 1, Grade 1, Class 12454-B per ASTM D-1784 or
   b. Seamless, High Density Polyethylene (H.D.P.E.) ASTM D- 1248 with the following physical properties:
      1) ASTM D-638……Ultimate Elongation 850%
      2) ASTM D-638…….Tensile Yield Strength 3300 psi
      3) ASTM D-3350……..Resin Type III, Grade P34
      4) ASTM D-790……..Tangent Flexural Modules 175,000 psi

(7) Tracer Wire

1. Copper Conductors:
   a. 12 AWG with 19 strands, with 15 mil thermoplastic insulation and 4 mils nylon sheath. Shall be heat, moisture, gasoline and oil resistant. Shall be able to conduct 600 volts. The outside sheath shall be green.
   b. The Tracer wire shall terminate within structures utilizing standard electrical conduit and access boxes mounted near manhole frames and covers.

(8) Gate Valve

1. Isolation Gate Valve
    a. AWWA C515, resilient wedge, ductile iron valve fully-encapsulated in synthetic rubber.
    b. Working Pressure: 200 psi.
    c. Mechanical Joint Ends: ANSI/AWWA C111/A21.11.
    d. Opening: Wrench-operated; left-turn open (LTO).
    e. Key: Provide one tee-handle key for each gate valve size.
    f. Operating Wrenches: Steel, tee-handle with one pointed end, stem of length to operate deepest buried valve, and socket matching valve operating nut.
        1) Provide one tee-handle key for each gate valve size.
        2) Provide malleable-iron handwheel when valve is located in structure.
        3) Provide three (3) pentagon hand key to open valve cover.
    g. Approved Manufacturers:
        1) Clow
        2) Waterous
        3) Or approved equal.
2. Valve Box:
    a. Cast iron base, slide-type extension sections, and adjustable slide-type top section designed for 4 feet 6-inch of cover above top of pipe.
    b. Cover: Cast iron, drop type, with “SEWER” cast on top.

(9) Special Pipe Couplings and Fittings

1. Special Pipe Couplings: Use where required to join piping and no other appropriate method is indicated or specified. Do not use instead of indicated or specified joining methods.
    a. C900 Repair Coupling: Compatible with the pipe it is connecting.
        1) Gasket: ASTM F477.
    b. C900 Fusible pipe to C900 Bell and Spigot Pipe
        1) Fusible bell sections, which when fused to the end of a Fusible PVC® pipe string, allow for a bell-to-spigot connection. Always obtain the proper insertion/witness line depth for marking the adjoining pipe spigot from manufacturer.

1. Pipe and Fittings:

a. Ductile Iron: ANSI/AWWA A21.10/C110, Class 53, 250 psi, flanged.

1) Inside Lining: ANSI/AWWA A21.4/C104, cement mortar with double lining.

2) Exterior Coating: Standard bituminous coating approximately 1 mil thick.

b. Plug Valve:

1) AWWA C517, full port valve to allow unrestricted flow, manually actuated with handwheel.

a) Maximum Working Pressure: 175 psi.

b) Valve Body and Cover: ASTM A126 cast iron.

c) Plug: One-piece construction, ASTM A536 ductile iron.

d) Coating: Elastomer facing.

e) Shaft Bearings: Self-lubricating Type 316 stainless steel.

f) Connections: Flanged.

g) Opening: Hand-operated; left-turn open (LTO).

h) Approved Manufacturers:

i) Series 5800R (Flanged) as manufactured by Val-Matic® Valve & Mfg. Corporation, Elmhurst, IL. USA.

ii) Cam-Seal plug valve by GA Industries, LLC

iii) Or approved equal.

c. Ball Valve (3”):

1) Include bronze body, ground-key plug or ball, and wide tee head, with inlet and outlet matching service piping material.

d. Quick Disconnect: Stainless steel cam and groove, size as indicated.

(11) Precast Concrete Structure

1. Chambers: ASTM C 913, precast, reinforced concrete, of depth and shape indicated.

a. Joint sealant is butyl rubber mastic type seal that conforms to latest AASHTO specification M-198.

b. The chamber shall be designed for H-20 loading.

c. Manhole Frame and Cover: In this Specification Section, see Article "Structure and Pipe Connectors ", Subparagraph "Frames and Covers".

d. The concrete mix shall be Class PCC04460 and shall include a Crystalline Waterproofing Additive Xypex C-1000.

(12) Structure and Pipe Connectors

1. New Structures: ASTM C 923, resilient, of size required, for each pipe connecting to manhole section.
    a. Joint material will be able to withstand a saltwater environment.
        1) Lock Joint Flexible Manhole Sleeve by Interpace Corporation;
        2) KOR-N-SEAL;
        3) Or approved equal.
    b. Flexible Annular Space Filler: Manufactured by KOR-N-SEAL, Interpace Corp., or approved equal.
    c. Manhole Frames and Covers:
        1) Watertight Standard Heavy Duty Manhole Frame and Cover – Bolted and Gasketed
        2) Material: Grey Cast Iron, ASTM A48-83, Class 35B. Include diamond design with "SEWER" lettering cast into cover.
        3) AASHTO HS25 Highway Loading
        4) Bearing surface at seat of cover and frame shall be machined for uniform fit
        5) Cover shall be bolted to frame with six (6) recessed ½"-13 stainless steel bolts and be made watertight with a flat neoprene gasket and non-penetrating pick holes
        6) Flange of frame shall have four equally spaced anchoring slots.
        7) Made in the USA
    d. Manufacturers:
        1) Campbell Foundry
        2) EJ-Global
        3) Or approved equal.`

(13) Concrete Cast in Manhole & Chamber

1. Cast The concrete mix shall be Class PCC04460 and shall include a Crystalline Waterproofing Additive Xypex C-1000.
2. Structure Channels and Benches: Factory or field formed from concrete. Portland cement design mix, 4000 psi minimum, with 0.45 maximum water-cementitious materials ratio. Include channels and benches in manholes.

a. Channels: Brick-lined invert, formed to same width as connected piping, with height of vertical sides to three-fourths of pipe diameter. Form curved channels with smooth, uniform radius and slope. Eliminate protrusions that may impede flow of solids.

b. Benches: Brick, sloped to drain into channel.

3. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water-cementitious materials ratio.

a. Reinforcement Bars: ASTM A 615/A 615M, Grade 60, deformed steel.

(14) Miscellaneous

1. Brick: ASTM C32, Grade MS except Grade SS for manhole shelves.
2. Mortar: Composed by volume, of one-part portland cement and two parts sand. Do not add lime to mortar.
3. Grout: Form 818, Section M.03.06.
4. Filter Fabric: Form 818, Section M.08.01-19.
5. Flexible Epoxy Gel

a. MasterSeal 614;

b. Parson Poxy FG by Parson Environmental Products, Inc.;

c. Sikagard by Sika;

d. Or equal.

6. Detectable Warning Tape

a. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, minimum 6 inches wide and 5 mils thick, continuously inscribed with a description of utility, with solid aluminum foil core encased in a protective jacket for corrosion protection.

b. Identifying Colors for Utilities:

1) Red: Electric.

2) Yellow: Gas, oil, steam, and dangerous materials.

3) Orange: Telephone and other communications.

4) Blue: Water systems.

5) Green: Sanitary sewer and storm drain systems

c. Suppliers of Detectable Underground Utility Marking Tape

1) Pro-Line Safety Products Company;

2) Detectable Utility Tape by Everett J. Prescott, Inc;

3) Approved equal.

7. Concrete Encasement: Shall conform to Class PCC3360 with 0.45 maximum water-cementitious materials ratio.

8. Bond Breaker: Reinforced poly sheeting with thickness of 6 mills will be placed upon the box culver. The concrete encasement will be constructed above the poly sheeting as detailed.

(15) HEAT TRACE SYSTEM

1. Heating Cables

a. Heating Cable specifically designed for the intended application, tested and approved to CSA 22.2 No 130-03 and IEEE 515.1 requirements.

b. The self-regulating, heating cable shall consist of two (2) 16 AWG nickel-copper bus wires embedded in a radiation cross-linked, continuous, self-regulating polymer core.

c. The self-regulating, heating cable shall have a fluoropolymer, dielectric jacket cover.

d. The self-regulating, heating cable shall have a tinned-copper ground braid.

e. The heating cable shall be part of a UL FM or CSA Listed System.

f. The manufacturer shall provide design heat loss information on all piping and select a self-regulating, heating cable from the table below to prevent freezing of the pipe:

Heater Output @ 50°F	Voltage	Maximum Exposure Temperature
3 Watts / Lineal Ft	120 & 208-277	185°F
5 Watts / Lineal Ft	120 & 208-277	185°F
8 Watts / Lineal Ft	120 & 208-277	185°F
10 Watts / Lineal Ft	120 & 208-277	185°F
15 Watt / Lineal Ft	120 & 208-277	185°F

2. Connection Kits
    a. Manufacturer to provide connection kits for power, splice, tee and end seal.
    b. All Splices, Tees & End Seals shall be installed above the insulation per NEC.
    c. Power Connection Kits shall be NEMA 4X rated to prevent water ingress and corrosion.
    d. Connection Kits shall be UV stabilized for installation outdoors.
    e. Connections kits shall be UL Listed.
    f. The heat trace shall terminate inside an underground concrete cleanout structure in an a code compliant electrical junction box which is labeled. The junction box shall be the big enough to accommodate extending the heat trace cable to the power source once the source's location is approved.
3. Heating Cable Accessories
    a. Heating cable shall be attached to plumbing piping with glass tape. Use of metal zip ties is prohibited for the attachment of the heating cable to the plumbing piping. For plastic piping, fasten cable with aluminum heat-transfer tape, type AT-18, applied linearly.
    b. Contractor shall provide Heating Tracing Labels every 10', opposite sides of pipe to identify plumbing piping with heat tracing cable installed on it.
    c. The heating cable shall come with a splicing kit for future completion of the heating installation.
    d. The heat trace shall not draw more than 30mA as required by code.

Construction Methods

Installation, General

1. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground sanitary sewerage piping. Location and arrangement of piping layout take design considerations into account.
2. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream.
3. Install piping pitched down in direction of flow, at slope indicated.
4. Install gaskets, seals, insulation, sleeves, and couplings according to manufacturer's written instructions for using lubricants, cements, and other installation requirements.

Installation of Ductile Iron pipe (with Insulation and Encasement)

1. No Piping shall be installed in standing water. Trenches shall be maintained dry until final field closure is complete. The installing contractor shall handle the piping system in accordance with the directions furnished by the manufacturer and as approved by the architect and engineer. The service piping shall be hydrostatically tested to 1-1/2 times the operating pressure, or as specified in the contract documents. The test shall be maintained for a minimum time of 1 hour. Exercise due care in installing and testing the piping system.

    a. A 6-inch layer of sand or fine gravel shall be placed and tamped in the trench to provide stable and uniform bedding for the piping system. Once the system is in place, the trenches shall be carefully backfilled and hand tamped in 6" layers until a cover of at least 12" from the top of the pipe has been achieved. The first 6" of backfill shall be sand or fine gravel less than ½" in diameter. The remainder of the backfill shall be void of rocks, frozen earth and foreign material over 6" in diameter.

    b. Install and support pipes and fittings with bedding material. Do not use saddles, blocking or stones as pipe supports.

    c. In structures, cut pipe flush with face of inside wall. Fill joint with annular space filler.

    d. When work is not in progress, close open ends of pipe to prevent entry of groundwater, earth, or foreign materials.

2. Insulation shall be installed as detailed or as directed by the Engineer. The pre-insulated pipe will be placed and pipe joints will be field wrapped with insulation per the manufacturer's guidelines and instructions..

3. Concrete Encasement

    a. Concrete shall be placed as detailed or directed as by the Engineer.

    b. A reinforced poly sheeting bond breaker will be placed between the encasement concrete and the precast box culvert.

Pipe Joint Construction and Installation

1. PVC Sewer Pipe and Fittings: As follows:

2. Join pipe and fittings with gaskets according to ASTM D 2321 and manufacturer's written instructions.

    a. If full entry of pipe joint is not achieved, remove pipe and replace with new unit and gasket.

    b. Join piping made of different materials or dimensions with couplings made for this application.

1) Use couplings that are compatible with and that fit both systems' materials and dimensions. Unless the manufacture's literature states otherwise and approved by the Engineer.

c. Close terminal ends of each type of pipe and fittings with PVC stoppers secured in place.

3. Fusion Process

a. General

1) Fusible polyvinylchloride pipe will be handled in a safe and non-destructive manner before, during, and after the fusion process and in accordance with this specification and pipe supplier's guidelines.

2) Fusible polyvinylchloride pipe will be fused by qualified fusion technicians, as documented by the pipe supplier.

3) Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) connected to the fusion machine.

4) Only appropriately sized and outfitted fusion machines that have been approved by the pipe supplier shall be used for the fusion process. Fusion machines must incorporate the following elements:

a) HEAT PLATE - Heat plates shall be in good condition with no deep gouges or scratches. Plates shall be clean and free of any debris or contamination. Heater controls shall function properly; cord and plug shall be in good condition. The appropriately sized heat plate shall be capable of maintaining a uniform and consistent heat profile and temperature for the size of pipe being fused, per the pipe supplier's guidelines.

b) CARRIAGE – Carriage shall travel smoothly with no binding at less than 50 psi. Jaws shall be in good condition with proper inserts for the pipe size being fused. Insert pins shall be installed with no interference to carriage travel.

c) General Machine - Overview of machine body shall yield no obvious defects, missing parts, or potential safety issues during fusion.

d) Data Logging Device – An approved data logging device with the current version of the pipe supplier's recommended and compatible software shall be used. Data logging device operations and maintenance manual shall be with the unit at all times. If fusing for extended periods of time, an independent 110V power source shall be available to extend battery life.

5) Other equipment specifically required for the fusion process shall include the following:

a) Pipe rollers shall be used for support of pipe to either side of the machine

b) A weather protection canopy that allows full machine motion of the heat plate, fusion assembly and carriage shall be provided for fusion in inclement, extreme temperatures, and /or windy weather, per the pipe supplier's recommendations.

c) An infrared (IR) pyrometer for checking pipe and heat plate temperatures.

d) Fusion machine operations and maintenance manual shall be kept with the fusion machine at all times.

e) Facing blades specifically designed for cutting fusible polyvinylchloride pipe shall be used.

f) Debeader designed for cutting fusible polyvinylchloride pipe shall be used to remove the internal beading of the fused joints.

6) Joint Recording

a) Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) connected to the fusion machine. The fusion data logging and joint report shall be generated by software developed specifically for the butt-fusion of fusible polyvinyl chloride pipe. The software shall register and/or record the parameters required by the pipe supplier and these specifications. Data not logged by the data logger shall be logged manually and be included in the Fusion Technician's joint report.

7) Debeading

a) Utilizing equipment designed for cutting fusible polyvinylchloride pipe shall be used.to remove the internal beading of the fused joints and provide a smooth transition from pipe segment to pipe segment.

1. General: Install structures, complete with appurtenances and accessories indicated.

a. Set structure base level on 8-inch minimum bedding material.

1) Align manhole steps.

2) Provide structure with internal piping in place or field install piping.

3) Assemble the structure sections.

4) Point inside and outside joints with mortar. Close lifting holes with plastic plugs and mortar.

b. Prior to assembly, clean joint surfaces of precast concrete sections and butyl rubber sealant.

1) Install precast concrete structure sections with gaskets according to ASTM C 891.

2) Annular Space: Fill space between sewer pipe and structure on inner side of flexible pipe connector with flexible annular space filler.

3) Frames and Covers. Set frame in full bed of mortar. Cover bottom flange of frame with a thick, smooth-surfaced ring of mortar that extends to outside edge of masonry. Slope mortar ring to shed water away from frame.

4) Set tops of frames and covers flush with finished surface of structures that occur in pavements and lawns. Set tops 2 inches above finished grade of turf, unless otherwise indicated.

5) At unpaved locations, install bolted and gasketed covers.

6) `At unpaved locations (except for lawns), surround casting frame and masonry with concrete anchor ring as indicated.

c. Frame Adjustment. Adjust frames with collars, masonry units or bricks.

1) Maximum Adjustment Height: 12 inches.

2) For adjustments greater than 12 inches, install riser section for structure.

2. Concrete Placement

a. Place cast-in-place concrete according to ACI 318 and ACI 350R.

3. Field Quality Control

a. Complete Field Quality Control work prior to placing permanent paving.

b. Clear interior of piping and structures of dirt and superfluous material as work progresses.

1) Place plug in end of incomplete piping at end of day and when work stops.

2) Flush piping between structures to remove collected debris.

c. Inspect interior of piping and structures using CCTV to determine whether line displacement or other damage has occurred. Inspect after completion of backfill and compaction.

1) Submit reports for each system inspection.

2) Defects requiring correction include the following:

a) Deflection: Flexible piping with deflection that prevents passage of a 5 percent deflection gage meeting ASTM D3034, Appendix X1.

b) Crushed, broken, cracked, or otherwise damaged piping.

c) Any visible leak found during the CCTV inspection.

d. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.

e. Reinspect and repeat procedure until results are satisfactory.

f. Test new structure and piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1) Do not put into service before inspection and approval.

2) Schedule tests and inspections with Engineer; provide at least two business day advance notice.

3) Submit separate reports for each test.

4. Pipe Testing

a. Safety

1) Safety is the first priority. Contractor is responsible for all safety precautions. All safety precautions must be followed.

2) Take precautions to eliminate free air inside the pipe during hydrostatic testing, including attention to filling sequence, air relief valves, flushing, and other best practices. Excessive test pressure pumping times can be a sign of entrapped free air.

3) Prepare a plan for all field testing that covers procedure, communication, labor assignments, and contingencies. This plan shall be submitted to the Engineer for review prior to the start of testing.

4) Safety dictates that personnel should not be in a manhole during low pressure air testing.

5) Water must be used for field hydrostatic testing. Air cannot be used for pressure pipe testing.

6) Test trenchless sections of an installation BEFORE they are connected to the existing pipe system.

b. Deflection Testing for Pressure Pipe Bell and Spigot C900 and Fusible C900

1) After completion of the backfill, the engineer or owner shall require that a deflection test be performed.

2) The internal beading must be removed from fused joints of the fusible C900 pipe.

3) The mandrel shall be approved by the owner or engineer prior to use. Lines that permit safe entry may allow other deflection test options, such as direct measurements.

c. Hydrostatic Testing and Leakage Testing for Pressure Pipe Bell and Spigot C900 and Fusible C900

1) Hydrostatic and leakage testing for piping systems that contain mechanical jointing as well as fused PVC jointing shall comply with AWWA C605.

2) Unless agreed to or otherwise designated by the owner or engineer, for a simultaneous hydrostatic and leakage test following installation, a pressure equal to 150% of working pressure at point of test, but not less than 125% of normal working pressure at highest elevation shall be applied. The duration of the pressure test shall be for two (2) hours.

3) If hydrostatic testing and leakage testing are performed at separate times, follow procedures as outlined in AWWA C605.

4) In preparation for pressure testing the following parameters must be followed:

a) All air must be vented from the pipeline prior to pressurization. This may be accomplished with the use of the air relief valves or corporation stop valves, vent piping in the testing hardware or end caps, or any other method which adequately allows air to escape the pipeline at all high points. Venting may also be accomplished by 'flushing' the pipeline in accordance with the parameters and procedures as described in AWWA C605.

b) The pipeline must be fully restrained prior to pressurization. This includes complete installation of all mechanical restraints per the restraint manufacturer's guidelines, whether permanent or temporary to the final installation. This also includes the installation and curing of any and all required thrust blocking. All appurtenances included in the pressure test, including valves, blow-offs, and air-relief valves shall be checked for proper installation and restraint prior to beginning the test.

c) Temporary pipeline alignments that are being tested, such as those that are partially installed in their permanent location shall be configured to minimize the amount of potentially trapped air in the pipeline.

d) The below table can be used to calculate an allowable leakage rate for a given pipe segment by determining how many gaskets are present in the segment to be tested and multiplying that number by the appropriate value from the table based on the test pressure and pipe diameter. This information is valid for both PVC and ductile iron pressure pipe joints and fittings.

Hydrostatic Test Makeup Water Allowances per Gasket for Pressure Pipe (US gal/hr)												
Avg. Test Pressure (psi)	Nominal Pipe Diameter (in)											
	4	6	8	10	12	14	16	18	20	24	30	36
300	0.009	0.014	0.019	0.023	0.028	0.033	0.037	0.042	0.047	0.056	0.070	0.084
275	0.009	0.013	0.018	0.022	0.027	0.031	0.036	0.040	0.045	0.054	0.067	0.081
250	0.009	0.013	0.017	0.021	0.026	0.030	0.034	0.038	0.043	0.051	0.064	0.077
225	0.008	0.012	0.016	0.020	0.024	0.028	0.032	0.036	0.041	0.049	0.061	0.073
200	0.008	0.011	0.015	0.019	0.023	0.027	0.031	0.034	0.038	0.046	0.057	0.069
175	0.007	0.011	0.014	0.018	0.021	0.025	0.029	0.032	0.036	0.043	0.054	0.064
150	0.007	0.010	0.013	0.017	0.020	0.023	0.026	0.030	0.033	0.040	0.050	0.060
125	0.006	0.009	0.012	0.015	0.018	0.021	0.024	0.027	0.030	0.036	0.045	0.054
100	0.005	0.008	0.011	0.014	0.016	0.019	0.022	0.024	0.027	0.032	0.041	0.049
75	0.005	0.007	0.009	0.012	0.014	0.016	0.019	0.021	0.023	0.028	0.035	0.042
50	0.004	0.006	0.008	0.010	0.011	0.013	0.015	0.017	0.019	0.023	0.029	0.034

Table 4.2. Hydrostatic test make-up water allowance per gasket for PVC pressure pipe based on the allowances included in AWWA C605.

5. Cleanup
    a. All water used in tests becomes contractor's property once tests are complete.
    b. Test water cannot be disposed by release to any downstream sewers.

Heat Trace System

1. Examination
    a. Installer to field verify all plumbing piping sizes & lengths as shown on drawings.
    b. Installer to verify that power is available, in proper location and ready for use.
    c. Installer to verify that all plumbing piping has been properly prepared for heating cable installation. Notify General Contractor or Construction Manager of unsatisfactory conditions exist prior to Plumbing Pipe Freeze Protection System.
2. Installation
    a. The plumbing pipe freeze protection installation shall conform to all local building codes including but limited to NFPA70, IEEE 515.1 Commercial Heat Tracing Applications.
    b. The installer shall comply with the operation & maintenance instructions.
    c. The installer shall layout heating cable per approved shop drawings.
3. Field Quality Control
    a. Testing of the Plumbing Pipe Freeze Protection System Heat Trace wiring shall be performed by a technician or representative deemed qualified by the Engineer.
    b. Field Testing & Inspections
        1) The system shall be commissioned in accordance to the Operation & Maintenance Manual.
        2) The heating cable circuit integrity shall be tested using a 2500 Vdc megohmmeter at the following intervals below. Minimum acceptable insulation resistance shall be 1000 megohms or greater.
            a) Before installing the heating cable
            b) After heating cable has been installed onto the pipe prior to pipe insulation
            c) Prior to Acceptance
        3) The technician shall verify that the parameters are set properly for the Plumbing Pipe Freeze Protection System requirements.
            a) The technician shall verify that the heating cables are properly placed and terminated.

b) The installer shall submit test results to owner as part of the project records.

4) Comply with Manufacturers recommendations IOM Manual Plumbing Pipe Freeze Protection System.

Method of Measurement

A. 10" P.V.C. Bell and Spigot Force Main (Sanitary Sewer) is measured for payment by the appropriate pipe diameter and material by the linear foot along the centerline of pipe actually installed and accepted.

B. 10" P.V.C. Fusible Force Main (Sanitary Sewer) is measured for payment by the appropriate pipe diameter and material by the linear foot along the centerline of pipe actually installed and accepted.

C. 10" Insulated Ductile Iron Pipe (Sanitary Sewer) is measured for payment by the appropriate pipe diameter, material, and depth of installation by the linear foot along the centerline of pipe actually installed and accepted.

D. Concrete Encasement (Sanitary Sewer) is measured for payment by the appropriate cubic yard of material, based upon the width, depth and length of installation by the linear foot along the centerline of pipe actually installed and accepted.

E. Cleanout Chamber (Sanitary Sewer) is measured for payment on a per each basis by the appropriate pipe diameter, installed and accepted, including excavation and backfilling, 2 " rigid metal conduit for heat tracing heat tracing, piping, valves, valve boxes, chamber structure with footing and access frame and cover, fittings, bends, adaptors, restraints, supports, cast-in-place concrete thrust block, and miscellaneous items located inside the underground structure and within the indicated pay limit actually installed and accepted.

F. Blow off Assembly (Sanitary Sewer) is measured for payment on a per each basis by within the indicated pay limit actually installed and accepted.

Basis of Payment

A. 10" P.V.C. Bell and Spigot Force Main (Sanitary Sewer) is paid for at the Contract Unit Price per linear foot that is measured and complete in place, including trench excavating, bedding, backfilling, impervious backfill where directed, fittings, thrust block, restraints, CCTV inspection, cleaning, testing, and materials, labor, tools, and equipment incidental to the Work and incidentals.

B. 10" P.V.C. Fusible Force Main (Sanitary Sewer) is paid for at the Contract Unit Price per linear foot that is measured and complete in place, including trench excavating, bedding, backfilling, impervious backfill where directed, fittings, thrust block, restraints, CCTV inspection, cleaning, testing, and materials, labor, tools, and equipment incidental to the Work and incidentals.

C. 10" Insulated Ductile Iron Pipe (Sanitary Sewer) is paid for at the Contract tracing and depth of installation, complete in place, including trench excavation, bedding, backfilling, impervious backfill where directed, fittings, thrust block, restraints, cleaning, CCTV inspection, testing, and materials, labor, tools, and equipment incidental to the Work and incidentals.

D. Concrete Encasement (Sanitary Sewer) is paid for at the Contract Unit Price complete in place, including placement of a bond breaker, forming, securing the carrier pipe with insulation, placement of concrete, removal of forms and materials, labor, tools, and equipment incidental to the Work and incidentals.

E. Cleanout Chamber (Sanitary Sewer) is paid for at the Contract Unit Price per each completed in place, including, 2-inch PVC conduit for heat tracing, heat tracing, all materials, labor, tools and equipment incidental to the work.

F. Blow off Assembly (Sanitary Sewer) is paid for at the Contract Unit Price per each including materials, labor, tools, and equipment incidental to the Work.

Pay Item	Pay Unit
10" P.V.C. Bell and Spigot Force Main (Sanitary Sewer)	LF
10" P.V.C. Fusible Force Main (Sanitary Sewer)	LF
10" Insulated Ductile Iron Pipe (Sanitary Sewer)	LF
Concrete Encasement (Sanitary Sewer)	CY
Cleanout Chamber (Sanitary Sewer)	EA
Blow Off Assembly (Sanitary Sewer)	EA

ITEM #1401261A 10" DUCTILE IRON PIPE SUPPORTED ON BRIDGE (SANITARY SEWER)

Work under this item shall conform to the requirements of Section 6.03, amended as follows:

Description: The Contractor shall furnish, install, and pressure test ductile iron pipe, of the sizes and types indicated, and all the fittings and appurtenances to the lines and grades shown on the Contract Drawings, complete as shown, specified or directed, including but not limited to; furnishing, preparing, and installing sanitary sewer pipes, rods, rollers, elastomeric bearings, hardware, insulation, pipe jacket, casing pipe, casing pipe spacers, heat tracing system, filter fabric, bedding material, rubber gaskets, clamps, and magnetic marking tape and all incidental work where required by the Engineer, except as otherwise herein provided for.

Materials: All materials must be manufactured in the United States of America.

Restrained Ductile Iron Pipe:

1. Pipe Characteristics: Conform to ANSI/AWWA C151/A 21.51, thickness class 52 ductile iron.
2. Inside Lining: ANSI/AWWA C104/A21.4, cement mortar with double lining, or approved equal.
3. Joints: Restrained TR-Flex push-on joint conforming to ANSI/AWWA C111/A21.11 with two bronze wedges per joint.
4. Gaskets: Styrene butadiene rubber (SBR) conforming to ANSI/AWWA C111/A21.11.
5. Joint lubricants shall be compatible with the gasket materials and be ANSI/NSF 61 compliant.
6. Provide affidavits of compliance with the requirements of ANSI/AWWA C104/A21.4, ANSI/AWWA C111/A21.11, and ANSI/AWWA C151/A21.51.

Pre-insulated Restrained Joint Ductile Iron Pipe

1. Acceptable manufacturers: U.S. Pipe, American Cast Iron Pipe Company or Engineer approved equivalent.
2. Restrained Joint Ductile Iron Pipe: Conform to the requirements listed above.
3. Ductile Iron Fittings: Conform to the requirements listed above.
4. Insulation: Factory applied pipe insulation shall be rigid polyurethane foam with the following characteristics:
    a. Minimum thickness: 2-inches (50 mm).
    b. Density: 2.2 to 3.0 lbs/ft3 (35 to 46 kg/m3) as determined in accordance with ASTM D1622.
    c. Minimum Closed Cell Content: 90% as determined in accordance with ASTM D6226.
    d. Maximum Water Absorption: 4.0% by volume as determined in accordance with ASTM C272.
    e. Thermal Conductivity: 0.14 to 0.17 Btu/in/ft2/hr/degree Fahrenheit (0.020 to 0.026 W/m/degree Celsius) as determined in accordance with ASTM C518.
5. Outer Insulation Jacketing: High Density Polyethylene (H.D.P.E.) as listed below.

6. Insulated pipe joints shall be completed using prefabricated polyisocyanurate or urethane foam half shells and metal consistent with that on the factory insulated pipe. All metal overlaps at the joints and fittings shall be 2-inches (50 mm) minimum and shall be field positioned in such a way as to shed water.
7. Insulation kits for fittings shall consist of rigid polyisocyanurate or urethane foam insulation complete with a thin elastomeric coating on the outside surfaces for strength during transit and installation, and fabricated galvanized steel or aluminum outer protective jacket consistent with that on the factory insulated pipe. All kits to be supplied complete with stainless steel bands, stainless steel band-it clips, and stainless steel screws to suit. Fitting insulation shall conform to the following requirements:
    a. Density (ASTM D1622) 27 to 32 kg/m3 (1.7 to 2.0 lbs/ft3).
    b. Compressive strength (ASTM D1621) 131 to 158 kPa (19 to 23 lbs/in2) .
    c. Minimum Closed Cell Content: 90% as determined in accordance with ASTM D6226.
    d. Maximum Water Absorption: 4.0% by volume as determined in accordance with ASTM D2842.
    e. K Factor: 0.19 Btu/in/ft2/hr/degree Fahrenheit (0.027 W/m/degree Celsius) as determined in accordance with ASTM C518.
    f. Thickness to match pipe insulation thickness.

Ductile Iron Fittings:

1. Conform to ANSI/AWWA C153/A21.52.
2. Inside Lining: ANSI/AWWA C104/A21.4, cement mortar with double Lining, or approved equal.
3. Fitting joints shall be mechanical joints conforming to ANSI/AWWA C111/A21.11. Unrestrained mechanical joint glands, if used, shall be ductile iron. Grey-iron glands are not acceptable.
4. Gaskets: Styrene butadiene rubber (SBR) conforming to ANSI/AWWA C111/A21.11.
5. Joint lubricants shall be compatible with the gasket materials and be ANSI/NSF 61 compliant. Bolts and Nuts: Conform to the requirements of ANSI/AWWA C111/A21.11, Section 4.4.5 with minimum 1.2 mil thick blue, resin-bonded, thermally cured, fluoropolymer coating.
6. Provide affidavits of compliance with the requirements of ANSI/AWWA C104/A21.4, ANSI/AWWA C111/A21.11, and ANSI/AWWA C153/A21.53.

Restrained Mechanical Joint Glands:

1. Megalug Series 1100 as manufactured by EBAA Iron, Inc. (or engineer approved alternative)
2. Minimum rated water working pressure – 350 psi.
3. Bolts and Nuts: Conform to the requirements of ANSI/AWWA C111/A21.11, Section 4.4.5 with minimum 1.2 mil thick blue, resin-bonded, thermally cured, fluoropolymer coating.

Elastomeric Bearings:

1. Elastomeric bearing pads shall meet the requirements of M.17.01.

Heat Trace System:

1. Product Data: For UL/ULC Listed Heat Tracing Systems for Plumbing Piping including the following:
    a. Manufacturer's Data Sheets for Heat Cable, Components, Controller & Installation Accessories.
    b. Installation Instructions for Heat Tracing Systems for Plumbing Piping

Magnetic Marking Tape:

1. Width: 2-inches
2. Minimum Thickness: 5 mils
3. Type: Magnetically detectable polyester
4. Color and Labeling: green with black text "SEWER BURIED BELOW".
5. Comply with OSHA regulation 1926.956(c)(1).

Insulation/Insulation Casing: The insulation shall be a foamed in place closed cell polyurethane which completely fills the annular space between the carrier pipe and the exterior casing. The exterior casing shall be:

1. Seamless, High Density Polyethylene (H.D.P.E.) ASTM D-1248 with the following physical properties:

ASTM D-638……Ultimate Elongation 850%
ASTM D-638…….Tensile Yield Strength 3300 psi
ASTM D-3350……..Resin Type III, Grade P34
ASTM D-790……..Tangent Flexural Modules 175,000 psi

Casing Pipe Spacers:

1. Spacers for carrier pipe shall be stainless steel, neoprene or approved equal and shall be installed to center the carrier pipe within the casing pipe with a max tolerance of 1-inch between runner and casing.
2. Spacers shall prevent the carrier pipe from resting on the bells within the casing.

Casing Pipe and Fittings:

1. Steel Casing Pipe
    a. Steel: A572 Grade 50, ASTM A139, electric resistance or spiral weld, minimum yield strength 35,000 psi
    b. Joints: field welded
    c. Thickness: 0.375" min.
    d. Coating: Galvanized
2. Joints
    a. Joints between the sections of pipe shall be fully welded around the complete circumference of the pipe.
    b. Thermal Expansion / Contraction Joints
        i. Manufacturer:
            1. Flexi-Craft Ultraspool Expansion Joint
            2. US Bellows
            3. Garlock
            4. Or Engineer Approved Equal

3. Provide casing roller saddles at pipe support locations noted in the plans. Provide double roller at locations indicated in the plans.
    a. Pipe rollers shall be cast iron with steel axle. Rollers shall conform to ANSI/MSS SP-69 & SP-58, Type 41.
    b. Roller assemblies shall have top and bottom nuts on threaded rods to allow vertical adjustment of the rollers.

Bedding material shall meet the requirements of M.08.03-1.

Filter fabric shall meet the requirements of M.08.01-19. Materials incidental to and necessary for the installation of the filter fabric, such as, but not limited to, sewing thread, staples, pins, etc., shall meet the requirements of the manufacturer of the filter fabric.

Rods shall be carbon steel, rollers shall be cast iron, and associated hardware shall be as recommended by the manufacturer of the rods and rollers. Rods, rollers, and associated hardware shall be hot-dipped galvanized. Prior to furnishing, rods, rollers, and associated hardware shall be approved by the engineer.

Construction Methods: Transporting and Distributing Pipe: The Contractor shall transport the pipe and fittings from the place of manufacture, shall secure all permits which may be necessary, and comply with the requirements of the Connecticut Department of Transportation, Cities and Towns, concerning heavy transporting over State, City and Town highways.

During loading, transportation and unloading, more than ordinary care shall be taken to prevent injury to the pipes. Such work shall be done with each section of the pipe under full control at all times and under no condition shall a pipe be dropped on the ground. Pipes shall be placed on sand beds or other methods may be employed to avoid chances of pipe being frozen to the ground surface.

In distributing the pipe in the field, as permitted, each piece shall be placed as near as possible to the point where it is to be installed and faced in the proper direction. In case any pipe received damage from handling or other cause and made unacceptable to the Engineer, it shall be replaced with a new pipe at the expense of the Contractor. The Contractor is cautioned that State, City, or Town authorities may not permit storing pipe, etc., within street or highway limits.

Protection of Pipes, Drains, Culverts, etc.: All existing gas pipes, water pipes, sewers, drains, manholes, catch basins, culverts, electrical conduits, telephone ducts, utility poles or other structures which are uncovered by the excavation, and which do not, in the opinion of the Engineer, require to be changed in location, shall be carefully supported and protected from injury by the Contractor; and in case of damage, they shall be restored by the contractor without compensation to as good condition as that in which they were found and shall be kept in good repair during the existence of this Contract.

Laying Ductile Iron Pipe: Proper and suitable tools and appliances for safe and convenient handling and laying of pipe shall be used, and care shall be taken to prevent the coating of the

pipe from being damaged.

All pipes shall be carefully examined for defects and no pipe or other casting shall be laid which is known to be defective and should any defective pipe or other casting be discovered after being laid, it shall be removed and replaced with a sound casting at the expense of the Contractor.

Pipe located on the bridges shall be carefully cut to length and carefully installed to insure proper positioning of joints between pipe support assemblies.

Sanitary sewer pipe shall be installed on bedding material as detailed on the plans or as directed by the Engineer. Prior to placement of the pipe, bedding material shall be pre-shaped to 10% of the total height of the pipe in order to keep the pipe in the center of the trench. Following placement of the pipe, bedding material backfill and filter fabric shall be placed as shown on the plans.

The placement of pipe shall start at the downstream end and progress upstream or as shown on the plans, or as directed by the Engineer. All pipes shall be carefully laid in the center of the trench, true to the lines and grades given. Pipe shall be carefully joined and firmly clamped together by approved connecting bands, which shall be properly bolted in place before any backfill is placed.

Newly installed pipe which is not in true alignment, or which shows any settlement or distortion, shall be reinstalled in accordance with 1.05.03.

Magnetic Marking Tape shall be placed as indicated on the drawings.

Cutting Pipe: Whenever the pipes require cutting, an approved saw, wheel, or hydraulic type cutter shall be used. This work shall be done by the Contractor without extra compensation, in a manner satisfactory to the Engineer, and only experienced workers shall be engaged thereon.

Joints: On pipe with rubber gasket push-on joints, the gasket shall be installed in the socket of the pipe previously laid, and the gasket then lubricated. The plain end of the pipe being laid shall then be inserted and pulled or pushed to the full depth of the socket. An approved jack-type tool shall be used to assemble pipe 10-inches in diameter and larger. Plain ends of cut pipe shall be filed or ground to a taper to prevent damage to the gasket during insertion.

Pressure Testing: The pipeline shall be tested for leakage between test bulkheads and/or main line valves. The pipeline will be filled with water and tested in accord with the latest ANSI/AWWA C600 under a pressure of 150 psi at the lowest point in the pipeline. Under the test pressure, all visible leaks shall be made tight to the satisfaction of the Engineer. The total leakage per 24 hours from the line thus tested shall not exceed the allowed leakage as determined by the Engineer based on the latest ANSI/AWWA C600. Visible leaks shall be repaired even though the total leakage of the portion in question may be less than the above- mentioned permissible limit. Test pressure shall be applied for at least two hours and as much longer as required to permit inspection for leaks. Should the leakage exceed the maximum specified

amount and investigation show this leakage to be at the joints or caused by defective work elsewhere, such defective work shall be repaired to the satisfaction of the Engineer or, if he so orders, the pipe or pipes shall be replaced at no additional cost to the Municipality and repairs or replacement shall be continued and the test repeated until the leakage under the test pressure is within the limit prescribed and the work left in a manner entirely satisfactory to the Engineer.

Method of Measurement: 10" Ductile Iron Pipe Force Main On Bridge (Sanitary Sewer) shall be measured for payment by the linear foot along the centerline of the pipe complete and accepted.

Basis of Payment: 10" Ductile Iron Pipe Force Main On Bridge (Sanitary Sewer) will be paid for at the Contract unit price per linear foot including all materials such as rods, rollers, casing pipe, hardware, preinsulated pipe, fittings, pipe jacket, equipment, tools, pressure testing, and labor incidental thereto not otherwise separately paid for elsewhere in the Contract Documents.

Pay Item	Pay Unit
10" Ductile Iron Pipe Force Main On Bridge (Sanitary Sewer)	LF

NOTICE TO CONTRACTOR – UTILITY GENERATED SCHEDULES

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

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

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

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

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

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175	Town:	OLD LYME
Project Description:	REPLACEMENT OF BRIDGE NO.02713		
CTDOT Utilities Engineer:	QUINN DUFFY		
Phone:	(860)760-1906	Email:	QDuffy@blcompanies.com

Utility Company:	CROWN CASTLE FIBER		
Prepared By:	TERENCE J SHEA	Date Prepared:	12/2/2022
Phone:	(203)649-3905	Email:	terence.shea@crowncastle.com

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

Crown Castle Fiber's work will consist of placing strand, delashing and relashing cable, placing new cable, splicing new cable and removing strand and cable in phase 1. In phase 2 we will place strand, delash and relash cable, create backlash with slack and remove old strand.

Special Considerations and Constraints

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

PLEASE NOTE THAT ANY TIME FRAME GIVEN AS A START TIME OR DURATION OF WORK CAN BE AFFECTED BY MANY FACTORS INCLUDING, BUT NOT LIMITED TO, MAKE READY WORK, OTHER UTILITIES, PERMIT APPLICATIONS, CHANGES IN SCOPE, INCLEMENT WEATHER, HOLIDAYS AND EMERGENCY SITUATIONS.

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175		
Utility Company:	CROWN CASTLE FIBER		
Prepared By:	TERENCE J SHEA	Total Working Days:	7

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (working days)
LIMITS	PHASE 1-PLACE STRAND + CABLE, DELASH/RELASH, SPLICE CABLE, RMV STRAND + CABLE	POLES PLACED, POWER + CATV COMPLETE	5
LIMITS	PHASE 2-PLACE STRAND, DELASH/RELASH, CREATE BACKLASH WITH SLACK + RMV STRAND + CABLE	POLES PLACED, POWER + CATV COMPLETE	2

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175	Town:	OLD LYME
Project Description:	REPLACEMENT OF BRIDGE NO.06896		
CTDOT Utilities Engineer:	QUINN DUFFY		
Phone: (860)760-1906		Email:	QDuffy@blcompanies.com
Utility Company:	CROWN CASTLE FIBER		
Prepared By:	TERENCE J SHEA	Date Prepared:	12/2/2022
Phone: (203)649-3905		Email:	terence.shea@crowncastle.com

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

Crown Castle Fiber's work will consist of placing strand, delashing and relashing cable, moving slack and removing strand and cable in phase 1. In phase 2 we will place strand, delash and relash cable, create backlash with slack and remove old strand.

Special Considerations and Constraints

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

PLEASE NOTE THAT ANY TIME FRAME GIVEN AS A START TIME OR DURATION OF WORK CAN BE AFFECTED BY MANY FACTORS INCLUDING, BUT NOT LIMITED TO, MAKE READY WORK, OTHER UTILITIES, PERMIT APPLICATIONS, CHANGES IN SCOPE, INCLEMENT WEATHER, HOLIDAYS AND EMERGENCY SITUATIONS.

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175		
Utility Company:	CROWN CASTLE FIBER		
Prepared By:	TERENCE J SHEA	Total Working Days:	5

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (working days)
LIMITS	PHASE 1-PLACE STRAND, DELASH/RELASH, MOVE SLACK AND REMOVE STRAND	POLES PLACED, POWER + CATV COMPLETE	3
LIMITS	PHASE 2-PLACE STRAND, DELASH/RELASH, CREATE BACKLASH WITH SLACK AND RMV STRAND	POLES PLACED, POWER + CATV COMPLETE	2

rev. 5/20/2013

UTILITY WORK SCHEDULE

CTDOT Project Number:	0104-0175	Town:	Old Lyme
Project Description:	relocate aerial utilities for bridge replacement		
CTDOT Utilities Engineer:	Julie E. Schembri, PE		
Phone:	direct: 347.821.3167	Email:	www.blcompanies.com
Utility Company:	Comcast		
Prepared By:	Jason Major	Date Prepared:	5/16/2024
Phone:	(860)625-2986	Email:	Jason_Major@cable.Comcast.com

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

Build new strand & coax from pole # 1726 to pole # 1722 this will be a temp ,Splice in. Then we will remove exisiting strand & coax from poles . When project is ready we will replace with new strand & coax back to final design and splice in.

Special Considerations and Constraints

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

UTILITY WORK SCHEDULE

CTDOT Project Number:	0104-0175		
Utility Company:	Comcast_Bridge No. 06896 Temporary		
Prepared By:	Jason Major	Total Calendar Days:	10

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of calendar days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (calendar days)
pole #1725	pole shifts and cable + strand rebuild	Eversource	2
pole # 1723	pole shifts and cable + strand rebuild	Eversource	2
pole #1722	pole shifts and cable + strand rebuild	Eversource	2
pole # 1721	pole shifts and cable + strand rebuild	Eversource	2
pole #1726	pole shifts and cable + strand rebuild	Eversource	2

UTILITY WORK SCHEDULE

CTDOT Project Number:	0104-0175		
Utility Company:	Comcast_Bridge No. 06896 Permanent		
Prepared By:	Jason Major	Total Calendar Days:	10

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of calendar days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (calendar days)
pole #1725	pole shifts and cable + strand rebuild	Eversource	2
pole # 1723	pole shifts and cable + strand rebuild	Eversource	2
pole #1722	pole shifts and cable + strand rebuild	Eversource	2
pole # 1721	pole shifts and cable + strand rebuild	Eversource	2
pole #1726	pole shifts and cable + strand rebuild	Eversource	2

rev. 5/20/2013

UTILITY WORK SCHEDULE

CTDOT Project Number:	104-175	Town:	East/Old Lyme
Project Description:	02713 & 06896 Bridges rebuild RT156 East/Old Lyme		
CTDOT Utilities Engineer:	Julie Schembri		
Phone:	860-249-2200	Email:	jschembri@blcompanies.com
Utility Company:	Eversource Energy		
Prepared By:	Dan Bettencourt	Date Prepared:	6/1/2023
Phone:	860-447-5739	Email:	aniel.bettencourt@eversource.co

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

TEMPORARY POLE & WIRE RELOCATIONS - PRE BRIDGE CONSTRUCTION

1. BRIDGE 02713 At STA 13+00 to STA 15+50 relocate poles and wire to the South, into the field. 2. BRIDGE 06896 At STA 2+50 to STA 7+50 relocate poles and wire to the North side of RT156.

PERMANENT POLE & WIRE RELOCATIONS - POST BRIDGE CONSTRUCTION

1. BRIDGE 02713 At STA 13+00 to STA 15+50 relocate poles and wire to the North, into the original utility roadside row. 2. BRIDGE 06896 At STA 2+50 to STA 7+50 relocate poles and wire to the South side of RT156, into the origianl utility roadside row.

Special Considerations and Constraints

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

Core bore drilling may be required if ledge is encountered

UTILITY WORK SCHEDULE

CTDOT Project Number: 104-175

Utility Company: Eversource Energy

Prepared By: Dan Bettencourt Total Calendar Days: 60

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of calendar days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (calendar days)
	02713 TEMPORARY POLE & WIRE RELOCATIONS		
13+00 to 16+50	relocate poles & wire South into the field	tree clearing and grubbing, install access road	18
	06896 TEMPORARY POLE & WIRE RELOCATIONS		
2+50 to 7+50	relocate poles & wire North of RT156	tree clearing and grubbing	14
	02713 PERMANENT POLE & WIRE RELOCATIONS		
13+00 to 16+50	relocate poles & wire North to the roadway	plus/minus 1 foot final grade	16
	06896 PERMANENT POLE & WIRE RELOCATIONS		
2+50 to 7+50	relocate poles & wire South of RT156	plus/minus 1 foot final grade	12

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175	Town:	Old Lyme/East Lyme
Project Description:	Rehabilitation of Bridges No. 02713, Route 156-ABOVE GROUND		
CTDOT Utilities Engineer:	Jennifer Usher		
Phone: (860) 760-1939		Email:	jusher@blcompanies.com

Utility Company:	Frontier Communications		
Prepared By:	John Plikus	Date Prepared:	9/27/2023
Phone: 860.455.6030		Email:	john.m.plikus@ftr.com

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

TEMPORARY RELOCATION(FOUR MILE RIVER)
Loc.1 Sta.9+76' to Loc.8 Sta.18+30, Place & Splice 920ft 6M & 10M Strand & BKMA-2.
Loc.4 Sta.14+00 & Loc.6 Sta16+80, Install 1-35ft Class 2 POLE,1-ANC & 1-10M DWN Guy.
Loc.3 Sta.13+00 -Loc.7 Sta.16+80,Transfer Aerial Fiber Slack.
Loc.1 Sta.9+76' to Loc.8 Sta.18+30, Cut & RMV 880ft BKTA-200, KHAH-210 & 1760ft 6M Strand. Loc.3 Sta.13+00 to Loc.7 Sta.16+80, Cut & RMV Underground Cables BHAH-100 & BHBH-75.

PERMANENT RELOCATION(FOUR MILE RIVER) SEE UNDERGROUND UWS FOR DETAILS
Loc.3 Sta.13+00 -Loc.7 Sta.17+00,Sift Underground Fiber to Permanent Location. Loc.1 Sta.9+76' to Loc.8 Sta.18+30, Shift 920ft 6M & 10M Strand & BKMA-2,Fiber to Perm Loc.

Special Considerations and Constraints

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

1.Prior to any temporary/permanent relocation work CT. Dept. of Transportation to secure Temporary ROW as submitted for guying of temporary relocated poles in order to proceed.
2. Frontier Communications will schedule its construction as it's workload permits, the DOT will schedule other utilities attached to the pole line (Power Co., CATV, etc... and all State or Municipal owned cables and fixtures). This UWS has been completed using only Semi-Final Design Plans. No mark out of edge of road, or construction limits provided and may be subject to change.

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175 - ABOVE GROUND (TEMP)		
Utility Company:	Frontier Communications		
Prepared By:	John Plikus	Total Working Days:	15

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (Working Days)
Sta.9+76 - Sta.18+30	Place & Splice 920ft 6M & 10M Strand & BKMA-2. Transfer Aerial Fiber Slack.	All Other Utilities work complete.	2
Sta.14+00 & Sta16+80	Install 1-ANC & 1-10M DWN Guy.	All Other Utilities work complete.	0.5
Sta.13+00 -Sta.16+80	Transfer Fiber and Construct New Conduit Structure.	All Other Utilities work complete.	10
Sta.9+76 - Sta.18+30	Cut & RMV 880ft BKTA-200, KHAH-210 & 1760ft 6M Strand.	All Other Utilities work complete.	1
Sta.13+00 - Sta.16+80	Cut & RMV Underground Cables BHAH-100 & BHBH-75.	All Other Utilities work complete.	1.5

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175 - ABOVE GROUND (PERM)		
Utility Company:	Frontier Communications		
Prepared By:	John Plikus	Total Working Days:	2

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (Working Days)
Sta.13+00 -Sta.16+80	Shift 920ft 6M & 10M Strand & BKMA-2 and Fiber to Permanent Loc.	Other Utilities work completion required.	2

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175	Town:	Old Lyme/East Lyme
Project Description:	Rehabilitation of Bridges No. 02713, Route 156-UNDERGROUND		
CTDOT Utilities Engineer:	Jennifer Usher		
Phone:	(860) 760-1939	Email:	jusher@blcompanies.com

Utility Company:	Frontier Communications		
Prepared By:	John Plikus	Date Prepared:	1/23/2024
Phone:	860.455.6030	Email:	john.m.plikus@ftr.com

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

Bridge#02713 Four Mile River

All work MUST START IMMEDIATLY AFTER TRAFFIC HAS BEEN SHIFTED TO THE NORTH.

Step 1 Between PT "A"&"D"[See proposedUNDG Plan for Bridge-02713] Sta 13+00 to 17+00+/- Frontier to excave,expose and break-out 400'+/- of 2-3.5"HWF conduits and remove 3-direct buried cables with help from Frontier forces. Then place existing working cables into temporary support provided by DOT Contr. DOT Contr. to protect cables while in suppport.

Step 2 Frontier to place back into final location 200'+/-2-4"P split conduit encased in concrete from PT"A" to PT"B"-100'+/-&PT"C"toPT"D"100'+/-[see UNDG plan] This to ensure DOT contr can have access & work behind the barriers while working cables are in temporary support from PT"B"to PT"C"

Step 3 When DOT contr. is ready for Frontier Contr to place back 200'+/- of 2-4"P split conduit encased in concrete between PT"B & PT"C" into its final location. Frontier & DOT Contractor to work together to avoid any drainage and work schedule conflicts.

Special Considerations and Constraints

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

1.Prior to any temporary/permanent relocation work CT. Dept. of Transportation to secure Temporary ROW as submitted for guying of temporary relocated poles in order to proceed.
2. Frontier Communications will schedule its construction as it's workload permits, the DOT will schedule other utilities attached to the pole line (Power Co., CATV, etc... and all State or Municipal owned cables and fixtures). This UWS has been completed using only Semi-Final Design Plans. No mark out of edge of road, or construction limits provided and may be subject to change.

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175 - UNDERGROUND		
Utility Company:	Frontier Communications		
Prepared By:	John Plikus	Total Working Days:	9

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (Working Days)
Sta.13+00 - Sta.17+00	Break-out 400'+/- 2-3.5"HWF & 3 direct buried cables Place working cables into support& remove old cables	MUST BE DONE IMMEDIATELY AFTER TRAFFIC HAS SHIFTED NORTH	4
Sta.13+00 - Sta.14+00	Place 100'+/- of 2-4"P split encased in concrete.	Has to be done so DOT contractor can have access behind the barrriers	1.5
Sta.16+00- Sta.17+00	Place 100'+/- of 2-4"P split encased in concrete.	Has to be done so DOT contractor can have access behind the barrriers	1.5
Sta.14+00- Sta.16+00	Place 200'+/- of 2-4"P split encased in concrete.	Frontier must work with DOT Contractor to avoid all proposed drainage	2

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175	Town:	Old Lyme/East Lyme
Project Description:	Rehabilitation of Bridges No. 06896, Route 156-UNDERGROUND		
CTDOT Utilities Engineer:	Jennifer Usher		
Phone: (860) 760-1939		Email:	jusher@blcompanies.com
Utility Company:	Frontier Communications		
Prepared By:	John Plikus	Date Prepared:	1/23/2024
Phone: 860.455.6030		Email:	john.m.plikus@ftr.com

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

Bridge#06896 Armstrong Brook Underground work By Frontier Contractor

Step 1 Place Handhole over existing cable and next to MH#33 @ Sta 8+00+/-

Step 2 Sta 4+00+/- to 6+00+/- Excavate & Expose 200'+/- of conduit 2-3.5"hwf, 8-4"P encased in concrete & 3 direct buried cables. Remove direct buried cables with help from Frontier forces. Then break-out existing working cables from conduits and place in Temporary support provided by CT DOT Contractor. Dot Contr. to protect cables while in support.

Step 3 When DOT Contr. is ready for Frontier Contractor to place back 200'+/- of 10-4"P[Split Condut when required} into it final location encased in concrete. CT DOT&Frontier Contr. must work together on work schedule and to avoid proposed drainage.

Special Considerations and Constraints

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

1.Prior to any temporary/permanent relocation work CT. Dept. of Transportation to secure Temporary ROW as submitted for guying of temporary relocated poles in order to proceed.
2. Frontier Communications will schedule its construction as it's workload permits, the DOT will schedule other utilities attached to the pole line (Power Co., CATV, etc... and all State or Municipal owned cables and fixtures). This UWS has been completed using only Semi-Final Design Plans. No mark out of edge of road, or construction limits provided and may be subject to change.

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175 - UNDERGROUND		
Utility Company:	Frontier Communications		
Prepared By:	John Plikus	Total Working Days:	7

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (Working Days)
Sta.8+00+/-	Bridge#06896 Place 1 Handhole over existing cable next to MH#33		1
Sta.4+00 & Sta6+00	Break-out 200'+/- 2-3.5"&8-4"P conduits in concrete Place working cables in support & remove old cable		4
Sta.4+00 -Sta.6+00	Place 200'+/- of 10-4"P split conduit as required and encase in concrete.	Frontier must work with DOT Contractor to avoid all proposed drainage	2

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175	Town:	Old Lyme/East Lyme
Project Description:	Rehabilitation of Bridges No. 06896, Route 156-ABOVE GROUND		
CTDOT Utilities Engineer:	Jennifer Usher		
Phone: (860) 760-1939		Email:	jusher@blcompanies.com

Utility Company:	Frontier Communications		
Prepared By:	John Plikus	Date Prepared:	9/27/2023
Phone: 860.455.6030		Email:	john.m.plikus@ftr.com

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

TEMPORARY RELOCATION(ARMSTRONG BROOK)
Loc.1 Refeed Loc.2 Cutler Road @Pole No.703 Rt156.
Loc.3 Sta.8+10, Place & Splice In 100ft - ANMW-50, Place 1-PED, Refeed Hatchett Point Rd.
Loc.4 Refeed 387/9 Rt156 @ Pole No.1702.
Loc.2 Pole No.1726 to Loc.3 Pole No.1721, Cut and Remove Aerial BKMH-100.
Loc.2 Pole No,1726, Install 1-ANC & 1-10M DWN Guy.
Loc.1 to Loc.3, Cut & RMV Underground Cables 6-BHAH-100 & 1-BHBH-75.

PERMANENT RELOCATION(ARMSTRONG BROOK) SEE UNDERGROUND UWS FOR DETAILS
Loc.3 Sta.13+00 -Loc.7 Sta.16+80,Restore Underground Fiber & Copper to Permanent Location

Special Considerations and Constraints

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

1.Prior to any temporary/permanent relocation work CT. Dept. of Transportation to secure Temporary ROW as submitted for guying of temporary relocated poles in order to proceed.
2. Frontier Communications will schedule its construction as it's workload permits, the DOT will schedule other utilities attached to the pole line (Power Co., CATV, etc... and all State or Municipal owned cables and fixtures). This UWS has been completed using only Semi-Final Design Plans. No mark out of edge of road, or construction limits provided and may be subject to change.

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175 - ABOVE GROUND (TEMP)		
Utility Company:	Frontier Communications		
Prepared By:	John Plikus	Total Working Days:	8.5

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (Working Days)
Loc.1 & Loc.4	Refeed Loc.2 Cutler Road @Pole No.703 Rt156. Refeed 387/9 Rt156 @ Pole No.1702.	All Other Utilities work complete.	1.5
Loc.3	Place & Splice In 100ft - ANMW-50, Place 1-PED, Refeed Hatchett Point Rd.	All Other Utilities work complete.	1.5
Loc.2	Pole No.1726 to Loc.3 Pole No.1721, Cut and Remove Aerial BKMH-100.	All Other Utilities work complete.	1
Loc.2	Pole No,1726, Install 1-ANC & 1-10M DWN Guy.	All Other Utilities work complete.	0.5
Loc.1 to Loc.3	Breakout and Transfer Underground Fiber.	All Other Utilities work complete.	2
Loc.1 to Loc.3	Cut & RMV Underground Cables 6-BHAH-100 & 1-BHBH-75.	All Other Utilities work complete.	2

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0104-0175 - ABOVE GROUND (PERM)		
Utility Company:	Frontier Communications		
Prepared By:	John Plikus	Total Working Days:	0

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (Working Days)
Sta.13+00 -Loc.7 Sta.16+80	Restore Underground Conduit Structure and Transfer Fiber Cable.	SEE UNDERGROUND UWS FOR DETAILS	

UTILITY WORK SCHEDULE

CTDOT Project Number:	0104-0175	Town:	Old Lyme/East Lyme
Project Description:	Replacement of Bridge Nos 02713		
CTDOT Utilities Engineer:	Jennifer Usher		
Phone:	(860) 760-1939	Email:	jusher@blcompanies.com
Utility Company:	Old Lyme Shores Assocations		
Prepared By:	Marshall Gaston	Date Prepared:	February 4, 2025
Phone:	(860) 783-4738	Email:	marshall.gaston@fando.com

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

The project will involve the installation of the Shared force main Sanitary Sewer along Route 156. The proposed force main will be routed along Route 156 and require two phases.

Bridge Project #02713

OLS Sewer Construction:
Install tee with gate valve and blow off at Sta. 20+69.15 (Eastern terminus of Bridge Project #02713). Install C900 PVC bell and spigot force main from Sta. 20+69.15 to Sta. 16+56. Install cleanout chamber clean out chamber at Sta. 16+56. Then install C900 PVC bell and spigot force main with heat tracing componets to Sta. 15+41. Transition pipe to pre-insulated ductile iron pipe on Bridge with heat trace componets from Sta. 15+41 to Sta. 14+11. From Sta 15+41 to Sta 13+90 transition to C900 PVC bell and spigot force main pipe. Install cleanout chamber at 13+90. From St. 13+90 to Sta. 10+00 install C900 PVC bell and spigot force main. Install tee with gate valve and blow off at Sta. 10+00 (Western terminus of Bridge Project #02713).

UTILITY WORK SCHEDULE

CTDOT Project Number:	0104-0175		
Utility Company:	Old Lyme Shores Assocations		
Prepared By:	Marshall Gaston	Total Working Days:	30

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (Working Days)
20+69.15 **Task 1**	Install Gate Valve with Blow Off Assembly (Eastern terminus of Bridge Project #02713)	Erect and backfill last unit of Precast Concrete Arch, Headwall and wingwalls.	1*
15+41 to 14+11 **Task 5**	Transition to pre-insulated ductile iron from C900 PVC bell and spigot pipe. Install Ductile Iron On Bridge and heat tracing	Erect and backfill last unit of Precast Concrete Arch, Headwall and wingwalls.	30
20+69.15 to 16+56 **Task 2**	Install C900 PVC bell and spigot force main.	Install Gate Valve with Blow Off Assembly (Eastern terminus of Bridge Project #02713)	5*
16+56 **Task 3**	Install cleanout chamber and heat tracing componets.	Install C900 PVC bell and spigot force main.	1*
16+56 to 15+41 **Task 4**	Install C900 PVC bell and spigot force main and heat tracing componets.	Install cleanout chamber and heat tracing componets.	2*
14+11 to 13+90 **Task 6**	Install C900 PVC bell and spigot pipe from pre-insulated ductile iron pipe location. Install C900 PVC bell and spigot force main.	Erect and backfill last unit of Precast Concrete Arch, Headwall and wingwalls.	1*
13+90 **Task 7**	Install cleanout chamber	Install C900 PVC bell and spigot pipe from pre-insulated ductile iron pipe location. Install C900 PVC bell and spigot force main.	1*
13+90 to 10+00 **Task 8**	Install C900 PVC bell and spigot force main	Install cleanout chamber	5*
10+00 **Task 9**	Install Gate Valve with Blow Off Assembly (Western terminus of Bridge Project #02713)	Install C900 PVC bell and spigot force main	1*

*** Schedule assumes that these tasks will be done concurrently with task 5**

UTILITY WORK SCHEDULE

CTDOT Project Number:	0104-0175	Town:	Old Lyme/East Lyme
Project Description:	Replacement of Bridge No 06896		
CTDOT Utilities Engineer:	Jennifer Usher		
Phone: (860) 760-1939		Email:	jusher@blcompanies.com
Utility Company:	Old Lyme Shores Associations		
Prepared By:	Marshall Gaston	Date Prepared:	February 4, 2025
Phone: (860) 783-4738		Email:	marshall.gaston@fando.com

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

The project will involve the installation of the Shared force main Sanitary Sewer along Route 156. The proposed force main will be routed along Route 156 and require one phase.

Bridge No, 06896

OLS Sewer Construction:
Install tee with gate valve and blow off at the Sta. 8+80.68 (Eastern terminus of Bridge Project #06896) and install C900 PVC bell and spigot force main from Sta. 8+80.68 to Sta. 6+58. Install cleanout chamber and heat tracing at Sta. 6+58. Install pre-insulated ductile iron pipe and heat tracing from Sta. 6+58 to Sta. 5+10. Install concrete encased pre-insulated ductile iron pipe and heat tracing from Sta. 5+10 to Sta. 5+00. Install pre-insulated ductile iron pipe from Sta. 5+00 to Sta. 4+06. Connect pre-insulated ductile iron pipe to C900 PVC bell and spigot force main and install C900 PVC bell and spigot force main from Sta. 4+06 to Sta. 1+07. Transition to fusible C900 PVC force main from C900 PVC bell and spigot force main and install fusible C900 PVC force main from Sta. 1+07 to Sta. 0+00. Install tee with gate valve and blow off at the Sta. 0+00 (Western terminus of Bridge Project #06896).

UTILITY WORK SCHEDULE

CTDOT Project Number:	0104-0175		
Utility Company:	Old Lyme Shores Associations		
Prepared By:	Marshall Gaston	Total Working Days:	14

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (Working Days)
8+80.68 **Task 1**	Install Gate Valve with Blow Off Assembly (Eastern terminus of Bridge Project #06896	Contractor constructs south half of box culvert.	1*
5+10 to 5+00 **Task 5**	Install concrete encased and pre-insulated ductile iron pipe and heat tracing	Contractor constructs south half of box culvert.	14
8+80.68 to 6+58 **Task 2**	Install C900 PVC bell and spigot force main. Work concurrently with concrete encasement and insulated pipe.	Install Gate Valve with Blow Off Assembly (Eastern terminus of Bridge Project #06896	3*
6+58 **Task 3**	Install cleanout chamber and heat tracing. Work concurrently with concrete encasement and insulated pipe.	Install C900 PVC bell and spigot force main. Work concurrently with concrete encasement and insulated pipe.	1*
6+58 to 5+10 **Task 4**	Install pre-insulated ductile iron pipe and heat tracing. Work concurrently with concrete encasement and insulated pipe.	Install cleanout chamber and heat tracing. Work concurrently with concrete encasement and insulated pipe.	3*
5+00 to 4+06 **Task 6**	Install pre-insulated ductile iron pipe and heat tracing. Work concurrently with concrete encasement and insulated pipe.	Contractor constructs south half of box culvert.	2*
4+06 to 1+07 **Task 7**	Connect pre-insulated ductile iron pipe to C900 PVC bell and spigot force main and install C900 PVC bell and spigot force main. Work concurrently with concrete encasement and insulated pipe	Install pre-insulated ductile iron pipe and heat tracing. Work concurrently with concrete encasement and insulated pipe.	5*
1+07 to 0+00 Task 8	Transition to fusible C900 PVC force main from C900 PVC bell and spigot force main. Install fusible C900 PVC force main	Connect pre-insulated ductile iron pipe to C900 PVC bell and spigot force main and install C900 PVC bell and spigot force main. Work concurrently with concrete	3*
0+00 **Task 9**	Install Gate Valve with Blow Off Assembly (Western terminus of Bridge Project #06896 .	Transition to fusible C900 PVC force main from C900 PVC bell and spigot force main. Install fusible C900 PVC force main	1*

*** Schedule assumes that these tasks will be done concurrently with task 5**

SECTION 1.03 - AWARD AND EXECUTION OF CONTRACT

Work under this section shall conform to the requirements of Section 1.03 supplemented and amended as follows:

Article 1.03.02 - Award and Execution of Contract:

After the second sentence of the only paragraph add the following:

The successful bidder is hereby notified of the Department's intent to award this contract within 44 days of the bid opening.

Article 1.03.07 – Insurance: Coverage shall be on a primary basis.

Replace Subsection 1 with the following:

1. Workers' Compensation Insurance: With respect to all operations the Contractor performs and all those performed for it by subcontractors, the Contractor shall carry, and require each subcontractor to carry, Workers' Compensation insurance as required by the laws of the State of Connecticut.

Employer's Liability insurance shall be provided in amounts not less than $100,000 per accident for bodily injury by accident; $500,000 policy limit by disease and $100,000 per employee for bodily injury by disease. Each Workers' Compensation policy shall contain the U.S. Longshoreman's and Harbor Workers' Act endorsement when work is to be performed over or adjacent to navigable water.

And Replace Subsection 15 with the following:

15. Additional Insured: The following entities must be named as additional insured parties for the Commercial General Liability and Automobile Liability insurance policies required by this Article and the Special Provisions to the Contract, and any Umbrella Liability Insurance, as applicable, obtained in accordance with this Article. Each policy shall waive right of recovery (waiver of subrogation) against the following entities.

A. The State of Connecticut
B. Town of East Lyme

Article 1.03.08 - Notice to Proceed and Commencement of Work:

Replace the first and second paragraphs with the following:

The Contractor shall commence and proceed with the Contract work on the date specified in a written Notice to Proceed issued by the Engineer to the Contractor. The date specified will be no later than 52 calendar days after the date of the execution of the Contract by the Department, however, the contractor is hereby put on notice that it is the Department's intent to issue the Notice to Proceed no later than 52 calendar days after the date of the execution of the Contract by the Department.

If the Engineer does not issue a Notice to Proceed to the Contractor within the said 52 calendar days, the Contractor shall have the option of canceling the Contract and its payment and performance bonds for the Project. Any failure by the Department to issue a notice to proceed, or to issue one on a timely basis, shall not, however, constitute a breach of the Contract. Neither the Contractor nor any other party may use such a failure as a basis for any claim against the Department for damages.

SECTION 1.08 - PROSECUTION AND PROGRESS

Add the following to the beginning of the first paragraph of Article 1.08.01:

1.08.01—Transfer of Work or Contract: The Contractor and all subcontractors shall use the *AASHTOWare Project*® software in accordance with Article 1.05.25, for monthly verification of project payments at all tiers, in accordance with the Department's AASHTOWare Contractor's User Manual, found at the Department's, Contractor and Subcontractor Training Guides and Videos webpage, and as stated in the specifications.

Add the following to the end of Article 1.08.01:

All costs for the requirements of this Article shall be included in the general cost of the work.

1.08.03 – Prosecution of Work - Add the following:

Bridge No. 02713

As noted in Section 1.10, clearing, trimming or removal of any tree three (3) inches diameter at breast height (DBH) or greater will be prohibited between April 15 and October 31. Therefore, work associated with Bridge No. 02713 is not permitted until November 1, 2025. The Contractor shall perform tree clearing, clearing and grubbing operations, invasive species treatment, construction staking, and test pits, as well as install erosion and sedimentation controls, and facilitate the relocation of the existing utilities prior to April 1, 2026.

Thin Layer Deposition

All Thin Layer Deposition (TLD) activities (except for plantings) at Rocky Neck State Park (RNSP) shall be completed between December 1, 2025 and February 15, 2026; only TLD activities will be allowed during this period.

The Contractor shall install plantings associated with the TLD between April 15, 2026 and June 15, 2026.

1.08.04 - Limitation of Operations - Add the following:

Bridge No. 02713 and Bridge No. 06896

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

Route 156

Monday through Friday between 6:00 a.m. and 9:00 a.m. & between 3:00 p.m. and 6:00 p.m.

Saturday and Sunday all day with the below exceptions.

All Other Roadways

Monday through Friday between 6:00 a.m. and 9:00 a.m. & between 3:00 p.m. and 6:00 p.m.

Saturday and Sunday all day with the below exceptions.

Weekend Work

The Contractor will require approval ahead of time from the town to be allowed to perform work between the hours of 7:00 a.m. and 4:00 p.m. on Saturdays. No Sunday work is allowed.

All Project Roadways

All construction activities, including the loading and unloading of materials and equipment, shall be limited to Monday through Friday, 7:00 a.m. to 4:00 p.m.

Access to local property must be maintained unless prior arrangements are made with property owners or business proprietors.

Additional Lane Closure Restrictions

It is anticipated that work on adjacent projects will be ongoing simultaneously with this project. The Contractor shall be aware of those projects and anticipate that coordination will be required to maintain proper traffic flow at all times on all project roadways, in a manner consistent with these specifications and acceptable to the Engineer.

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

Bridge No. 06896 - Temporary Signalization

Bridge No. 06896 construction shall be completed between NTP and November 30, 2025 to ensure that temporary signalization is removed before the winter period.

1.08.07 - Determination of Contract Time:

Delete the second, third and fourth paragraphs and replace them with the following:

When the contract time is on a calendar day basis, it shall be the number of consecutive calendar days stated in the contract, INCLUDING the time period from December 1, 2025 through February 15, 2026. The contract time will begin on the effective date of the Engineer's order to commence work, and it will be computed on a consecutive day basis, including all Saturdays, Sundays, Holidays, and non-work days.

Time will not be charged for days between February 16, 2026 and March 31, 2026 or December 1, 2026 and March 31, 2027. If the Engineer so approves, the Contractor may work on the Project during the winter shutdown period with no charge being made against the Contract time.

SECTION 1.10 ENVIRONMENTAL COMPLIANCE

In Article 1.10.03--Water Pollution Control:
REQUIRED BEST MANAGEMENT PRACTICES

Add the following after Required Best Management Practice Number 13:

14. The Contractor is hereby notified that the State listed species of Special Concern spotted turtle (*Clemmys gutata*), is present within the Project limits. Spotted turtles are semi-aquatic in nature, which means they live both on terrestrial land and in-water environmental habitats including bogs, swamps, fens, woodland streams, wet pastures, and marshes. They sometimes also inhabit brackish streams influenced by tides. These reptiles always live in areas with slow moving water and soft soil and hibernate in shallow waters, burrows, and lodges. This species has been found to hibernate in groups of 5 to 12 individuals.

    All construction activities taking place within the Project limits will need to be coordinated with the District Environmental Coordinator (DEC) and Office of Environmental Planning (OEP) through the Engineer. At least 10 days prior to the commencement of any construction activities, the Contractor shall, through the Engineer, arrange for the DEC and CTDOT Environmental Inspector from the OEP or their authorized delegate to meet and discuss proper protocol for maintaining environmental commitments made for the protection of this species and habitat. OEP will provide oversight through the DEC and Engineer to ensure that the following protocols are followed and maintained during the course of the Project.

    For any work done during the spotted turtle's active period (March 16 to October 31), the CTDOT will require the following precautionary measures to protect the spotted turtle and spotted turtle habitat:

    a. All areas within the Project limits must be surveyed to verify the presence of any active spotted turtle activity prior to commencement of the initial clearing and grubbing activities.

    b. All construction personnel working within spotted turtle habitat must be apprised of the species description and the possible presence of this listed species.

    c. Exclusionary practices will be required in order to prevent any spotted turtle to access construction areas. These measures will need to be installed at the limits of disturbance as shown on the plans.

    d. Exclusionary fencing shall be at least 20" tall and must be secured to and remain in contact with the ground. The Contractor shall regularly inspect and maintain the fencing to prevent any gaps or openings at ground level. Silt fence with netting shall not be used.

    e. The Contractor must search the work area each morning for the presence of this listed species prior to any work being done.

f. Any spotted turtles encountered within the Project shall be carefully moved outside of the excluded work area and the Engineer shall be immediately informed in order to contact DEC and OEP with the location.

When a species is found, the OEP is responsible for completing and submitting the Natural Diversity Data Base (NDDB) Vertebrate Sheet (https://portal.ct.gov/DEEP/Endangered-Species/Contributing-Data). This completed document allows CTDEEP to update their database.

g. All staging and storage areas within the vicinity of the Project limits of the spotted turtle habitat must be received by the DEC and Engineer and receive written approval from the OEP.

h. The Contractor shall not park heavy machinery or vehicles within the spotted turtle habitat without written approval and authorization by the OEP.

i. Exclusionary fencing shall be removed at the completion of the Project and when final stabilization has occurred to allow for reptile and amphibian passage to resume.

j. When felling trees adjacent to watercourses, they shall be cut to fall away from the waterway and not dragged across the waterway. Stumps shall be left in waterway banks where possible.

These practices will be applied to the entire project unless a specified location is identified within the Project plans, which denotes specific areas of concern.

If any spotted turtles are observed in or around the Project area, the Engineer will notify the DEC to facilitate further coordination with OEP's Environmental Resource Compliance Unit. If the DEC is unable to be reached, notify OEP at Andrew.Piraneo@ct.gov or at Marilyn.Gould@ct.gov.

This species is protected by State laws, which prohibit killing, harming, taking, or keeping them in your possession. A CTDEEP's fact sheet of the Eastern box turtle shall be posted in the Contractor's and Inspection field offices and can be downloaded at the link below.

CTDEEP's Fact Sheet for the spotted turtle:
Spotted Turtle Fact Sheet

15. The Contractor is hereby notified that one or more State and/or federally listed species of bat has been documented within the Project limits. In Connecticut, the Eastern small-footed bat (*Myotis leibii*), tri-colored bat (*Perimyotis subflavus*), little brown bat (*Myotis lucifugus*), Northern long-eared bat (*Myotis septentrionalis*) and the Indiana bat (*Myotis sodalis*) are listed as State endangered; while the silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*) and the red bat (*Lasiurus borealis*) are listed as State species of special concern. The Northern long-eared bat, tri-colored bat, and the Indiana bat are also federally

listed endangered species. Bats are the only mammals capable of actual flight and are primarily nocturnal. During the daylight, bats roost in trees and caves, but many have now adapted to roost in or on buildings including barns, houses, tunnels, and bridges. Within the Project limits, bats will use the snags, cavities, and underside of bark to roost and raise young. **This Project will have a Time of Year restriction for tree clearing, trimming and removal to protect the bat species listed.**

The Contractor shall, through the Engineer and at least 10 days prior to the commencement of any construction activities, arrange a meeting with the District Environmental Coordinator (DEC) and Office of Environmental Planning (OEP) (or their authorized delegate) to discuss proper protocol for maintaining environmental commitments made for the protection of these bat species and their habitat. OEP will provide oversight through the DEC and Engineer to ensure that the following protocols are followed and maintained during the Project:

a. The Contractor, through the Engineer, shall arrange a pre-construction tree-clearing Site walk to review all trees proposed to be removed for the Project.
b. Clearing, trimming or removal of any tree three (3) inches diameter at breast height (DBH) or greater will be prohibited between April 15 and October 31.
c. This restriction shall also apply to invasive species removal work and shall be reflected in the Contractor's Invasive Vegetation Removal Plan, if applicable.

These practices will be applied to the entire Project unless a specified location is identified within the Project plans, which denotes specific areas of concern.

If any bats are observed in or around the Project area, the Engineer will notify the DEC to facilitate further coordination with OEP's Environmental Resource Compliance Unit. If the DEC is unable to be reached, notify OEP at Andrew.Piraneo@ct.gov or at Marilyn.Gould@ct.gov.

The OEP will be responsible for completing and submitting the Natural Diversity Data Base (NDDB) Vertebrate Sheet (https://portal.ct.gov/DEEP/Endangered-Species/Contributing-Data). This completed document allows CTDEEP to update their database.

All listed bat species are protected by federal and/or State laws which prohibit killing, harming, taking, harassing, or keeping them in your possession. A CTDEEP fact sheet(s) for the listed bats noted above shall be posted in the Contractor's and Inspection field offices and can be downloaded at the link below.

CTDEEP's Fact Sheet for Bats:
https://portal.ct.gov/-/media/DEEP/wildlife/pdf_files/outreach/fact_sheets/Bats.pdf

ITEM #0202590A – PROTECTIVE MATTING SYSTEM ACCESS ROAD

Description: This work shall consist of furnishing, installing, maintaining and removal of temporary construction access roads, including matting, crushed stone, biaxial geogrid and materials as shown on the plans or as directed by the Engineer. This work is necessary for the temporary protection of an area of environmental sensitivity within the Project limits.

Materials: The temporary construction access road shall be comprised of an interlocking protective matting system. The section of road upland of the Thin Layer Deposition (TLD) site shall be made from composite plastic material. The section of road within the TLD site shall be made from timber matting. The protective matting system shall have anti-static properties and be non-absorbent and non-flammable.

The module size of the composite interlocking system platform shall be as specified on the plans or as directed by the Engineer and shall have a minimum load bearing capacity of 600 psi.

The Contractor shall submit Product Data for the proposed protective matting system for review by the Engineer and the Office of Environmental Planning (OEP).

Construction Methods: The Contractor shall stake out the limits of the area of environmental sensitivity as shown on the plans or as directed by the Engineer. At least 10 days prior to placing the protective matting system, the Contractor shall notify the Engineer to arrange a meeting with OEP to ensure the staked out limits of the area of environmental sensitivity are acceptable. If it is determined that the protective matting system cannot be installed within the footprint of the area of environmental sensitivity, the OEP will review existing conditions and determine the adjustments to be made.

If required, granular fill and geotextile – high survivability shall be installed as shown on the plans or as directed by OEP.

Vehicles and heavy equipment shall access Project locations within the area of environmental sensitivity only by operating on the protective matting system. The Contractor shall not store equipment or materials within the area of environmental sensitivity at any time. The Contractor shall not alter, excavate, place material or change the existing topography within the area of environmental sensitivity. The Contractor shall maintain the temporary construction access road by resetting or replacing portions of the protective matting system if needed, to the satisfaction of the Engineer.

Upon removal the protective matting system will become the property of the Contractor. Any restoration of the Site will be handled under other Contract item(s).

Method of Measurement: This item being paid on a lump sum basis will not be measured for payment.

Basis of Payment: This work will be paid for at the Contract lump sum price for "Protective Matting System Access Road," which price shall include all materials, maintenance, equipment, tools, labor, and all work incidental thereto. Partial payment of up to 50% may be made for work completed, but not accepted. Full payment will be made when the work has been accepted by the Engineer.

The cost of geotextile – high survivability will be paid under Geotextile.

The cost of granular fill will be paid under Granular Fill.

Pay Item	Pay Unit
Protective Matting System Access Road	LS

ITEM #0948015A – TIDAL WETLAND CREATION (THIN LAYER DEPOSITION)

Description: The work under this item shall consist of construction of a tidal wetland area, tidal restoration area, and/or tidal enhancement area, collectively herein referred to as Thin Layer Deposition (TLD) area at the Site(s) identified on the Tidal Wetland Mitigation Plans. The work generally consists of furnishing TLD material and preparing appropriate Site grades under the direction of an Environmental Scientist from the Connecticut Department of Transportation's Office of Environmental Planning (OEP).

Materials: The TLD source material selected by the Contractor may include, but is not limited to, man-made soil, materials excavated from local marinas during maintenance activities around boat docks, channels and bulkhead areas, or beach replenishment material that is recovered from ocean substrate. Clean leaf compost is the preferred soil amendment to achieve the organic content criteria. If other soil amendments are more readily available than clean leaf compost, they can be used to meet the requirement for organic content. Contractor shall test all TLD material (as outlined below), and a Certified Test Report must be submitted to OEP for review and acceptance.

The TLD material must consist of no more than 25% sand by weight, and between 25% and 40% organic material by weight.

The soils must be analyzed by USDA-approved methodology for organic matter by loss-on-ignition of oven-dried samples dried at 105ºC. The mineral fraction must be analyzed to determine weight percentage of sand, as determined after passing a 2-millimeter (mm) sieve. Sand particles are defined to be between 0.05 and 2.0 mm in diameter. Certified Materials Test results are to be submitted to OEP for acceptance. The soils must be free of seeds and roots of invasive species and shall be inspected and accepted by OEP prior to their application.

If soil must be supplemented with organic material, the following sources are acceptable, but must meet the TLD material gradation specified above:

a) **Compost:** Compost shall meet the requirements of **Article M.13.06–Compost.**

b) **Peat:** Peat shall meet the requirements of **Article M.13.07–Plant Materials: 10. Peat.** Peat material excavated from the Project Site may be substituted for commercially packaged peat, at the discretion of the Engineer, if the on-Site peat meets all the requirements of the specification.

The Contractor shall consider potential contaminant sources, so as not to import hydrocarbons, metals, or semi-volatile compounds. If any TLD source material is obtained from previously permitted dredging activities, the Contractor shall test, and evaluate all material for organic content, pH, sulfides, and a range of potential contaminants that are commonly associated with dredge material, as noted below.

The Certified Test Report for TLD source material from permitted dredging activities shall include the following:

1. ***Washed Sieve Analysis ASTM D422/D1140***

   Sieve Size:
   No. 4
   No. 10
   No. 40
   No. 200

2. ***Bulk Sediment Metals***

Parameters:	Acceptable Limits/Background Limits	SW846 EPA Method
Arsenic, Total mg/kg	3.0 mg/kg	SW 6010D
Antimony, Total mg/kg	ND*	SW 6010D
Barium, Total mg/kg	385 mg/kg	SW 6010D
Beryllium, Total mg/kg	ND	SW 6010D
Cadmium, Total mg/kg	ND	SW 6010D
Chromium, Total mg/kg	31 mg/kg	SW 6010D
Lead, Total mg/kg	18 mg/kg	SW 6010D
Mercury, Total mg/kg	0.03 mg/kg	SW 7471B
Selenium, Total mg/kg	ND	SW 6010D
Silver, Total mg/kg	ND	SW 6010D
Copper, Total mg/kg	17 mg/kg	SW 6010D
Nickel, Total mg/kg	13 mg/kg	SW 6010D
Zinc, Total mg/kg	44 mg/kg	SW 6010D
Thallium Total mg/kg	ND	SW 6010D
Vanadium, Total-mg/kg	ND	SW 6010D

*ND - Non-Detectable

3. ***Bulk Sediment***

Parameters:		
Chromium, Hexavalent mg/kg	ND	SW 6010D-7196A
Cyanide, Total mg/kg	ND	SW 6010D
Total Petroleum Hydrocarbons (TPH)-mg/kg	ND	SW 8015
Total Water %	As reported	SW 9001

4. ***Bulk Sediment TOC/ Water***

Parameters		
Total Organic Carbon %	As reported	SW 9060A

5. ***PCB's*** ND SW8082RCP

6. ***Bulk Sediment Pesticides*** ND SW 8081

7. ***Bulk Sediment Herbicides*** ND SW 8051

8. Bulk Sediment Volatile Organic Compounds ND SW 8260

9. Bulk Sediment SVOC ND for all listed SVOC's Method SW 8270 for All SVOC's

Parameters:		
Naphthalene µg/kg	ND	
Acenaphthylene µg/kg	ND	
Fluorene µg/kg	ND	
Phenanthrene µg/kg	ND	
Anthracene µg/kg	ND	
Fluoranthene µg/kg	ND	
Pyrene µg/kg	ND	
Benzo(a)anthracene µg/kg	ND	
Benzo(b)fluoranthene µg/kg	ND	
Benzo(k)fluoranthene µg/kg	ND	
Benzo(a)pyrene µg/kg	ND	
Phenol µg/kg	ND	
Bis(2-Chloroethyl) Ether µg/kg	ND	
2-Chlorophenol µg/kg	ND	
Bis(2-chloroisopropyl) Ether µg/kg	ND	
Hexachloroethane µg/kg	ND	
2,4-Dichlorophenol µg/kg	ND	
Hexachlorobenzene µg/kg	ND	
Atrazine µg/kg		ND
Pentachlorophenol µg/kg	ND	
Alachlor µg/kg	ND	
Di-n-Butyl phthalate µg/kg	ND	
Butylbenzylphthalate µg/kg	ND	
Bis-(2-Ethylhexyl phthalate µg/kg	ND	
Di-n-octylphthalate µg/kg	ND	
Phenol-d6 %	ND	
2-Fluorophenol %	ND	
Nitrobenzene-d5 %	ND	
2-Flurobiphenyl %	ND	
2,4,6-Tribomophenol %	ND	
p-Terphenyl-d14	ND	

Hazardous or residual waste parameters shall not exceed the acceptable limits for all parameters listed above.

10. In addition to the above organic parameters testing, potential TLD source material shall be tested for acid sulfate compounds to ensure soils are suitable for application within the TLD area. Literature reviews indicate that acid sulfate soils with redox potential ranges between 100 mV and 400 mV and percent sulfur less than 0.3% (dry weight) may be used for TLD application without treatment. Literature reviews indicate that acid sulfate soils with redox potential ranges between -200 and 100 mV, or net acidity less than 0.03% sulfur

content (dry weight) are more practically treated prior to application within the TLD area. Soils with a higher sulfur content, greater than 0.06% sulfur (dry weight) are more expensive to treat and may not be a viable option for use within the TLD area. Soils that contain low levels of acid sulfate must be treated prior to use within the TLD area. Soils that contain low levels of acid sulfate may be treated prior to applying to TLD area by applying and mixing commonly used agricultural lime or calcium carbonate ($CaCO_3$) into the soil.

The following formula must be used to calculate $CaCO_3$ loading rates to reduce soil acidity:

- Lime needed (kg $CaCO_3$/tonne (metric ton) soil) = net acidity (kg H_2SO_4/tonne of soil) x 1.028 x safety factor x 100.

  Or for calculating acidity by percent sulfur content:

- Lime needed (kg $CaCO_3$/tonne soil) = net acidity (S% x 30.59) x 1.028 x 100.

The bulk density (BD) of the soil needs to be taken into account when calculating the amount of lime needed to treat a given volume of soil.

The liming rate calculation for volumes of soil in cubic meters is shown below.

• Lime needed (kg $CaCO_3$/m^3 soil) = bulk density soil (tonne/m^3) x net acidity (S% x 30.59) x 1.028 x 100.

Or the following calculator may be used to determine the $CaCO_3$ application rate:

https://www.wa.gov.au/service/environment/lime-rate-calculator

Please note that some conversions may be required between standard and metric units of measurement.

Construction Methods: An Environmental Scientist from the OEP will be on-Site to oversee and monitor construction of the TLD area(s) to ensure compliance with the Tidal Wetland Mitigation Plans.

The Contractor shall submit to OEP for review and acceptance a construction schedule and an outline of construction methodologies (called the Contractor's Mitigation Plan). The Plan shall outline the required work of the TLD area according to the general construction sequence and requirements outlined below. No work associated with the TLD area(s) shall commence until the OEP has reviewed and accepted the submittal.

The Contractor must schedule TLD activities to begin as soon as access allows and within the established time-of-year restriction of December 1 through February 15, inclusive. There shall be no inactive period of longer than 10 days between the beginning of the TLD area preparation and the time when final grades are reached. When applicable, and when conditions warrant, placement

of TLD material and final grading shall be completed during and near times of low tide. The installation and removal of temporary construction access, placement of fiber rolls, placement of TLD material, final grading, seeding, and planting shall be scheduled, so that planting will occur within the planting season in accordance with the requirements of Item #0949875A – Wetland Plantings.

Prior to submitting the Plan, the Contractor shall obtain acceptance from OEP of the TLD material as specified in the Materials article of this specification. Upon OEP acceptance, the Contractor will be allowed to submit the Plan for review and acceptance, The Contractor's Mitigation Plan submittal shall include, but not be limited to, the following work at the TLD area(s):

(a) TLD approved Certified Materials Test Report.

(b) Identification of proposed temporary stockpile and staging locations.

(c) Verification and delineation of established Limit of Disturbance as shown on the plans. Prior to placing of TLD material, the Contractor shall set reference stakes for Site-specific tidal data at the TLD area in order to establish appropriate elevations for final grading and as directed by OEP staff.

1. Obtain (survey) elevation of existing tidal vegetation and stake in field as directed by OEP.
2. Stake CJL, HTL, MHW, MLW and other jurisdictional limits as required by the Project permits.

(d) Temporary sedimentation and erosion control measures to be installed.

(e) Removal of nuisance vegetation and all invasive plant species in accordance with Contract Item #0952051A – Control and Removal of Invasive Vegetation.

(f) Identification of clearing and construction limits of any required access road(s).

1. The Contractor shall submit an equipment plan with a maximum live load rating which shall not exceed, at any given time, 5 psi on the proposed access road and 3 psi at existing grade. Any change or modification to the proposed access road detail, as shown on the plan, will need to be submitted to CTDOT for review and acceptance.

Construct access roads in a manner that minimizes disturbance to existing native vegetation and archaeological resources. No additional impacts shall occur to the existing tidal wetland vegetation or native upland vegetation other than the impacts depicted on the plans. Access roads are to be maintained throughout the duration of the Project and access road locations shall be restored to their original condition or to finished grade as shown on the plans.

TLD Material, as specified above, shall be placed to meet the proposed final grade, or as directed by an Environmental Scientist from OEP.

Upon completion of final grades, the Site shall be exposed to tidal flushing for a minimum of 7 and a maximum of 14 calendar days to allow for settlement of the TLD material and to evaluate final grades. At the end of the first 7 calendar days, the TLD area will be evaluated by an Environmental Scientist from OEP and if deemed necessary, will direct the Contractor to place additional TLD material to ensure success of the TLD area.

Wetland plantings and seeding shall be installed in the spring immediately following achievement of final grades during the period of April 15 through June 15, inclusive. Wetland plantings, when applicable, and when conditions warrant shall be installed during and near times of low tide. Seeding shall only be placed above the HTL.

Any substitutions to the plantings and/or seeding must be submitted to OEP for review and acceptance. Final regulatory approval will be required before any substitutions are accepted. The Contractor shall schedule with OEP, through the Engineer, 30-days in advance of installation of all proposed plantings and seeding.

Restoration plan for stockpile and staging Site(s) and access roads at the TLD area(s) to their original condition or as depicted in the Mitigation Plan.

Upon Site completion, clear the Site of any debris, rubbish, garbage, and other manmade litter.

Provide post construction as-built plans of the TLD area signed and certified by a Professional Land Surveyor to OEP.

Install tidal creation signs as directed by OEP.

Upon acceptance of the Contractor's Mitigation Plan submittal, the Contractor shall coordinate and meet at least 10 days prior to the commencement of these activities identified in the Plan to ensure that the Environmental Scientist from OEP is available prior to on-Site mobilization to discuss work operations within the TLD area(s).

Method of Measurement: Tidal Wetland Creation (Thin Layer Deposition) will be measured for payment by the number of square yard of TLD area(s) graded, covered with TLD material, and accepted.

Basis of Payment: This work will be paid for at the Contract unit price per square yard for "Tidal Wetland Creation (Thin Layer Deposition)" within the TLD area(s) complete in place, including all materials, equipment, maintenance, tools, labor, and work incidental thereto.

The unit price shall also include: survey and staking of reference elevations and work associated with maintaining field stakes for the duration of construction to the point of acceptance of the Site by OEP; testing, mixing, and providing TLD material; restoring stockpile and staging Site(s); and, removing and off-Site disposal of debris, garbage and litter.

The cost of installing and removing sedimentation and erosion controls, including sedimentation control systems, anti-tracking pads and coir/fiber rolls will be paid for under their respective Contract items.

The installation, maintenance, and removal/restoration of access roads will be paid for under Item #0202590A – Protective Matting System Access Road.

The cost of excavation within TLD area(s) will be paid for under Earth Excavation.

The cost of plantings within TLD area(s) will be paid for under Item #0949875A – Wetland Plantings.

The cost of seeding within TLD area(s) will be paid for under their respective Contract items.

The cost of installing wetland creation signs within the TLD area(s) (Sign #31-5478) will be paid for under Contract Item #1208931A – Sign Face – Sheet Aluminum (Type IX Retroreflective Sheeting).

The cost of removing invasive species within the TLD area(s) will be paid for under the Contract Item #0952051A - Control and Removal of Invasive Vegetation.

Pay Item	Pay Unit
Tidal Wetland Creation (Thin Layer Deposition)	s.y.

Connecticut Department of
Energy & Environmental Protection
Office of the Commissioner
Land Acquisition & Management
Property Management Review

Application for Review of Land Management Request on State-Owned Land or Water

Please complete this form in accordance with the instructions to ensure the proper handling of your application. Print or type unless otherwise noted. DEEP encourages all applicants to submit their application electronically by email to DEEP.PropertyManagement@ct.gov.

Part I: Application Type

Check the appropriate box identifying the application type.

This application is for (check one):	Please identify any previous or existing **authorization or A-File number** made by DEEP below. Copies of any prior authorizations, such as letters of permission or other documentation, should be provided as **Attachment F**.
☒ A ***new*** application	Existing Authorization #: _____
☐ A ***renewal*** of an existing authorization	Date Issued: _____
☐ A ***modification*** of an existing authorization	Date Expired: _____
☐ A ***reconsideration*** of a previously denied request	

Part II: Applicant Information

- **If an applicant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the applicant's name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP.* This information can be accessed at *the Secretary of State's database (**CONCORD**)*
- *If an applicant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).*

1. Applicant Name: CTDOT District 2 Construction

Mailing Address: 171 Salem Turnpike

City/Town: Norwich State: CT Zip Code: 06360

Business Phone: ext.:

Contact Person: John Deliberto Phone: 860-823-3249 ext.

*E-mail: john.deliberto@ct.gov

*By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject application. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes.

Part II: Applicant Information (continued)

a) Applicant Type (check one):

☐ individual ☐ federal agency ☒ state agency ☐ municipality ☐ tribal

☐ *business entity (*If a business entity complete i through iii):

i) check type: ☐ corporation ☐ limited liability company ☐ limited partnership ☐ limited liability partnership ☐ statutory trust ☐ Other: _____

ii) provide Secretary of the State business ID #:_____This information can be accessed at *the Secretary of State's database* (**CONCORD**).

iii) ☐ Check here if your business is **NOT** registered with the Secretary of State's office.

☐ Check if any co-applicants. If so, attach additional sheet(s) with the required information as requested above.

2. Primary contact for departmental correspondence and inquiries, if different than the applicant.

Name:

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext.:

Contact Person: Phone: ext.

*E-mail:

*By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject application. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes.

3. Attorney or other representative, if applicable:

Firm Name:

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext.:

Attorney: Phone: ext.

E-mail:

4. Engineer(s), Land Surveyor, or other consultant(s) employed or retained to assist with this proposed project.

Name: **BL Companies**

Mailing Address: 100 Constitution Plaza, 10th Floor

City/Town: Hartford State: CT Zip Code: 06103

Business Phone: (860) 760-1930 ext.:

Contact Person: David M. Cicia, PE Phone: ext.

E-mail: dcicia@blcompanies.com

Part III: Site Information

1. NAME AND LOCATION OF STATE PROPERTY SUBJECT TO REQUESTED ACTIVITY

a. Name of DEEP Property: **Rocky Neck State Park**

Street Address or Location Description: **244 West Main Street**

City/Town: **Niantic** State: **CT** Zip Code: **06357**

Tax Assessor's Reference: Map Block Lot

b. Latitude and longitude of the location of the proposed activity in *degrees*, *minutes*, and *seconds*, if known: Latitude: **41.303470** Longitude: **-72.242169**

Method of determination (check one):

☐ GPS ☐ USGS Map ☒ Other (please specify): **Google Earth**

If a USGS Map was used, provide the quadrangle name:

2. COASTAL BOUNDARY: Will the activity which is the subject of this application be located within the coastal boundary as delineated on DEEP approved coastal boundary maps? ☒ Yes ☐ No

If yes, and this application is for a new authorization or a modification of an existing authorization where the physical footprint of the subject activity is modified, submit a *Coastal Consistency Review Form* (DEEP-APP-004) with this completed application as Attachment C.

Information on the coastal boundary is available at www.cteco.uconn.edu/map_catalog.asp (Select the town and then select coastal boundary. If the town is not within the coastal boundary you will not be able to select the coastal boundary map.), or the local town hall.

3. NATURAL DIVERSITY DATA BASE (NDDB) - ENDANGERED OR THREATENED SPECIES: According to the most current "Natural Diversity Data Base Areas Maps", will the activity which is the subject of this application, including all impacted areas, be located within an area identified as, or otherwise known to be, a habitat for state listed endangered, threatened or special concern species?

☒ Yes ☐ No Date of Map: **Completed (Determination #202109559)**

If YES, complete and submit a *Request for NDDB State Listed Species Review Form* (DEEP-APP-007) to the address specified on the form, **prior** to submitting this application. **Please note NDDB review generally takes 4 to 6 weeks and may require the applicant to produce additional documentation, such as ecological surveys, which must be completed prior to submitting this permit application.** A copy of the NDDB Determination response letter that has not expired ***must*** be submitted with this completed application as Attachment D. Include a copy of any mitigation measures developed for this activity and approved by NDDB. Be aware that you must renew your NDDB Determination if it expires before project work commences.

For more information visit the DEEP website at Endangered-Species-ReviewData-Requests or call the NDDB at 860-424-3011.

NOTE: **All requests are subject to review by DEEP's Property Management Review Committee**, which includes staff from the Wildlife Division, Fisheries Division, and other Departmental programs, whether or not a proposed activity is located within an area deemed by the NDDB evaluation process as being a habitat for endangered, threatened, or special concern species.

Part III: Site Information (continued)

4. **CONSERVATION EASEMENT OR RESTRICTION:** Will the activity which is the subject of this application be located within a conservation easement or conservation restriction area?

☐ Yes ☒ No

If Yes, a full copy of such deeds or documents and proof of written notice of this application to the holder of such easement or restriction, or a letter from the holder of such easement or restriction, verifying that this application is in compliance with the terms of the restriction, must be submitted as Attachment E.

5. **OTHER PERMITS OR APPROVALS**: List any previous state, federal, or local permits or approvals that have already been issued or are in the process of being obtained for the proposed activity:

Type or Nature of Permit	Permit/App. No.	Issuing Authority	Date Issued/Status	Expiration Date	Permittee/Applicant Name
DEEP SDF/ TW/ 401 WQ	**202309531**	**CT DEEP LWRD**	**Notice of Tentative Determination to Approve Received 12/27/2024**		**CT DOT**
DEEP FMC		**CT DEEP LWRD**	**Application Submitted 12/22/2023**		**CT DOT**
USACE PCN		**USACE**	**Application Submitted 12/29/2023**		**CT DOT**
DEEP IWGP		**CT DEEP LWRD**	**To be Submitted**		**CT DOT**
DEEP SDP		**CT DEEP Water Permitting**	**To be Submitted**		**CT DOT**

Part IV: Summary of Requested Project

1. **Type of State Property for Requested Activity** (check all that apply):

☐ **State-owned or controlled Waterbody**

Name of Waterbody:

☐ **State-owned or controlled Boat Launch**

Name of Boat Launch:

☒ **State Park, Forest, Wildlife Management, or other Conservation Area**

Name of Park, Forest, WMA, or other:

Rocky Neck State Park

NOTE: See Addendum A for a **list of waterbodies** which DEEP owns, owns a portion, or has an interest. If the applicant is proposing to use a State-owned or controlled boat launch, see https://portal.ct.gov/DEEP/Boating/Boat-Launches/Boat-Launches-in-Connecticut for a **list of State Boat Launches and information on use restrictions**.

2. **Duration of Proposed Activity**

☒ Temporary / Short-term

☐ Permanent

3. **Anticipated Start Date of Proposed Activity: December 2025**

4. **Anticipated Date of Completion: June 2026**

5. **Construction Sequence, Methods & Materials (if applicable):**

Construction/Grading of the proposed Thin Layer Deposition (TLD) mitigation area within Rocky Neck State Park will occur between December 1 and February 15. Planting within the TLD area will occur between April 15 and June 15. Construction activities will utilize convensional construction methods for material placement. Low ground pressure equipment will be used to spread material. HDPE matting will be used upland of the TLD site. Timber matting, with loading distributed down to 3 psi, will be used within the TLD site. Source material will be trucked into the marsh and placed into the desired area. GPS controlled equipment will be used to grade material to approximately 3-inches above the finished grade to offset settling and compaction. Deeper holes can be dewatered and initially filled with sand prior to final material placement and planting.

Fiber rolls will be used to maintain the outlet of the mitigation area and control turbidity. Field surveys will be conducted during construction and planting to ensure target elevations are achieved. Invasive species will be removed prior to construction and will be targeted during the monitoring period. Construction will be overseen by CTDOT OEP inspectors to ensure a successful mitigation site.

Part IV: Summary of Requested Project (continued)

6. **Mutual Benefit(s) to the State and/or Public Provided by Request:**

   Restoration of the tidal salt marsh will visually enhance the area and benefit public use as there is an observation deck located adjacent to the mitigation site.

7. **Project Narrative:** Describe the existing site conditions and present and intended use(s) of the property at which the requested activity will be conducted, the reason for conducting the proposed activity, and other information **as detailed in the instructions on completing this section.**

   The proposed mitigation site is located at the southern end of Rocky Neck State Park, adjacent to the northern most parking lot for public beach access. The site area is approximately 10,000 square feet (0.230 acres) and is one of several wetland cells, defined by manmade drainage ditches, within the area.

   There are no existing structures at the mitigation site. There is a viewing platform adjacent to the site, as well as picnic tables, grills, and a parking area. The site exhibits degraded tidal wetlands characterized by saltwater pools where healthy vegetation once grew. The average depth of these pools is approximately 6 to 7 inches of water based on site visits.

   Mitigation will be completed using Thin Layer Deposition (TLD). This method will add sediment to restore the marsh vertical elevation to one foot above sea level to then be able to support healthy marsh vegetation. Approximately 250 cubic yards of sediment will be added to the area. Disposed nutrient-rich dredge material, tested, and evaluated for organic content, pH, sulfides, and a range of potential contaminants, will be used as the sediment. Standard construction vehicles will be used and will travel on construction mats to minimize ground disturbance. Spartina alterniflora will be planted to enhance restoration. Construction, as requested by DEEP Fisheries, will occur during winter months when plants are dormant and activity levels from visitors, fish and wildlife are low. Monitoring of the mitigation site will be conducted twice per year for five years to ensure success of the proposed mitigation.

Part V: Supporting Documents

Check the applicable box below for each attachment being submitted with this application form. When submitting any supporting documents, please label the documents as indicated in this part (e.g., Attachment A, etc.) and be sure to include the applicant's name as indicated on this application form.

☒	Attachment A:	**REQUIRED** Deeds and Town Assessor's Maps
☒	Attachment B:	**REQUIRED** Project Plan, Site Plan, or Engineering Drawings (if applicable).
☐	Attachment C:	*Coastal Consistency Review Form* (DEEP-APP-004), if applicable.
☒	Attachment D:	A copy of the NDDB Determination response letter that has not expired. Include a copy of any mitigation measures developed for this activity and approved by NDDB. Do not submit any NDDB Preliminary Site Assessments with your application. Be aware that you must renew your NDDB Determination if it expires before project work commences.
☐	Attachment E:	Conservation Easement or Restriction Information, if applicable.
☐	Attachment F:	Other Supporting Documents as detailed in the instructions.

Part VI: Application Certification

The applicant must sign this certification. An application will be considered incomplete unless the required signature is provided ***and is the proper signatory authority as specified under Part VI in the*** instructions***.***

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief.

I certify that this application is on complete and accurate forms as prescribed by the commissioner without alteration of the text."

"By entering my name below, I agree that I am providing my legal signature, and am legally bound by the certifications above."

Digitally signed by John R. Deliberto, P.E. Date: 2025.01.29 09:31:57-05'00'	1/29/2025
Signature of Applicant	Date
John R. Deliberto	**Assistant District Engineer**
Name of Applicant (print or type)	Title (if applicable)

☐ Check here if additional signatures are required. If so, please reproduce this sheet and attach signed copies to this sheet.

Application Submission Information

Please submit an electronic copy of this completed Application Form and all Supporting Documents by email to:

DEEP.PropertyManagement@ct.gov

Attachment A

Deeds and Town Assessor's Maps

Name, Address, Parcel ID

Search Results

Parcel Details

244 W MAIN ST

CONNECTICUT STATE OF

STATE OFFICE BLDG
HARTFORD, CT 06106

Parcel ID: 09.0 38
Lot Size: 511.78 AC
Assessed Value: $25,333,700.00

Links | Abutters

Parcel Details | Bing Bird's Eye
Photo | Property Map
Google Map | Add Parcel
Abutter Distance: | Remove Parcel
Adjacent | Print Labels
Adjacent | Export List
50 ft
100 ft
200 ft
300 ft
400 ft
500 ft
1000 ft
Find Abutters
Clear Abutters

Parcel ID 09.0 38
Address 244 W MAIN

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About
Layers
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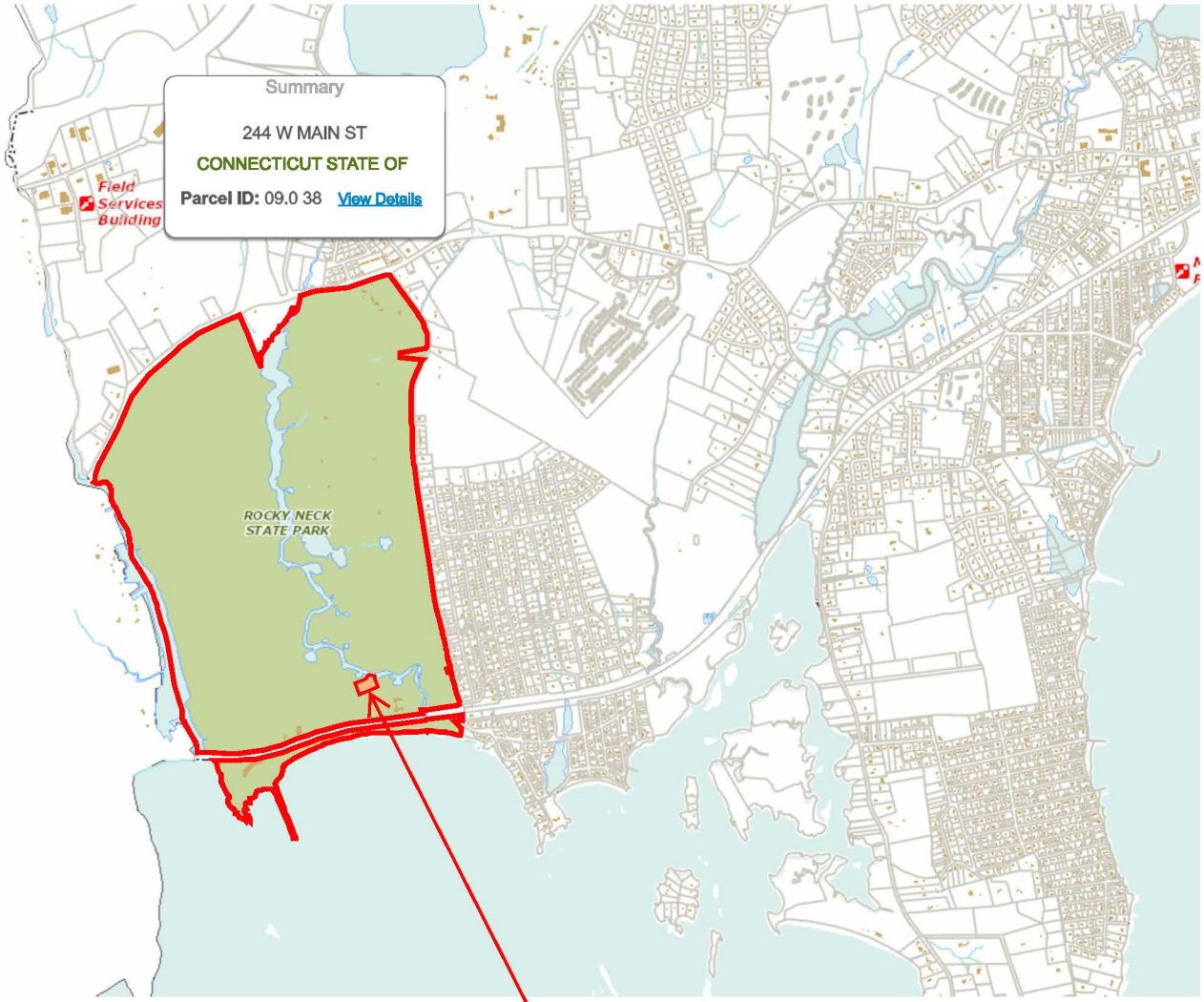

Email Map Link

Copy and paste the following string into an email to link to the current map view:

0.4km
0.3mi
Close

Print Map

Size:

Scale: 1" = ft. Title:

Close Print

lat:41.3167, long:-72.2639

Tighe&Bond

Attachment B

Engineering Drawings

SUBSET 09 - OFF-SITE MITIGATION - BRIDGE NO. 02713

INDEX OF DRAWINGS

DRAWING NUMBER	DRAWING TITLE	DRAWING NUMBER	DRAWING TITLE
MIT-01	THIN LAYER DEPOSITION INDEX OF DRAWINGS		
MIT-02	THIN LAYER DEPOSITION EXISTING CONDITIONS		
MIT-03	THIN LAYER DEPOSITION GRADING PLAN		
MIT-04	THIN LAYER DEPOSITION PLANTING PLAN		
MIT-05	THIN LAYER DEPOSITION CROSS SECTIONS		
MIT-06	THIN LAYER DEPOSITION DETAILS		
MIT-07	THIN LAYER DEPOSITION FIBER ROLL DETAILS		

DESIGNED BY:

BL Companies

BL COMPANIES, INC.
355 RESEARCH PARKWAY
MERIDEN, CT 06450

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 10/26/2023

DESIGNER/DRAFTER: S.PELLEGRINI

CHECKED BY: W. WOLF

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\INX_0104-0175_TLD_Index .dgn

SIGNATURE/ BLOCK:

PROJECT TITLE:
REPLACEMENT OF
BRIDGE NO. 02713, ROUTE 156
OVER FOUR MILE RIVER

TOWN:
OLD LYME
EAST LYME

DRAWING TITLE:
THIN LAYER DEPOSITION
INDEX OF DRAWINGS

PROJECT NO.
0104-0175

DRAWING NO.
MIT-01

SHEET NO.

PROPOSED THIN LAYER DEPOSITION AREA LIMITS (10,000 ± SQ. FT.)

BRIDE BROOK

MEAN HIGH WATER (MHW) (EAST LYME) ELEV=1.0' NAVD 88

COASTAL JURISDICTION LINE (EAST LYME) ELEV=2.3' NAVD 88

HIGH TIDE LINE (EAST LYME) ELEV=2.8' NAVD 88

Observation Deck

Public Restroom

Spigot

Porta Potty

Utility Pole

Utility Pole (Typ.) (Wheel Stop)

Wood Guide Rail

Dirt Parking

Tel MH TE=2.42

Fiber &

CONNECTICUT COORDINATE GRID

TIDAL ELEVATION TABLE

TIDAL TYPE	ELEVATION (FT)
HIGH TIDE LINE	2.8
COASTAL JURISDICTION LINE	2.3
MEAN HIGH WATER	1.0
MEAN LOW WATER	-2.1
MEAN LOW LOW WATER	-2.3

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 10/26/2023

DESIGNER/DRAFTER: S.PELLEGRINI

CHECKED BY: W. WOLF

SCALE IN FEET 0 30 60

SCALE 1"=30'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\EX_0104-0175_TLD_ExistingConditions.dgn

SIGNATURE/ BLOCK:

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02713, ROUTE 156 OVER FOUR MILE RIVER

TOWN: **OLD LYME EAST LYME**

DRAWING TITLE: **THIN LAYER DEPOSITION EXISTING CONDITIONS**

PROJECT NO. 0104-0175

DRAWING NO. MIT-02

SHEET NO.

LEGEND

PROPOSED FIBER ROLLS
HIGH VISIBILITY SAFETY FENCE

NOTES

1. ALL WORK WITHIN THE THIN LAYER DEPOSITION (TLD) AREA IS RESTRICTED TO THE PERIOD OF DECEMBER 1 THROUGH FEBRUARY 15, INCLUSIVE.

2. THE CONTRACTOR SHALL COORDINATE AND COMPLETE ALL CONSTRUCTION ACTIVITIES AS OUTLINED BELOW DURING LOW TIDE.

3. PRIOR TO COMMENCEMENT OF ANY WORK ASSOCIATED WITH THE TLD AREA, THE CONTRACTOR SHALL SUBMIT TO THE OFFICE OF ENVIRONMENTAL PLANNING (OEP) FOR REVIEW AND ACCEPTANCE, A TIDAL MITIGATION PLAN THAT INCLUDES A CONSTRUCTION SCHEDULE AND OUTLINE OF CONSTRUCTION METHODOLOGIES FOR PERFORMING THE REQUIRED WORK, IN ACCORDANCE WITH ITEM NO. 0948015A TIDAL WETLAND CREATION (THIN LAYER DEPOSITION), AND IN ACCORDANCE WITH OTHER ITEMS LISTED BELOW.

4. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL STAKE ALL TIDAL ELEVATIONS AND THE CONSTRUCTION LIMITS, INCLUDING THE PROTECTIVE MATTING SYSTEM ACCESS ROAD.

5. TREE REMOVAL REQUIRED FOR THE TEMPORARY CONSTRUCTION ACCESS ROAD BETWEEN THE STAGING AREA AND TLD AREA SHALL BE DONE BY FLUSH CUTTING TO GROUND SURFACE. NO GRUBBING IS PERMITTED.

6. NO GROUND DISTURBANCE OR GRUBBING IS PERMITTED WITHIN THE TLD AREA IDENTIFIED FOR INVASIVE SPECIES REMOVAL AS SHOWN ON THE CONTRACT PLANS AND ENVIRONMENTAL PERMIT PLANS.

7. THE TLD WORK SHALL INCLUDE, BUT IS NOT LIMITED TO, THE INSTALLATION OF FIBER ROLLS OR ANY OTHER APPROVED MEANS FOR THE PROTECTION OF THE OUTER PERIMETER OF THE TLD AREA, THE CONSTRUCTION AND REMOVAL OF PROTECTIVE MATTING SYSTEM ACCESS ROAD, TREATMENT OF INVASIVE SPECIES, PREPARING APPROPRIATE SITE GRADES, PLACING APPROVED TLD MATERIAL, INSTALLATION OF PLANTINGS, AND WETLAND CREATION SIGNS.

8. THE TLD AREA SHALL BE CONSTRUCTED FROM NORTH TO SOUTH.

9. THE CONTRACTOR SHALL USE CONVENTIONAL CONSTRUCTION EQUIPMENT EQUIPPED WITH EITHER LOW GROUND PRESSURE TREADS OR TIRES TO PLACE TLD MATERIALS. THE MAXIMUM LIVE LOAD SHALL BE 5 PSI. SEE DETAILS, SHEET MIT-06.

10. THE FORMATION OF FINAL GRADE AND SUBSTRATE TO BE COMPLETED IN ACCORDANCE WITH ITEM NO. 0948015A TIDAL WETLAND CREATION (THIN LAYER DEPOSITION).

11. THE CONTRACTOR SHALL PLACE FIBER ROLLS AT THE LOCATIONS IDENTIFIED ON THE CONTRACT PLANS AND ENVIRONMENTAL PERMIT PLANS PRIOR TO AND IN CONJUNCTION WITH PLACEMENT OF THE TLD MATERIALS.

12. THE CONTRACTOR SHALL INSTALL STACKED FIBER ROLLS ON SUBSTRATE IN AREAS WITH WATER DEPTHS GREATER THAN 24" TO RETAIN DEPOSITION MATERIAL IN MITIGATION AREAS. SEE MIT-07 FOR DETAIL.

13. 14 DAYS IN ADVANCE OF THE INSTALLATION OF PROPOSED MITIGATION PLANTINGS, THE AREAS IDENTIFIED IN THE CONTRACT PLANS AND ENVIRONMENTAL PERMIT PLANS SHALL BE TREATED FOR INVASIVE SPECIES UNDER ITEM NO. 0952051A CONTROL AND REMOVAL OF INVASIVE VEGETATION. AFTER THE 14 DAYS, THE CONTRACTOR SHALL FLUSH CUT AND DISPOSE OF ALL INVASIVE SPECIES IN ACCORDANCE WITH THE SPECIFICATION. NO GROUND DISTURBANCE OR GRUBBING IS ALLOWED WITHIN THE INVASIVE SPECIES CONTROL AREA, WITH THE EXCEPTION OF INSTALLATION OF PROPOSED PLANTINGS.

14. SEE DRAWING NO. MIT-04 FOR PROPOSED PLANTINGS AND ADDITIONAL NOTES.

15. A WETLAND SCIENTIST FROM OEP WILL BE ON-SITE TO MONITOR AND DIRECT CONSTRUCTION OF THE TLD AREA, AT LEAST 10 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL ARRANGE FOR A MEETING WITH OEP WETLAND SCIENTIST, THROUGH THE ENGINEER, TO REVIEW THE PLANNED WORK ACTIVITIES.

16. TEMPORARY PROTECTION MATTING SYSTEM ACCESS ROADS WITHIN THE TLD AREA ARE CONCEPTUAL ONLY. PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR SHALL SUBMIT AN ACCESS PLAN TO OEP FOR REVIEW AND ACCEPTANCE PER ITEM NO. 0948015A TIDAL WETLAND CREATION (THIN LAYER DEPOSITION).

17. TEMPORARY PROTECTIVE MATTING SYSTEM ACCESS ROAD FROM THE STAGING AREA TO THE TLD AREA WAS DESIGNED TO AVOID IMPACTS TO ARCHAEOLOGICAL RESOURCES LOCATED WITHIN THE PROJECT AREA. ANY PROPOSED CHANGE IN THE LOCATION OF THE TEMPORARY CONSTRUCTION ACCESS WILL NEED TO BE SUBMITTED TO OEP, THROUGH THE ENGINEER, FOR REVIEW AND ACCEPTANCE. PRIOR TO THE PLACEMENT OF THE PROTECTIVE MATTING SYSTEM ACCESS ROAD, THE CONTRACTOR SHALL LAYDOWN GEOTEXTILE (HIGH SURVIVABILITY) AND GRANULAR FILL. NO GRANULAR FILL IS TO BE PLACED BENEATH THE GEOTEXTILE. REFER TO MIT-06.

18. NO HEAVY EQUIPMENT OPERATION OR STORAGE OR STAGING SHALL OCCUR EXCEPT UPON THE ADJOINING PAVED/GRAVEL SURFACES OR THE PROTECTIVE MATTING SYSTEM ACCESS ROAD.

19. TEMPORARY PROTECTIVE HIGH-VISIBILITY SAFETY FENCE SHALL BE PLACED ALONG THE FULL-LENGTH MARGINS OF THE TERRESTRIAL MATTING SYSTEM ACCESS ROAD TO THE HIGH TIDE LIMIT.

20. THE TEMPORARY CONSTRUCTION ACCESS ROADS WITHIN THE TLD AREA SHALL BE LOCATED TO MINIMIZE IMPACTS TO EXISTING VEGETATION AND TO LIMIT COMPACTION OF EXISTING TIDAL WETLAND SUBSTRATE. THE TEMPORARY CONSTRUCTION ACCESS WITHIN THE TLD AREA SHALL BE REMOVED FROM NORTH TO SOUTH AS FINAL GRADE IS ESTABLISHED.

21. THE FINAL GRADE SHALL CONSIST OF TLD MATERIAL PER ITEM NO. 0948015A TIDAL WETLAND CREATION (THIN LAYER DEPOSITION) PLACED TO FINAL ELEVATION, AS IDENTIFIED ON THE CONTRACT PLANS AND ENVIRONMENTAL PERMIT PLANS.

22. CONTRACTOR SHALL TIE INTO EXISTING ADJACENT TIDAL WETLANDS AT A MAX SLOPE OF 3:1 WHEN PLACING THE TLD MATERIAL, AS SHOWN ON THE CONTRACT PLANS AND ENVIRONMENTAL PERMIT PLANS OR AS DIRECTED IN THE FIELD BY THE OEP WETLAND SCIENTIST.

23. AFTER FINAL GRADE IS ACHIEVED THROUGHOUT THE TLD AREA, A 14-DAY TIDAL FLUSH IS REQUIRED FOR THE OEP WETLAND SCIENTIST TO OBSERVE ANY SETTLING OF THE PLACED MATERIAL. IF DEEMED NECESSARY, THE CONTRACTOR SHALL PLACE ADDITIONAL TLD MATERIALS TO AN ELEVATION SATISFACTORY TO THE OEP WETLAND SCIENTIST.

24. EQUIPMENT SHALL NOT BE PERMITTED ON FINAL GRADE WITHIN THE TLD AREA, UNLESS ADDITIONAL TLD MATERIAL IS REQUIRED AFTER THE 14-DAY TIDAL FLUSH, OR AS DIRECTED BY THE OEP WETLAND SCIENTIST.

25. WETLAND MITIGATION SIGN NO. 31-5478 TO BE INSTALLED AT THE LOCATION AS DIRECTED BY THE OEP WETLAND SCIENTIST.

26. THE CONTRACTOR SHALL NOT, UNDER ANY CIRCUMSTANCES, DISCHARGE ANY SOIL, FILL OR DEBRIS INTO ANY PART OF THE ADJACENT WETLANDS OR WATERCOURSE THAT ARE NOT BEING DISTURBED BY CONSTRUCTION.

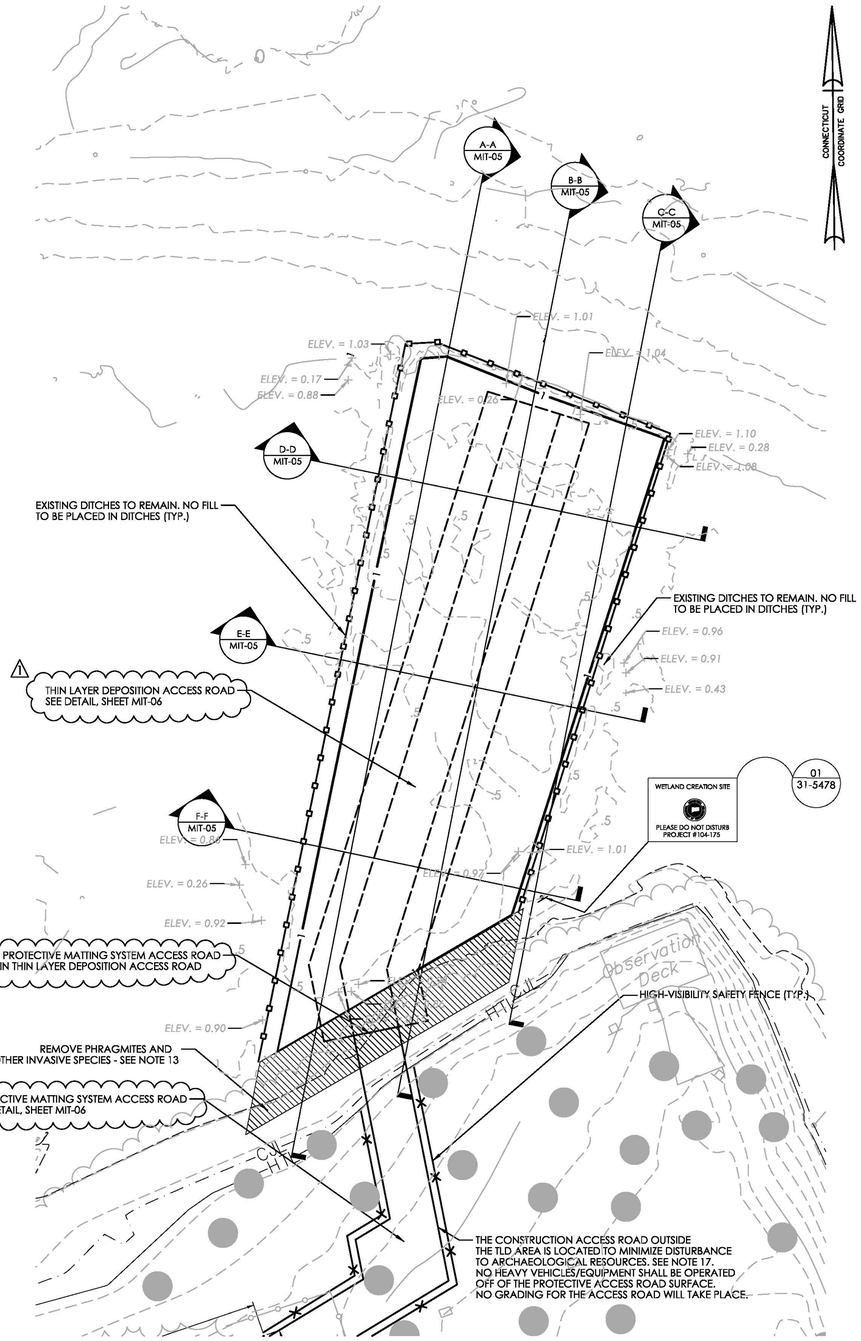
27. ALL DISTURBED AREAS OUTSIDE OF THE TLD AREA SHALL BE FULLY RESTORED TO THE ORIGINAL PRE-CONSTRUCTION CONDITIONS (PAID FOR UNDER ITEM #0948015A).

TIME-OF-YEAR BMP NOTE

ALL GRADING WORK BELOW THE HIGH TIDE LINE (ELEVATION 2.8') WITHIN THE THIN LAYER DEPOSITION AREA SHALL BE CONDUCTED BETWEEN DECEMBER 1 AND FEBRUARY 15, INCLUSIVE.

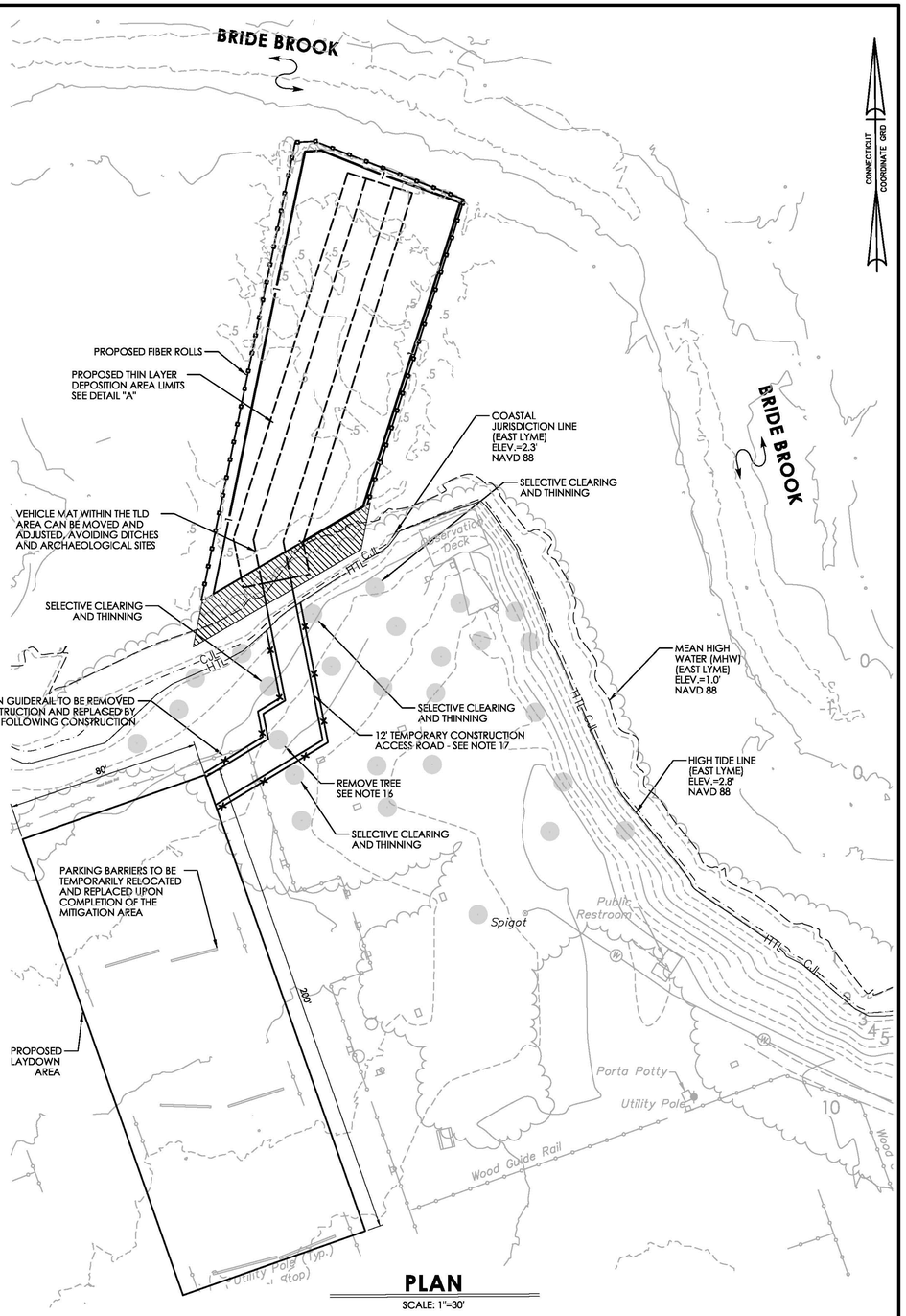
TIDAL ELEVATION TABLE

TIDAL TYPE	ELEVATION (FT)
HIGH TIDE LINE	2.8
COASTAL JURISDICTION LINE	2.3
MEAN HIGH WATER	1.0
MEAN LOW WATER	-2.1
MEAN LOW LOW WATER	-2.3



DETAIL "A"

SCALE: 1"=20'



PLAN

SCALE: 1"=30'

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
1	1/15/25	REVISED TLD ACCESS	MIT-03

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 1/14/2025

DESIGNER/DRAFTER: S.PELLEGRINI
CHECKED BY: W. WOLF
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\ENVE_0104-0175_TLD_GradingPlan.dgn

SIGNATURE/ BLOCK:

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02713, ROUTE 156 OVER FOUR MILE RIVER

TOWN: OLD LYME EAST LYME

DRAWING TITLE: THIN LAYER DEPOSITION GRADING PLAN

PROJECT NO. 0104-0175
DRAWING NO. MIT-03
SHEET NO.

LEGEND

- PROPOSED FIBER ROLLS
- PROPOSED MARSH RESTORATION
- INVASIVE SPECIES CONTROL

NOTES

1. THE CONTRACTOR SHALL COORDINATE AND COMPLETE ALL WETLAND PLANTING ACTIVITIES AS OUTLINED BELOW DURING LOW TIDE.

2. PLANTING IN THE THIN LAYER DEPOSITION (TLD) AND TIDAL ENHANCEMENT AREAS SHALL BE DONE BETWEEN APRIL 15 AND JUNE 15.

3. BEFORE ANY WORK IS TO PROCEED IN THE TLD AREA OR TIDAL ENHANCEMENT AREA, THE CONTRACTOR SHALL ARRANGE, THROUGH THE ENGINEER, FOR A MEETING WITH AN ENVIRONMENTAL SCIENTIST FROM THE CTDOT OFFICE OF ENVIRONMENTAL PLANNING (OEP). THIS MEETING WILL BE SCHEDULED AT LEAST 10-DAYS PRIOR TO COMMENCEMENT OF WORK ACTIVITY DESCRIBED IN ITEM NO. 0948015A TIDAL WETLAND CREATION (THIN LAYER DEPOSITION).

4. REFER TO SHEET NO. PMT-10 FOR THE PROPOSED GRADING PLAN AND ADDITIONAL NOTES.

5. PRIOR TO PLANTING, AN ENVIRONMENTAL SCIENTIST FROM OEP SHALL INSPECT THE TLD AND TIDAL ENHANCEMENT AREAS TO DETERMINE IF THE SITE IS SUITABLE FOR PLANTING.

6. MACHINERY WILL NOT BE ALLOWED WITHIN THE TLD AND TIDAL ENHANCEMENT AREAS AT ANY TIME DURING OR AFTER PLANTING.

7. PLANTINGS ON THIS SHEET ARE TO BE PAID UNDER ITEM NO. 0949B75A WETLAND PLANTINGS. ANY SUBSTITUTIONS TO THE WETLAND PLANTINGS SHALL BE SUBMITTED TO OEP FOR REVIEW AND ACCEPTANCE. FINAL REGULATORY APPROVAL WILL BE REQUIRED BEFORE ANY SUBSTITUTIONS ARE ACCEPTED.

8. ALL WETLAND PLANTINGS, UPON ACCEPTANCE, SHALL BE INSPECTED BY OEP'S ENVIRONMENTAL SCIENTIST PRIOR TO DELIVERY TO THE SITE.

9. ALL PLANT MATERIALS SHALL BE STRAIGHT SPECIES. NO VARIETIES OR CULTIVARS WILL BE ACCEPTED.

10. ALL PLANT MATERIAL SHALL BE NURSERY GRADE CONFORMING TO SECTION 3 OF THE AMERICAN STANDARD FOR NURSERY STOCK, MEETING THE MINIMUM REQUIREMENTS FOR CONTAINER SIZE, ROOT MASS AND NUMBER OF CANES.

11. WOOD CHIP MULCH WILL NOT BE ALLOWED WITHIN THE TLD AND TIDAL ENHANCEMENT AREAS.

12. NO PLANTINGS OR SEEDINGS ARE TO BE PLACED IN MOWED OR MAINTAINED AREAS.

13. ALL PLANTINGS WITHIN THE TLD AND TIDAL ENHANCEMENT AREAS SHALL BE PLACED UNDER THE SUPERVISION OF OEP'S ENVIRONMENTAL SCIENTIST. THE CONTRACTOR SHALL SCHEDULE WITH OEP, THROUGH THE ENGINEER, 10-DAYS IN ADVANCE OF INSTALLATION OF ALL PROPOSED PLANTINGS AND SEEDING.

14. ALL AREAS ABOVE THE HIGH TIDE LINE (HTL) SHALL BE SEEDED WITH SHORELINE GRASS ESTABLISHMENT OR OTHER SEED MIXES AS NOTED ON THE CONTRACT PLANS AND ENVIRONMENTAL PERMIT PLANS.

15. OEP'S ENVIRONMENTAL SCIENTIST WILL CONDUCT ANNUAL INSPECTION OF INSTALLED WETLAND PLANTINGS FOR A PERIOD OF TWO (2) YEARS FOLLOWING COMPLETING OF INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF ANY DEAD OR REJECTED PLANTS FOR A PERIOD OF TWO (2) YEARS, BASED ON OEP'S ANNUAL INSPECTION.

16. FOR THE ANNUAL WARRANTY PERIOD, THE CONTRACTOR SHALL SUBMIT FOR OEP'S REVIEW AND ACCEPTANCE ANY ADDITIONAL PLANTINGS REQUIRED. ADDITIONAL WETLAND PLANTINGS ARE SUBJECT TO ALL REQUIREMENTS, AS NOTED ABOVE.

TIDAL MITIGATION LANDSCAPE PLANT SCHEDULE

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	COMMENTS
	10,500	*SPARTINA ALTERNIFLORA*	SMOOTH CORDGRASS	PLUG	2" PLUG	UNIFORM, WELL DEVELOPED, 1' O.C. SPACING,
	12	*BACCHARIS HALIMIFOLIA*	GROUNDSEL TREE	B.B.	24"-36" HT.	5' O.C.
	12	*HIBISCUS MOSCHEUTOS*	CRIMSONEYED ROSEMALLOW	B.B.	18"-24" HT.	5' O.C.
	10	*IVA FRUTESCENS*	HIGH TIDE BUSH	B.B.	24"-36" HT.	5' O.C.
			SHORELINE GRASS ESTABLISHMENT			

TIDAL ELEVATION TABLE

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MEAN HIGH WATER	1.0
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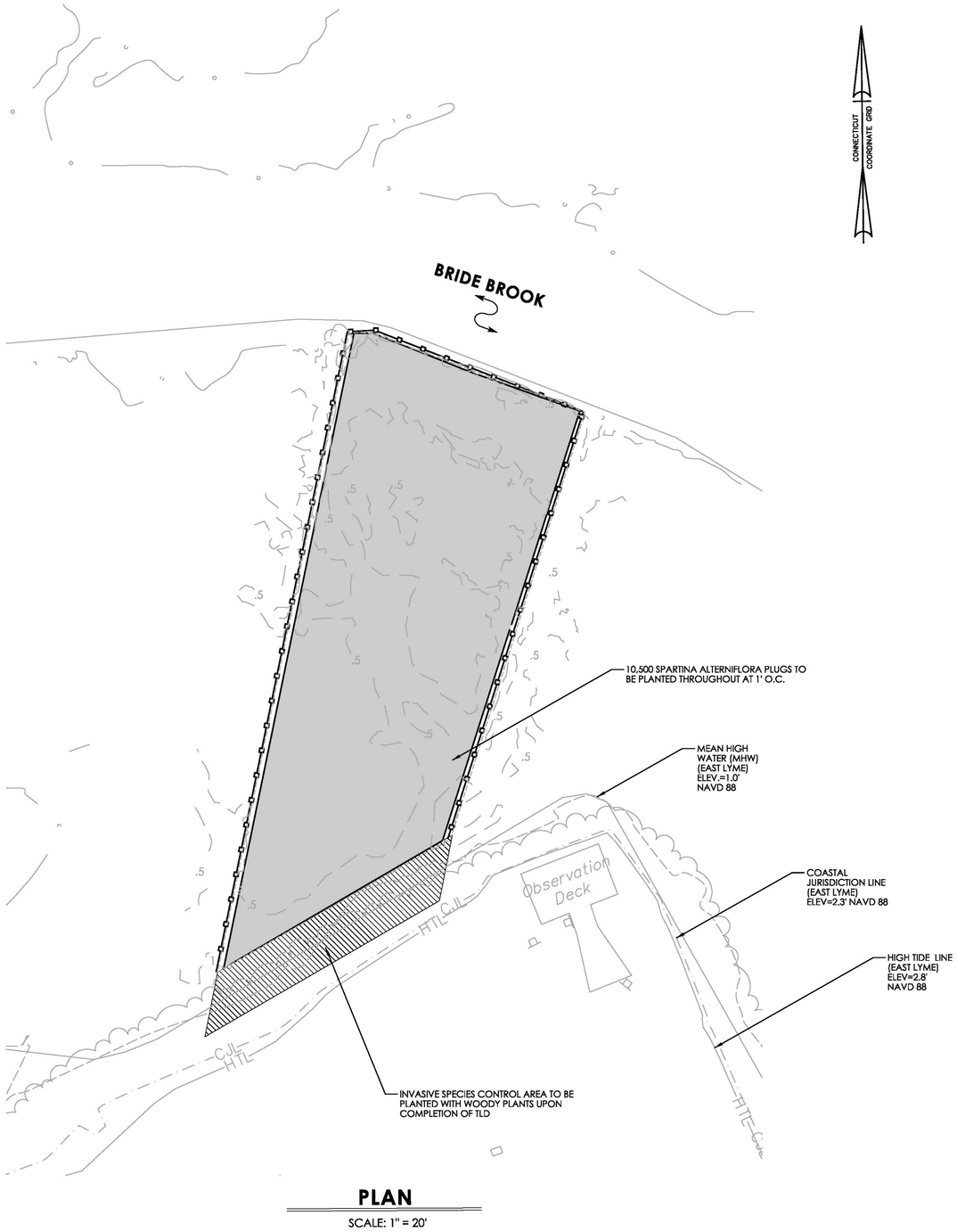

PLAN

SCALE: 1" = 20'

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 10/26/2023

DESIGNER/DRAFTER: S.PELLEGRINI
CHECKED BY: W. WOLF
SCALE IN FEET 0 20 40
SCALE 1"=20'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\ENVE_0104-0175_TLD_PlantingPlan.dgn

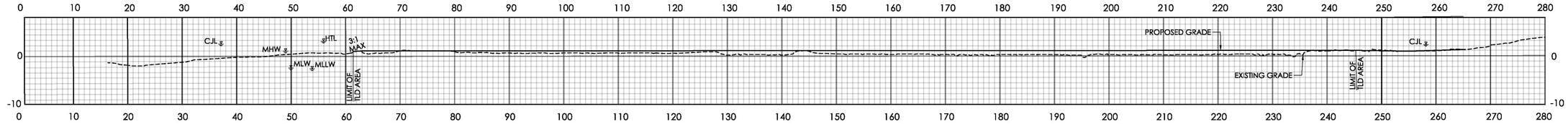
SIGNATURE/ BLOCK:

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02713, ROUTE 156 OVER FOUR MILE RIVER

TOWN: OLD LYME EAST LYME

DRAWING TITLE: THIN LAYER DEPOSITION PLANTING PLAN

PROJECT NO. 0104-0175
DRAWING NO. MIT-04
SHEET NO.



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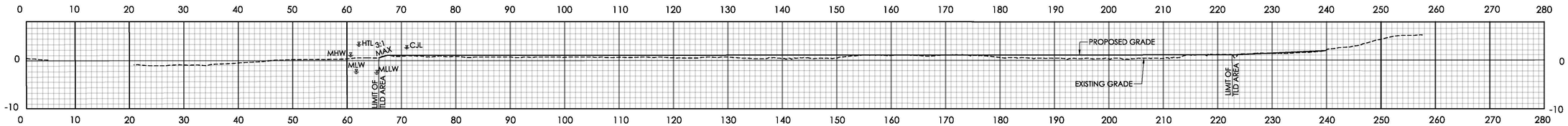

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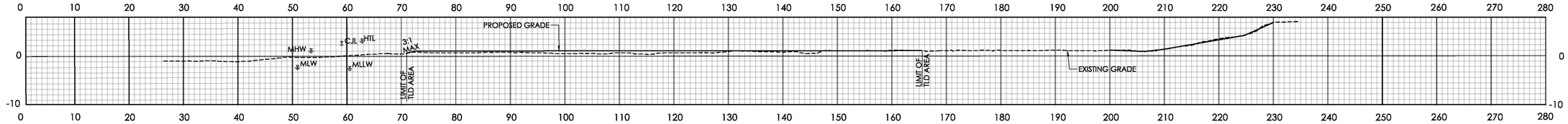

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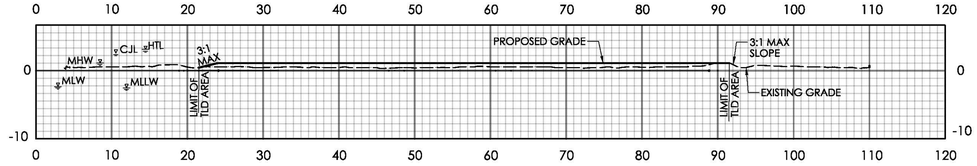

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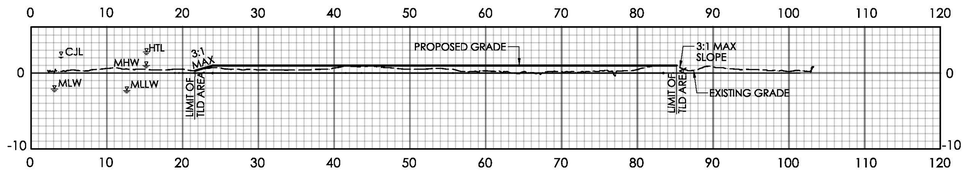

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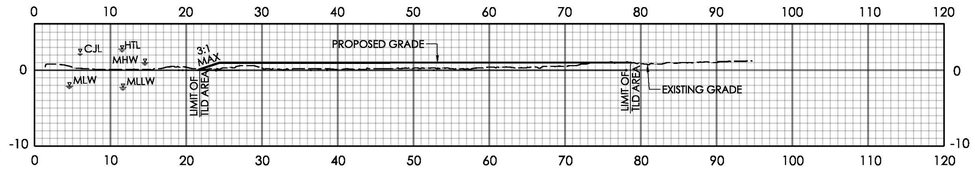

SECTION F-F

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 10/26/2023

DESIGNER/DRAFTER: S.PELLEGRINI

CHECKED BY: W. WOLF

SCALE IN FEET 0 10 20

SCALE 1"=10'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\ENVE_0104-017501_CrossSections.dgn

SIGNATURE/ BLOCK:

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02713, ROUTE 156 OVER FOUR MILE RIVER

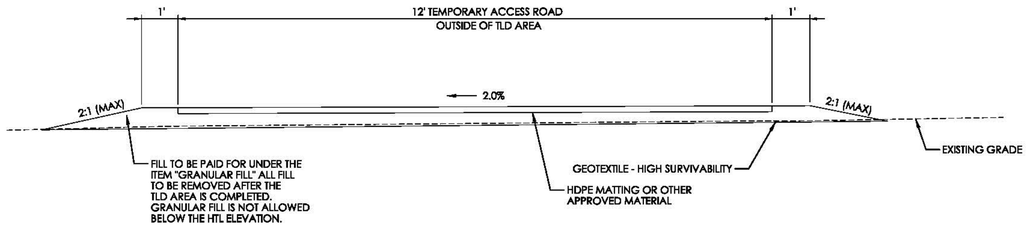
TOWN: OLD LYME EAST LYME

DRAWING TITLE: THIN LAYER DEPOSITION CROSS SECTIONS

PROJECT NO. 0104-0175

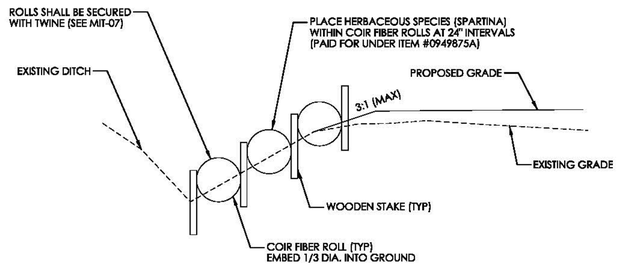
DRAWING NO. MIT-05

SHEET NO.



PROTECTIVE MATTING SYSTEM ACCESS ROAD

SCALE: N.T.S.



TYPICAL TLD TIE-IN SECTION

SCALE: N.T.S.

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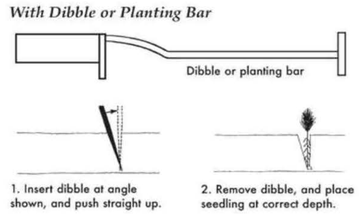
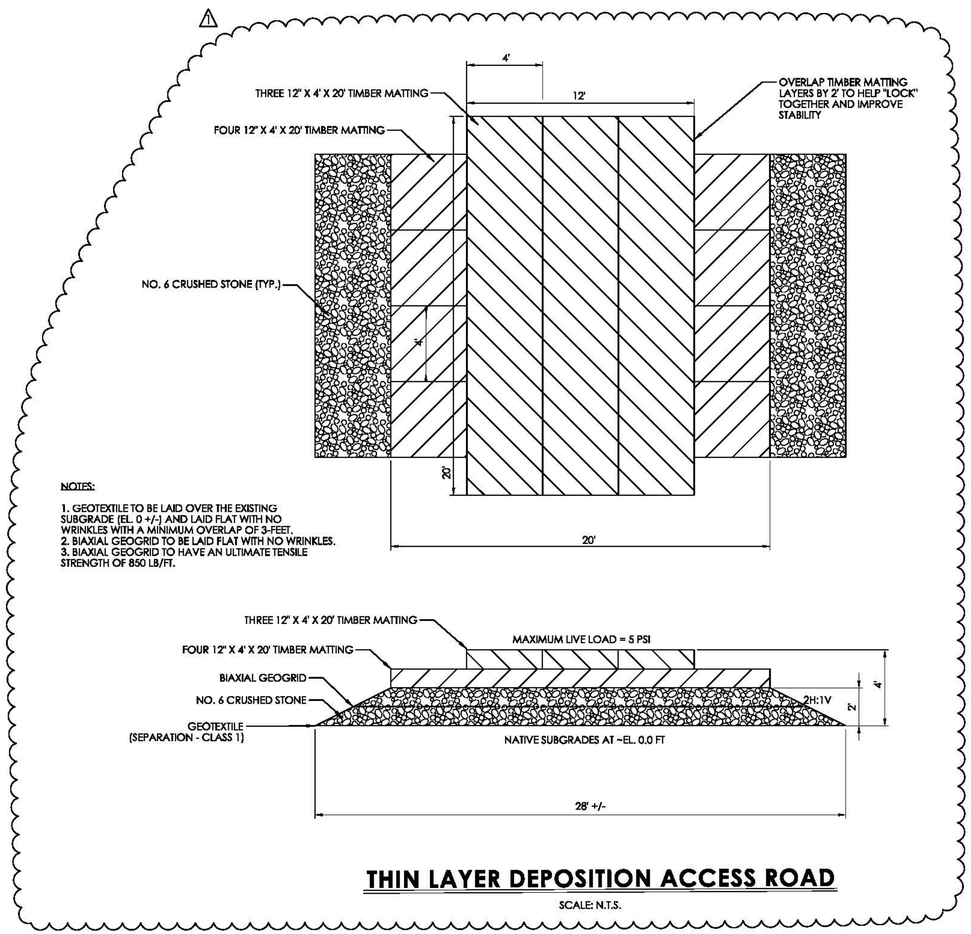


PLUG PLANTING DETAIL

SCALE: N.T.S.



THIN LAYER DEPOSITION ACCESS ROAD

SCALE: N.T.S.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
1	1/15/25	REVISED TLD ACCESS	MIT-06

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Plotted Date: 1/14/2025

DESIGNER/DRAFTER: S.PELLEGRINI
CHECKED BY: W. WOLF
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\MDS_0104-0175_TLD_Details.dgn

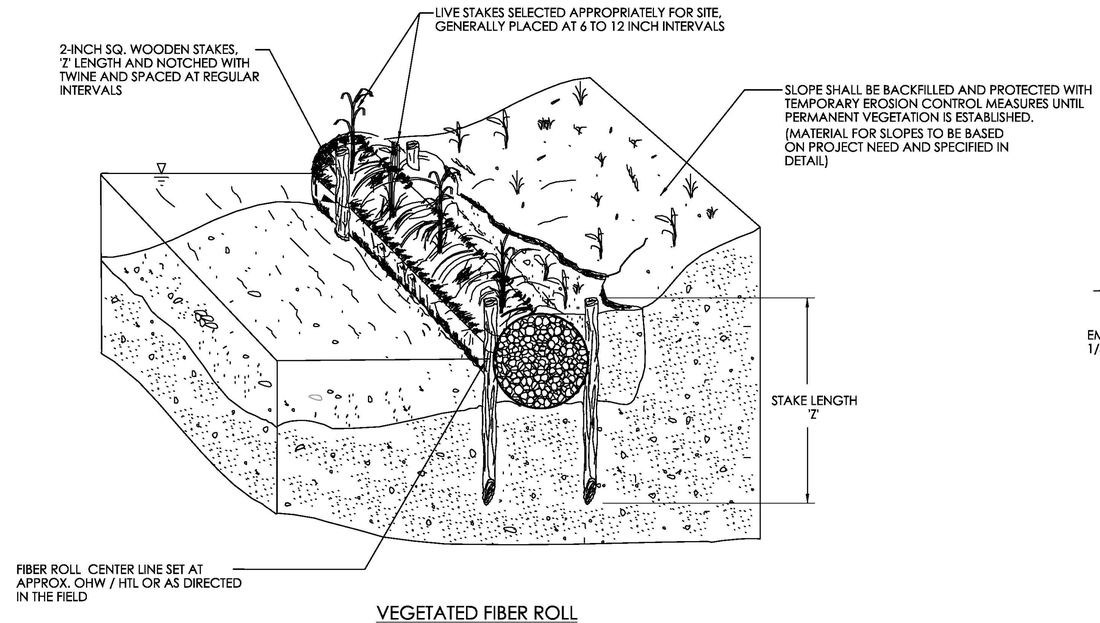
SIGNATURE/ BLOCK:

PROJECT TITLE: REPLACEMENT OF BRIDGE NO. 02713, ROUTE 156 OVER FOUR MILE RIVER

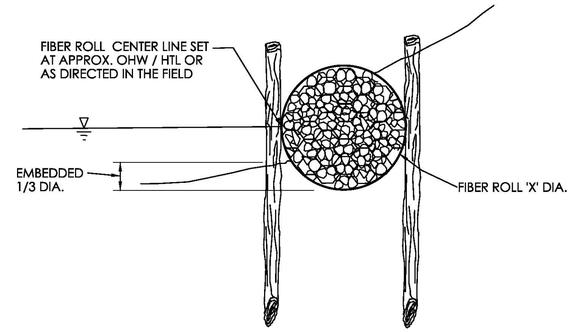
TOWN: OLD LYME / EAST LYME

DRAWING TITLE: THIN LAYER DEPOSITION DETAILS

PROJECT NO. 0104-0175
DRAWING NO. MIT-06
SHEET NO.



VEGETATED FIBER ROLL
N.T.S.

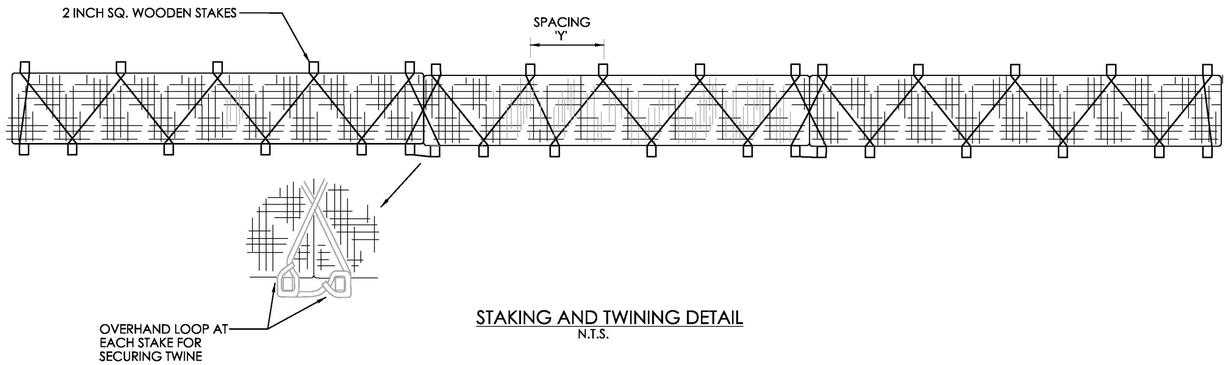


FIBER ROLL SECTION
N.T.S.

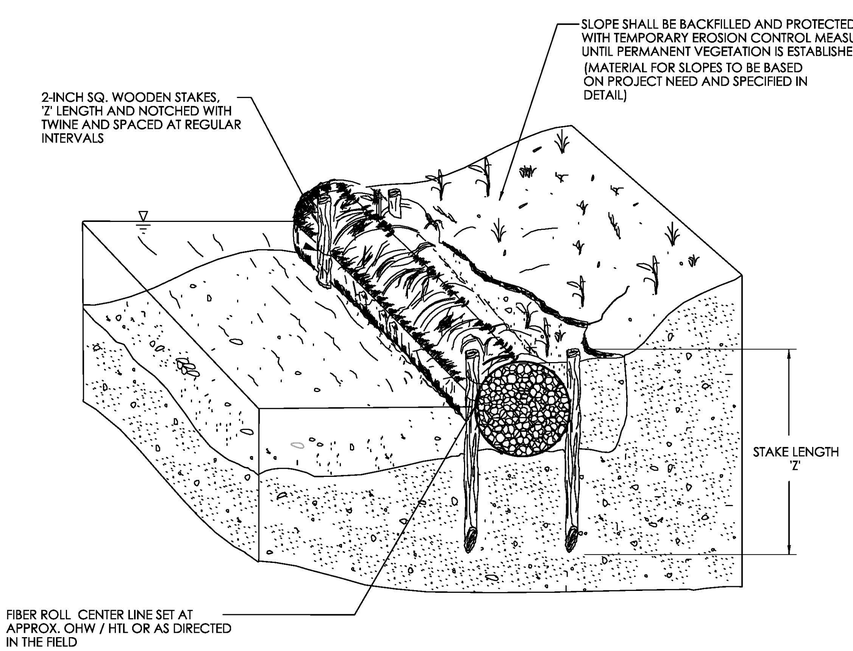
DIAMETER OF ROLL 'X'	WOODEN STAKE LENGTH 'Z'	STAKE SPACING 'Y'
20 INCHES	4 FT. MINIMUM	EVERY 2 FT.
16 INCHES	3 FT. MINIMUM	EVERY 2.5 FT.
12 INCHES	3 FT. MINIMUM	EVERY 3 FT.

TABLE FOR ANCHORING

NOTE:
PLACEMENT OF THE FIBER ROLLS SHALL BE DIRECTED IN THE FIELD BY THE ENGINEER OR THEIR AUTHORIZED DELEGATE. SEE SPECIAL PROVISION "FIBER ROLL."



STAKING AND TWINING DETAIL
N.T.S.



FIBER ROLL ALONG STREAMBANK
N.T.S.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 10/26/2023

DESIGNER/DRAFTER: S.PELLEGRINI
CHECKED BY: W. WOLF
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\MDS_0104-0175_TLD_FiberRollDetails.dgn

SIGNATURE/ BLOCK:

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02713, ROUTE 156 OVER FOUR MILE RIVER

TOWN: OLD LYME / EAST LYME

DRAWING TITLE: THIN LAYER DEPOSITION FIBER ROLL DETAILS

PROJECT NO. 0104-0175
DRAWING NO. MIT-07
SHEET NO.

Attachment D

NDDB Determination Response Letter

Connecticut
Department of Energy &
Environmental Protection

portal.ct.gov/DEEP

4/8/2024

Magdalena Lenczewski
CONNECTICUT DEPARTMENT OF TRANSPORTATION
2800 Berlin Tpke
Newington, CT 06111
Magdalena.Lenczewski@ct.gov

Subject: CTDOT 0104 0175 Renewal 202109559
Filing #: 109360
NDDB - New Determination Number: 202404294

Expiration Date: 4/8/2026

I have reviewed Natural Diversity Database (NDDB) maps and files regarding this project. According to our records, there are State-listed species (RCSA Sec. 26-306) that may be influenced by activities within the proposed project area. Project activities with species concerns are divided below.

Project: Culvert Replacement Rte 156 over Four Mile River

Northern long-eared bat (*Myotis septentrionalis*)- Federally and State Endangered

Your project falls within 3 miles of a breeding season observation for this species. The presence of northern long-eared bat (Myotis septentrionalis), a federally endangered and state endangered species, may require consultation with the US Fish and Wildlife Service Ecological Field Office in order to be in compliance with the Federal Endangered Species Act if the proposed project requires federal permits or uses federal funds. For more information on federal requirements visit: http://www.fws.gov/midwest/endangered/mammals/nleb/

Shortnose sturgeon (*Acipenser brevirostrum*)- Federally and State Endangered

Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*)- Federally and State Endangered

Your application indicates you have finalized your consultation regarding these fish species.

Spotted turtle (*Clemmys guttata*)- State Special Concern

Individuals of this species are associated with wetlands and are vernal pool obligates. Over the course of a season and lifetime, individuals will travel large distances (up to 1km) over upland forest and fields between multiple wetlands. They overwinter burrowed into the mud in wetlands between Nov 1- March 15. They do not begin to reproduce until 7-10 years old and adults can live at least 30 years. This species is threatened most by any activities that reduce adult survivorship including road kills, commercial and casual collection, increased predation in areas around commercial and residential development, mortality and injury from

agricultural equipment or other mechanical equipment.

Your area of work is unlikely to serve as habitat for spotted turtle overwintering. Apply protection measures for encounters that may happen during the active season.

- Between March 16- October 31:
  - The work crew must be made aware of the species description and possible presence
  - The immediate area where heavy equipment will be used should be searched for turtles before starting work using mechanical equipment
  - Any turtles found should be moved out of the way. This animal is protected by law and should never be taken off site.
  - Work conducted during early morning and evening hours should occur with special care not to harm basking individuals.

Project: Marsh Restoration through Sediment Deposit, Rocky Neck State Park, Bride Brook Marsh

New England blazing star (*Liatris scariosa var. novae-angliae*) -Species of Special Concern

New England blazing star (Liatris scariosa var. novae-angliae) has been documented adjacent to the proposed work area. William Moorhead, DEEP Plant Ecologist, determined that the project activities will not have adverse effects on the population as the work will occur on the other side of the road from the plant.

Seaside goldenrod stem borer (*Papaipema duovata*)- State Threatened

This species is found in saltmashes and bay shores. Host plant is seaside goldenrod (*Solidago sempervivens*). Activities to create or enhance marsh habitat will ultimately benefit this species.

- To minimize any potential impacts on this species avoid trampling or crushing seaside goldenrod with access ramps and traffic.

Spotted turtle (*Clemmys guttata*)- State Special Concern

Individuals of this species are associated with wetlands and are vernal pool obligates. Over the course of a season and lifetime, individuals will travel large distances (up to 1km) over upland forest and fields between multiple wetlands. They overwinter burrowed into the mud in wetlands between Nov 1- March 15. They do not begin to reproduce until 7-10 years old and adults can live at least 30 years. This species is threatened most by any activities that reduce adult survivorship including road kills, commercial and casual collection, increased predation in areas around commercial and residential development, mortality and injury from agricultural equipment or other mechanical equipment.

In your location, this species will preferentially use marsh channels/ditches with low salinity that are surrounded by high salt marsh vegetation. Any overwintering of this species would be limited to the bottoms and sides of these wetland channels with very low salinity (less than 10ppt). During the active season, they are most likely to be using ditches/channels to move around the marsh, but may occasionally cross marsh vegetation areas. Care should be taken to avoid mortality from heavy equipment. Your work previously reported salinity mearsurements that would preclude overwintering int the work zone.

- Between March 16- October 31:
  - The work crew must be made aware of the species description and possible presence

- The immediate area where heavy equipment will be used should be searched for turtles before starting work using mechanical equipment
- Any turtles found should be moved out of the way. This animal is protected by law and should never be taken off site.
- Work conducted during early morning and evening hours should occur with special care not to harm basking individuals.

Saltmarsh sharp-tailed sparrow (*Ammodramus caudacutus*)- Species of Special Concern

This tidal-marsh specialist breeds in Connecticut tidal-marsh habitat from mid-May through early August. Connecticut possesses a globally significant proportion of the breeding population of this species. Connecticut populations have experienced a significant decline in nesting success due to increased rates of nest flooding. It is important to note that although saltmarsh sparrow nest in the middle of marshes, once fledged, they females and young preferentially use marsh margins including areas of bare ground interspersed with taller vegetation for foraging, cover from predation, and reduced flooding risk.

This marsh no longer supports a breeding population for this species, and I do not expect negative impacts from your work. Activities to create or enhance marsh habitat will ultimately benefit this species.

Your submission information indicates that your project requires a state permit, license, registration, or authorization, or utilizes state funding or involves state agency action. This NDDB - New determination may be utilized to fulfill the Endangered and Threatened Species requirements for state-issued permit applications, licenses, registration submissions, and authorizations.

Please be aware of the following limitations and conditions:

Natural Diversity Database information includes all information regarding listed species available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, land owners, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as enhance existing data. Such new information is incorporated into the Database and accessed through the ezFile portal as it becomes available. New information may result in additional review, and new or modified restrictions or conditions may be necessary to remain in compliance with certain state permits.

- During your work listed species may be encountered on site. A report must be submitted by the observer to the Natural Diversity Database promptly and additional review and restrictions or conditions may be necessary to remain in compliance with certain state permits. Please fill out the appropriate survey form and follow the instructions for submittal.
- Your project involves the state permit application process or other state involvement, including state funding or state agency actions; please note that consultations with your permit analyst or the agency may result in additional requirements. In this situation, additional evaluation of the proposal by the DEEP Wildlife Division may be necessary and additional information, including but not limited to species-specific site surveys, may be required. Any additional review may result in specific restrictions or conditions relating to listed species that may be found at or in the vicinity of the site.
- If your project involves preparing an Environmental Impact Assessment, this NDDB consultation and determination should not be substituted for biological field surveys assessing on-site habitat and species presence.
- The NDDB - New determination for the CTDOT 0104 0175 Renewal 202109559 as described in the submitted information and summarized at the end of this document is valid until 4/8/2026. This determination applies only to the project as described in the submission and summarized at the end of

this letter. Please re-submit an updated Request for Review if the project's scope of work and/or timeframe changes, including if work has not begun by 4/8/2026.

If you have further questions, please contact me at the following:

Shannon Kearney
CT DEEP Bureau of Natural Resources
Wildlife Division
Natural Diversity Database
79 Elm Street
Hartford, CT 06106-5127
(860) 424-3170
Shannon.Kearney@ct.gov

Please reference the Determination Number 202404294 when you e-mail or write. Thank you for consulting the Natural Diversity Data Base.

Shannon Kearney
Wildlife Division- Natural Diversity Data Base
79 Elm Street
Hartford, CT 06106-5127
(860) 424-3170
Shannon.Kearney@ct.gov

Application Details:

Project involves federal funds or federal permit:	Yes
Project involves state funds, state agency action, or relates to CEPA request:	Yes
Project requires state permit, license, registration, or authorization:	Yes
DEEP enforcement action related to project:	
Project Type:	Bridge and Culvert Work
Project Sub-type:	Modifications/Repairs: In water and Upland
Project Name:	CTDOT 0104 0175 Renewal 202109559
Project Description:	Bridge No. 02713 consists of four 60-inch round asphalt coated corrugated metal pipes (ACCMPs) which will be replaced with precast 28-foot wide by 7-foot high 3