OCTOBER 24, 2019
REHABILITATION OF BRIDGE NO. 06768 ROUTE 57 REHABILITATION OF BRIDGE NO. 06778 ROUTE 127
FEDERAL AID PROJECT NO. 000T(130)
STATE PROJECT NO. 0173-0503
TOWNS OF WESTON & TRUMBULL

ADDENDUM NO. 1

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

Question and Answer Nos. 2, 3, and 4

SPECIAL PROVISION
REVISED SPECIAL PROVISION

The following Special Provision is hereby deleted in its entirety and replaced with the attached like-named Special Provision:

- ITEM NO. 0651940A – STEEL PLATE CULVERT

PLANS
REVISED PLANS

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

02.01.A1
01.04.04.A1
01.04.09.A1

The Bid Proposal Form and the Detailed Estimate Sheets are not affected by this addendum.

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.

ITEM #0651940A—STEEL PLATE CULVERT

Description:

This item shall consist of furnishing and installing a steel plate culvert or steel plate culverts, conforming to theses Specification and of the sizes and dimensions required in the contract documents, and installing such steel plate culverts at the locations specified by the contract documents or as directed by the Engineer and in conformity with the lines and grades established or by the Engineer. The completed steel plate culverts shall consist of continuous steel plates assembled with shop welded longitudinal seams and field welded circumferential connections. Steel plate culverts shall be of the dimensions as shown on the plans.

Materials:

1. **General:** The plates shall be of the thickness specified on the Plans.

The base metal for liner plates must comply with ASTM A36.

All welding shall conform to the requirements of ANSI/AASHTO/AWS D1.5 – Bridge Welding Code. All welded connections shall meet the requirements of Subarticle 6.03.03-4(e). Longitudinal seam welds shall be full penetration groove welds and be performed in the shop. A maximum of two longitudinal seam welds will be allowed for each Steel Plate Culvert section. All longitudinal seam welds shall be at the same location between steel plate culvert sections so that they align. Circumferential seam welds shall be full penetration groove welds and shall be performed in the field. Circumferential seam welds shall be performed from inside the Steel plate culvert.

Plate shall be uncoated black steel fabricated to the dimensions as shown on the plans. The finished Steel Plate Culverts shall be free of fins, burrs, edges or other imperfections.

Steel Plate Culverts shall have a maximum lay-length of 10 feet between circumferential field welded connections. Steel Plate Culverts intended for use as a liner shall be fabricated with grout ports at the crown of the culvert to a maximum spacing as shown on the plans. Grout ports shall be threaded. Caps shall be provided for each grout port that are compatible with the Steel Plate Culvert material and the intended port use. Grout port caps shall be fabricated from Steel meeting the requirements of ASTM A36. Steel plate Culverts intended for direct bury shall not be fabricated with grout ports.

Where Steel Plate Culverts will be installed as direct-bury, or where Steel Plate Culverts are installed as a liner but extend beyond the host structure, welded studs shall be provided around the circumference of the inlet and outlet as applicable where cast-in-place concrete headwalls will be constructed in direct contact with the Steel Plate Culvert. Welded studs shall conform to the requirements of Article M.06.03-4.

Construction Methods:

1. Shop Drawings: The Contractor shall furnish shop drawings showing a typical section of the tunnel, details of the plates, seams, and the moment of inertia in inches to the fourth power per inch of width for the geometric cross-section of the culvert . Submit a copy of the manufacturer's instructions before installation of the Steel Plate Culvert. Shop Drawings shall be submitted in accordance with Section 1.05.02.

2. Quality Assurance: Fabrication of the Steel Plate Culvert may begin only after the shop drawings have been reviewed and the Engineer has authorized fabrication to begin. The Contractor shall submit to the Engineer, no less than 2 weeks prior to the start of fabrication, the name and location of the fabrication shop where the work will be done so that arrangements can be made for an audit of the facility and the assignment of the Department Quality Assurance (QA) inspector. No fabrication will be accepted unless the QA inspector is present during fabrication. No changes may be made during fabrication without prior written approval by the Department.

The Contractor shall furnish facilities for the inspection of material and workmanship in the shop by the Engineer. The Engineer and his representative shall be allowed free access to the necessary parts of the premises.

The Engineer will provide QA inspection at the fabrication shop to assure that all applicable Quality Control plans and inspections are adequately adhered to and maintained by the Contractor during all phases of the fabrication. A thorough inspection of a random selection of elements at the fabrication shop may serve as the basis of this assurance.

Prior to shipment to the project, each individual piece of steel shall be marked in a clear and permanent fashion by a representative of the fabricators' Quality Control (QC) Department to indicate complete final inspection by the fabricator and conformance to the project specifications for that piece. The mark must be dated. A Materials Certificate in accordance with Article 1.06.07 may be used in lieu of individual stamps or markings, for all material in a single shipment. The Materials Certificate must list each piece within the shipment and accompany the shipment to the project site.

Following the final inspection by the fabricator's QC personnel, the Engineer may select pieces of steel for re-inspection by the Department's QA inspector. Should non-conforming pieces be identified, all similar pieces must be re-inspected by the fabricator and repair procedure(s) submitted to the Engineer for approval. Repairs will be made at the Contractor's expense.

The pieces selected for re-inspection and found to be in conformance, or adequately repaired pieces, may be marked by the QA inspector. Such markings indicate the Engineer takes no exception to the pieces being sent to the project site. Such marking does not indicate acceptance or approval of the material by the Engineer.

The Contractor shall furnish an itemized statement of the number and length of the plates in each shipment. Each plate included in a shipment shall comply with the requirements of this specification.

3. Existing Pipe Preparation: Prior to installation of the corrugated steel structural plate liner, the host pipe shall thoroughly cleaned to remove all debris and dirt. Determine the location of and remove obstructions that may prevent proper installation of the steel plate liner. Provide strutting and bracing as required to ensure stability of the host pipe throughout the installation process.

4. Cleaning and Repair of Host Structure: Where the Steel Plate Culvert will be used as a liner, the host structure shall be dewatered and thoroughly cleaned of any sediment or debris. Any existing coatings or material including asphalt coatings, fins, stones, sand, sediment, organic material, etc. shall be completely removed to ensure an acceptable fit-up of the Steel Plate Culvert. Any perforations in the host structure shall be inspected and pressure grouted with a neat cement grout prior to the installation of the corrugated steel structural plate liner to ensure full contact of the host pipe with the surrounding soils. Any existing deformations shall be addressed in the field by jacking of the existing structure to obtain the shape required to install the corrugated steel structural plate liner. Where subsurface utilities would cross over the host structure in the vicinity of deformations, the ballast over the structure shall be removed to the limits shown on the plans so that any required jacking activities would not damage the subject utility. The host structure shall be completely cleaned, with perforations grouted and deformations addressed prior to the installation of any section of the corrugated steel structural plate liner.

The Contractor shall control and redirect the existing stream and groundwater flow prior to cleaning the existing pipe during inspection in accordance with the item "Handling Water (Site No. 1)" as shown on the plans and in these special provisions.

The Contractor shall clean the entire length of the existing pipe in accordance with the requirements of Section 6.53 – Clean Existing Drainage System prior to conducting the inspection. However, payment for cleaning will be included under "Steel Plate Culvert." The Contractor shall review, log, and comment on the condition of the existing pipe. Video with audio and digital photos shall be taken during the inspection to clearly depict the condition of the existing pipe.

Any condition that may prevent proper installation or damage to the proposed liner pipe during installation shall be documented with photos and dimensioned sketches. Conditions include, but are not limited to: protrusions, collapsed or crushed areas, and reduced cross-sectional areas. Measure the distance to the location(s) of the described conditions relative to the pipe outlet. Provide cross-sectional measurements as necessary to depict obstructions.

The video with audio must include the following:

1. Video:
    a. Recording number
    b. Inspection date
    c. Encoded text description of Bridge Number, location, host pipe size, type &

length
   d. Printed labels on video recording hard copy with location and inspection date.

2. Audio:
   a. Inspection date
   b. Bridge Number
   c. Description of host pipe size, type and length
   d. Description and location of each defect

The Inspection and Evaluation Report shall be submitted within 15 calendar days of completing the inspection. The report shall provide detailed description of the existing conditions which highlight specific conflict areas that may prevent proper installation or damage the proposed liner pipe. A CD or DVD of the video and digital photos shall be submitted with this report.

The Contractor shall submit plans to the Engineer for approval showing the proposed method and materials to repair the existing pipe with the Inspection and Evaluation Report. The furnishing of such plans shall not relieve the Contractor of any responsibility for the safety of the work or for the successful completion of repairs to the existing pipe.

The Contractor shall control and redirect the existing stream or groundwater flow prior to cleaning the existing host work and during the time to complete the repair work as show on the plans and in accordance with the Handling Water (Site No. 1) special provision.

5. Handling and Installing Steel Plate Culvert: Steel plates shall be handled in such a manner as to prevent any damage to the steel plate culvert. Any plates that are damaged during handling or placing shall be replaced at the Contractor's expense, except the Contractor may propose repair procedures for small areas of minor damage for the Engineer's review. Steel plate culverts shall be assembled progressively according to the manufacturer's instructions starting at the upstream end when used as a liner and not installed as direct-bury.

Method of Measurement:

Steel Plate Culvert shall be measured for payment by century-weight of the steel plate culvert installed and accepted. Measurement of weight shall be performed by the Contractor through the use of certified scales in the presence of the Engineer. Grouting shall be paid for under "SLIP-LINING GROUT." Dewatering of the host structure shall be included for payment under "HANDLING WATER (Site No. 1)." Excavation required for direct-bury structures shall be covered under "STRUCTURE EXCAVATION – EARTH (COMPLETE)."

Basis of Payment: This work shall be paid at the price per hundred pounds (hundred weight) for the Steel Plate Culvert which payment shall include full compensation for fabrication and installation of the steel plate culvert, welding, preparation of the host pipe, temporary supports, jacking operations, cleaning of the host structures, grouting existing perforations, and all labor, materials, tools, equipment incidental thereunto.

Pay Item	Pay Unit
Steel Plate Culvert	cwt.