

**JANUARY 8, 2021**  
**REHABILITATION OF BRIDGE NOS. 01487 & 03245**  
**OVER THE FARMINGTON RIVER**

**FEDERAL AID PROJECT NO. 0177(006)**  
**STATE PROJECT NO. 0051-0272**  
**TOWN OF FARMINGTON**

**ADDENDUM NO. 1**

**SPECIAL PROVISIONS**

**NEW SPECIAL PROVISIONS**

The following Special Provisions are hereby added to the Contract:

- ITEM NO. 0202559A – REMOVE AND RESET SURVEY MONUMENT
- ITEM NO. 0910027A – THRIE BEAM TRANSITION
- ITEM NO. 0910028A – THRIE BEAM BRIDGE RAIL
- ITEM NO. 0913003A – 4' POLYVINYL CHLORIDE CHAIN LINK FENCE
- ITEM NO. 0921007A – SPECIAL CONCRETE SIDEWALK

**REVISED SPECIAL PROVISION**

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

- ITEM NO. 0914050A – REMOVE HANDRAIL

**CONTRACT ITEMS**

**NEW CONTRACT ITEMS**

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>
0202559A	REMOVE AND RESET SURVEY MONUMENT	EA.	1
0910027A	THRIE BEAM TRANSITION	L.F.	13
0910028A	THRIE BEAM BRIDGE RAIL	L.F.	52
0911924	R-B END ANCHORAGE TYPE II	EA.	1
0913003A	4' POLYVINYL CHLORIDE CHAIN LINK FENCE	L.F.	124
0921007A	SPECIAL CONCRETE SIDEWALK	S.F.	45

**REVISED CONTRACT ITEMS**

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>ORIGINAL QUANTITY</u>	<u>REVISED QUANTITY</u>
0703011	INTERMEDIATE RIPRAP	20 C.Y.	25 C.Y.
0904487A	METAL BRIDGE RAIL (HANDRAIL)	525 L.F.	470 L.F.
0910300	METAL BEAM RAIL (TYPE R-B MASH)	50 L.F.	13 L.F.

**DELETED CONTRACT ITEM**

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>ORIGINAL QUANTITY</u>	<u>REVISED QUANTITY</u>
0913013	5' POLYVINYL CHLORIDE CHAIN LINK FENCE	70 L.F.	0 L.F.

**PLANS****NEW PLANS**

The following Plan Sheets are hereby added to the Contract:

05.24.A1.  
HW-0910\_26, HW-0910\_27, HW-0911\_01.

**REVISED PLANS**

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

02.01.A1.  
03.03.A1, 03.04.A1.  
05.02.A1, 05.03.A1, 05.13.A1.

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

The Detailed Estimate Sheet does 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.

## **ITEM #0202559A – REMOVE AND RESET SURVEY MONUMENT**

**Description:** Work done under this item includes removing existing survey boundary monuments in their entirety and setting new survey boundary markers (monuments, disks in ledge or concrete structures, or capped rebar) along Right-of-Way lines in the same horizontal position as the removed monument or as directed by the Engineer.

**Materials:** CTDOT concrete boundary monuments (CHD), CTDOT boundary disks (DISK), and CTDOT capped reinforcing bars (RECHD) will be provided by the Department. “Rockite” hydraulic cement, USP-Anchor-Set, Quikrete Anchoring Cement or approved equal and all other materials shall be the responsibility of the Contractor.

**Construction Methods:** The Contractor shall retain the services of a licensed Connecticut Land Surveyor (LS) to serve as Project Surveyor to directly oversee this work and to ensure that each marker has been set in accordance with CTDOT Standards. The Contractor shall submit the name, place of professional employment, business address, phone number, and license number of the Project Surveyor to the Department for review.

The Contractor shall remove the existing monument called out on the plans in its entirety and as field verified to be in conflict with the proposed construction. All materials from excavated monument shall be removed and disposed of by the Contractor. The Contractor shall be responsible for all computations, location, staking, and setting of highway boundary markers at defined Right-of-Way Lines as shown on the plans and details or as directed by the Engineer.

The standard boundary marker will be the CTDOT concrete boundary monument (CHD). Boundary disks (DISK) set in ledge or other structures and capped rebar (RECHD) will be used where the Engineer determines that it is impractical to set a concrete boundary monument.

The setting of boundary markers shall not begin until all excavation, filling operations, grading and drainage has been completed and accepted by the Engineer.

All boundary and staking computations shall be provided by the Project Surveyor to the Engineer and shall be acceptable to the District Survey Office prior to staking the locations of the boundary markers.

The Project Surveyor shall establish the location of the existing boundary markers called out on the plans or as directed by the Engineer. The existing boundary marker location shall be tied in to at least three (3) points for future replacement. This work shall meet or exceed a positional accuracy of 1:5000 (0.02 feet per 100 feet) as defined in Section 20-300b-11 of the Regulations of Connecticut State Agencies.

Excavation for the existing survey monuments or for the placement of the new CTDOT Boundary Monuments shall be by hand or with a power auger. The use of a backhoe or other heavy equipment for excavation purposes will not be allowed. The concrete monument shall be

set plumb into the hole, flush to the finished grade and backfilled and compacted in six (6) inch layers as detailed herein or as directed by the Engineer.

In locations where the Engineer determines that concrete monuments cannot be set, the Project Surveyor shall set CTDOT Boundary disks or CTDOT Boundary capped rebar as directed. A Rebar Driver shall be used in the setting of rebar. All DISKs set in ledge or concrete shall be secured with "Rockite" hydraulic cement, USP-Anchor-Set, Quikrete Anchoring Cement as approved by the Engineer and in accordance with the manufacturer's recommended procedures.

Concrete boundary monuments must be allowed to settle for fourteen (14) days. Once all concrete boundary monuments are completed and allowed to settle and all other boundary markers are in place, the Contractor shall notify the Engineer that the boundary marker disks are ready to be drilled. The CTDOT District Survey Office will verify the location of the boundary markers and will drill the exact location of the highway lines on the boundary monuments or markers within 60 days of notification from the Engineer.

If any boundary marker disks are found to be outside of the boundary point locations and are unable to be drilled, the boundary monuments or boundary markers shall be removed and replaced in accordance with the Contract specifications and details. Once the boundary monuments or markers have been drilled and found to meet the Contract standards, the Engineer will notify the Contractor of this acceptance.

**Method of Measurement:** This work will be measured for payment by the number of monuments, of the type specified (CHD, DISK, RECHD) complete, and accepted in place.

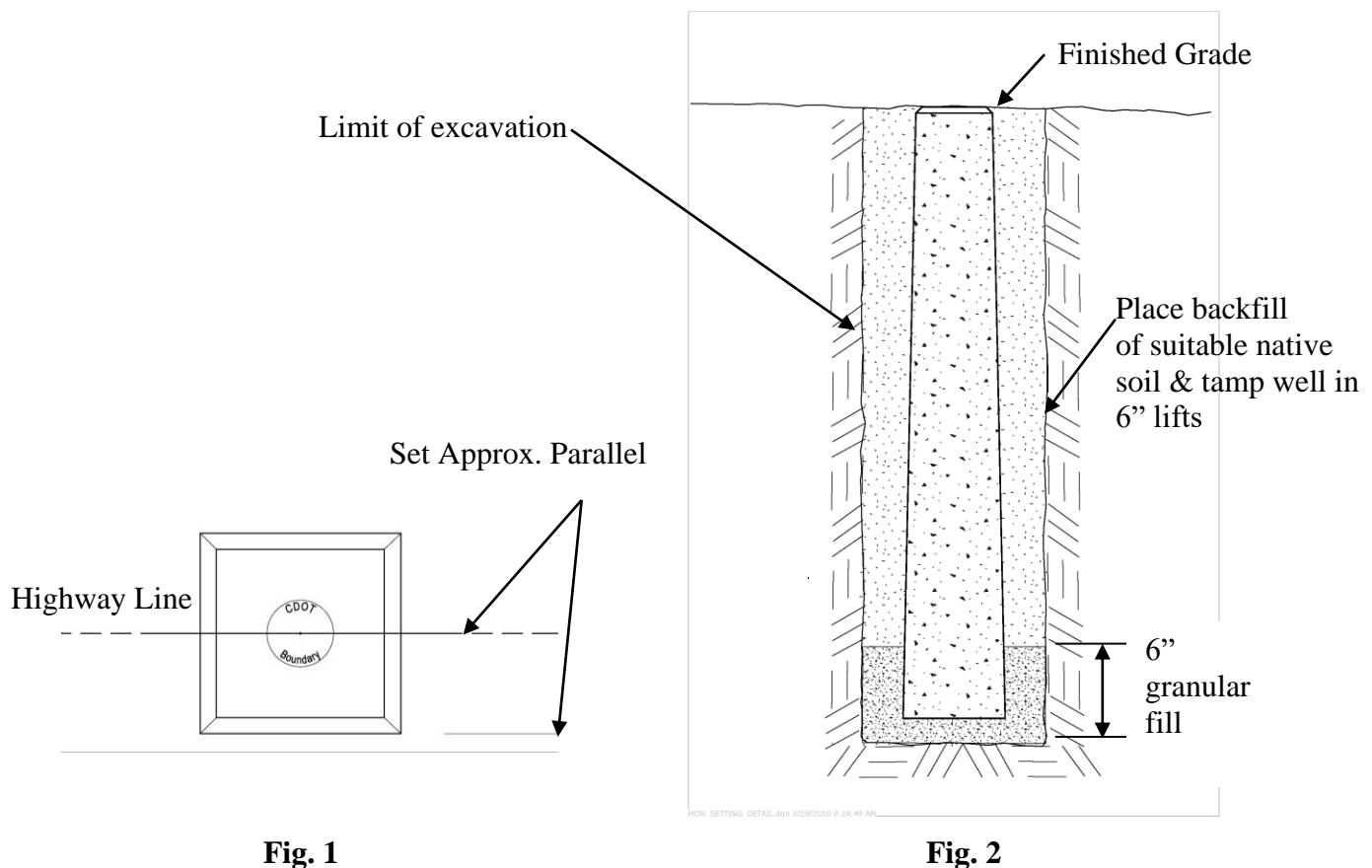
**Basis of Payment:** This work will be paid at the Contract unit price for each "Remove and Reset Survey Monument" including removal of the existing monument and setting of the new survey boundary marker complete and accepted in place, which price shall include all computations, equipment, tools, non-Department supplied materials, removal of surplus material, and labor incidental to the removal, location, staking and setting of boundary markers, and shall include any removal and replacement of non-conforming markers.

Pay Item:  
REMOVE AND RESET SURVEY MONUMENT

Pay Unit  
EA

# CONNECTICUT DEPARTMENT OF TRANSPORTATION

## Boundary/Control Monument Setting Procedures



**Fig. 1**

**Fig. 2**

### **Procedure “A”** Setting CT DOT concrete boundary monuments (CHD) to a specific point:

The Project Surveyor shall compute and stake the layout of each new monument to be set. The stake shall be a 2” x 2” x 18” (or larger) hardwood stake and tack. The new monument shall be tied in to three points, the hole dug and new monument placed as indicated above. The new monument is to be set plumb in the same horizontal position as the existing staked point to within three, one-hundredths (0.03’) of a foot. It shall be positioned by the contractor, to an exact point, within the specified tolerance. Any monuments not falling within the specified limits shall be reset at the contractor’s expense.

### **Procedure “B”**

Setting CT DOT disk (DISK) in ledge:

When a new CHD point falls on ledge which is exposed or within < 2’ of the ground surface, a DISK may be set. A ¾” diameter hole shall be drilled to a depth of 3” and the surface of the ledge leveled so that the DISK sits flush when complete. DISKS shall be affixed using “Rockite”

hydraulic anchor cement, USP-Anchor-Set, Quikrete Anchoring Cement as approved by the Engineer and in accordance with the manufacturer's recommended procedures.

**Procedure "C"**

Setting CTDOT capped reinforcing bars (RECHD):

This procedure shall follow the standards of Procedure "A" except a  $\frac{3}{4}$ " x 3' section of rebar is substituted for the traditional concrete monument. The rebar shall be driven with a Rebar Driver to within three one-hundredths (0.03') of a foot of the staked point, then topped with a two (2") inch diameter CT DOT aluminum cap, which receives the final precise drill hole. The capped RECHD shall be set flush to the ground.

## **ITEM #0910027A – THRIE BEAM TRANSITION**

**Description:** Work under this item shall conform to Section 9.10 and the following. This item shall consist of installing a Thrie Beam Transition Element as shown on Standard Drawings HW-910\_26 and HW-910\_27, with posts and hardware as shown on the plans and as directed.

**Materials:** The material shall be in accordance with Section 9.10.02

**Construction Methods:** Construction shall be in accordance with Section 9.10.03

**Method of Measurement:** This work will be measured for payment by the linear foot of Thrie Beam Transition installed completed and accepted.

**Basis of Payment:** This work will be paid for at the contract unit price per linear foot of “Thrie Beam Transition”, which price shall include all materials, driving posts, and all equipment, tools and labor incidental thereto.

<u>Pay Item</u>
Thrie Beam Transition

<u>Pay Unit</u>
LF

## **ITEM #0910028A –THRIE BEAM BRIDGE RAIL**

**Description:** Work under this item shall consist of fabricating, galvanizing, transporting, furnishing and erecting structure mounted thrie beam bridge railing comprising of posts, base plates, anchor plates, anchors, bolts, thrie beam, thrie beam terminal connector, and all hardware in accordance with the plans and specifications. Metal bridge railing shall be galvanized after fabrication.

**Materials:** Thrie beam rail and posts and extension rail pipe shall be in accordance with Section M10. The thrie beam shall be 10 gauge. The molded pad shall be a neoprene pad conforming to AASHTO M 251.

Welding and fabrication of steel shall conform to the AASHTO Standard Specifications for Highway Bridges and the ANSI/AASHTO/AWS D1.5 Bridge Welding Code. If the members are tubular sections, the fabrication and welding shall conform to the ANSI/AWS D1.1 Structural Welding Code-Steel.

The posts, base plates, thrie beam and hardware shall be galvanized after fabrication in accordance with AASHTO M 111.

Galvanized areas that have been damaged shall receive two coats of 98% zinc rich paint that conforms to the requirements of Federal Specification MIL-P-24441/20. The paint shall be applied by brush. Spray painting is not allowed.

Grout for drilled anchors shall be selected from the Connecticut Department of Transportation Approved Product List. The grout shall be a non-shrink grout conforming to Sub article M.03.01-12 or a chemical anchoring material conforming to Sub article M.03.01-15. A Materials Certificate and Certificate of Compliance shall be required for the adhesive bonding material in accordance with Part 3 Section 1.06.07, certifying the conformance of this material to the requirements stated herein.

**Construction Methods:** Before fabrication and erection, the Contractor shall submit shop drawings to the Engineer for approval in accordance with Article 1.05.02. Submit a layout plan showing post spacing, post to baseplate connection, thrie beam to post connections, anchorage details, expansion joint locations, material designations and the name and telephone number of a person to contact who can answer question about the shop drawings.

**Anchorage:** The threaded rods shall be securely bolted to anchor plates to create anchor assemblies. The anchorage assemblies shall be installed perpendicular to the grade of the baseline

Base plates shall be set on 1/8 inch thick neoprene bearing pads. If additional shimming of the base plates is required, the shims shall be of the same material as the base plates. The edges of the base plates shall be caulked to make a water tight joint.



Shop fabrication of the steel thrie beam and metal post system shall conform to the requirements of Article 6.03.03-3 and M10.02. The posts shall be located, positioned, and attached to the bridge as shown on the plans or as directed by the Engineer.

Lengths of thrie beam shall be sufficient to be attached to at least two rail posts.

Thrie beam splice expansion joints shall be provided between any two posts which span a bridge transverse expansion joint. Bolts located at the expansion joints shall be provided with lock nuts and shall be tightened only to a point that will allow rail movement.

After installation, all thrie beam and posts shall be free of burrs, sharp edges and irregularities. Material to be stored shall be placed on skids above the ground. It shall be kept clean and properly drained. Fabricated members shall be supported in a manner that will prevent injury due to excessive deflection or torsion. Care shall be exercised to prevent gouges, scratches and other damage. Chains and wire rope slings shall not be used in direct contact with the fabricated members when being lifted or transported. Steel members shall be loaded, transported and unloaded at their destination without damage. Any damaged components shall be repaired or replaced to the satisfaction of the Department without additional compensation.

**Bolting:** Procedures for the installation of high strength bolts shall conform to Section 6.03. During installation, the Contractor shall take necessary precautions to prevent any injury or property damage from any falling materials.

Anchor bolts shall be set by template prior to pouring concrete. Drilled Anchor bolts shall be aligned by template.

**Method of Measurement:** This work will be measured for payment by the actual number of linear feet of thrie beam bridge rail installed and accepted, measured along the rail from the end of the terminal connector to the center of the last structure mounted post.

**Basis of Payment:** This work will be paid for at the contract unit price per linear foot for “Thrie Beam Bridge Rail” complete and accepted in place which price shall include all materials, equipment, tools, labor, and work incidental thereto.

<u>Pay Item</u>	<u>Pay Unit</u>
Thrie Beam Bridge Rail	L.F.

## **ITEM #0913003A – 4’ POLYVINYL CHLORIDE CHAIN LINK FENCE**

**Description:** This item shall be in accordance with Section 9.13 and the following. Work under this item shall consist of furnishing and installing coated chain link fence on bridge rail posts. The fence shall have a pipe rail on the top and bottom of the fence. Diagonal braces shall be used in the end panels as directed.

**Materials:** Material shall be in accordance with Section 9.13.02. and the following:  
Steel plates shall conform to ASTM A36.  
U-Bolts shall conform to ASTM F1554 Grade 36  
All components shall be galvanized in accordance with AASHTO M111

**Construction Methods:** Construction shall be in accordance with Section 9.13.03 and the following.

Posts shall be placed on the pipe extension on the bridge rail base plates. The wire fabric shall be stretched and fastened. After the fabric is fastened, the U-Bolts shall be installed. The height of the fence shall be as shown on the drawings.

**Method of Measurement:** This work will be measured for payment by the actual number of linear feet of polyvinyl chloride chain link fence installed and accepted, measured along the top rail from the outside to outside of the end posts.

**Basis of Payment:** This work will be paid for at the contract unit price per linear foot for “4’ Polyvinyl Chloride Chain Link Fence”, complete in place, which price shall include all materials, equipment, tools, cutting of wire fabric, disposal of surplus material and labor incidental thereto.

<u>Pay Item</u>
4’ Polyvinyl Chloride Chain Link Fence

<u>Pay Unit</u>
LF

**ITEM #0914050A – REMOVE HANDRAIL****Description:**

Work under this item shall consist of removing and disposing of sidewalk railing including all associated hardware as shown on the plans and as directed by the Engineer. The posts on the bridge shall remain. Posts embedded in the substructure shall remain and be removed to the top of concrete and ground flush as shown on the plans. Also included is removal of existing the chain link fence located at the southeasterly corner of the bridge as directed by the Engineer.

**Construction Methods:**

Construction methods shall conform to the requirements of Article 5.03.03 supplemented as follows: The railing and fencing, including all associated hardware, shall be removed to allow for reconstruction of the new pedestrian railing.

The Contractor shall take necessary precautions to prevent debris from dropping to areas below the structure. All debris shall be promptly cleaned up and removed from the site by the Contractor.

The removal shall not result in damage to any permanent construction (new or existing) or adjoining property. If any damage does occur, it shall be repaired by the Contractor to the satisfaction of the Engineer at no additional expense to the State.

**Method of Measurement:**

This work will be measured for payment by the actual number of linear feet of metal railing removed and accepted.

**Basis of Payment:**

This work will be paid for at the contract unit price per linear foot for "Remove Handrail", which price shall include all materials, equipment, tools, and labor incidental thereto.

Pay Item

Remove Handrail

Pay Unit

L.F.

## **ITEM #0921007A – SPECIAL CONCRETE SIDEWALK**

**Description:** Work under this item shall conform to Section 9.21, Section 6.01 and the following. This item consists of removing the existing sidewalk, brick & mortar wall, and dry stacked stone masonry wall; constructing a sidewalk with a return wall at the southwest bridge wingwall as shown on the plans and as directed by the Engineer. This item also includes drilling and grouting dowels into the existing southwest concrete wingwall and deformed steel bars as shown on the plans.

**Materials:** The material shall be in accordance with Section 9.21.02 and Section 6.01.02.

**Construction Methods:** Construction shall be in accordance with Section 9.21.03 and Section 6.01.03.

**Method of Measurement:** This work will be measured for payment by the actual number of square feet of completed and accepted Special Concrete Sidewalk (measured horizontally). There will not be a separate measurement for payment for quantity of monolithic concrete wall.

**Basis of Payment:** This work will be paid for at the Contract unit price per square foot for Special Concrete Sidewalk complete and accepted in place, which price shall include all excavation, backfill, disposal of surplus material, granular fill, cutting concrete sidewalk, formwork, reinforcement, installed dowel bars, curing, curing compound, stripping, finishing and all equipment, tools and labor incidental thereto.

<u>Pay Item</u>
Special Concrete Sidewalk

<u>Pay Unit</u>
SF