



**STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION**



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

Phone: 860-594-3129

March 24, 2014

Subject: Project No. 301-092

F.T.A. Nos. CT-05-0107 & CT 90-X510

Rehabilitation of Metro-North Railroad Bridge No.03948R over Sound Beach Ave. and
Bridge No. 03955R over Tomac Ave..

NOTICE TO CONTRACTORS:

This is to notify all concerned and especially the prospective bidders that the bid opening for the subject project is still scheduled for April 9, 2014 at 2:00 P.M. in the Conference Room of the Department of Transportation Administration Building, 2800 Berlin Turnpike, Newington, Connecticut.

Addendum No. 2 is attached and can also be obtained on the Statewide Contracting Portal at http://www.biznet.ct.gov/scp_search/BidResults.aspx?groupid=64

This Addendum is required to add a new special provision, revise special provisions, reformatted special provision add a new contract item, revise contract items and revise plan sheets.

Bid Proposal Forms (0301-0092.EBS file and amendment file 0301-0092.00# if applicable) are available for those bidders that have received approval from the Department to bid on the subject project.

To retrieve the official Bid Proposal Forms, please download the electronic bid proposal file and amendment files, if applicable at <https://www.bidx.com>.

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

H. J. Emond

For: Gregory D. Straka
Contracts Manager
Division of Contracts Administration

MARCH 21, 2014

**REHABILITATION OF METRO-NORTH RAILROAD BRIDGE NO. 03948R OVER
SOUND BEACH AVENUE AND BRIDGE NO. 03955R OVER TOMAC AVENUE
FEDERAL AID PROJECT NO'S. CT-05-0107 AND CT-90-X510
STATE PROJECT NO. 301-092**

**TOWN OF GREENWICH
ADDENDUM NO. 2**

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. 4, 5, 9, 10, 11, 12, 25, 26, 35, 41, 44, 49 and 68

SPECIAL PROVISIONS

NEW SPECIAL PROVISION

The following Special Provision is hereby added to the Contract:

- ITEM NO. 0603882A – TEMPORARY SUPPORT SYSTEM (SITE NO. 2)

REFORMATTED SPECIAL PROVISION

The following Special Provision is hereby deleted in its entirety and replaced with the attached like-named Special Provision that has been reformatted (no content change):

- NOTICE TO CONTRACTOR – ENVIRONMENTAL INVESTIGATIONS

REVISED SPECIAL PROVISIONS

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

- SECTION 1.05 – CONTROL OF THE WORK
- ITEM NO. 0101133A – DISPOSAL OF CONTAMINATED RAIROAD TIES
- ITEM NO. 0202315A – DISPOSAL OF CONTROLLED MATERIAL
- ITEM NO. 0202629A – SETTLEMENT MONITORING PROGRAM
- ITEM NO. 0503151A – REMOVAL OF SUPERSTRUCTURE (SITE NO. 1)
- ITEM NO. 0503152A – REMOVAL OF SUPERSTRUCTURE (SITE NO. 2)
- ITEM NO. 0601108A – CONCRETE STAIRS

CONTRACT ITEMS

NEW CONTRACT ITEM

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>
<u>0603882A</u>	<u>TEMPORARY SUPPPORT SYSTEM</u> <u>(SITE NO. 2)</u>	<u>LS</u>	<u>1</u>

REVISED CONTRACT ITEMS

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>ORIGINAL QUANTITY</u>	<u>REVISED QUANTITY</u>
<u>0601000A</u>	<u>CLASS "A" CONCRETE</u>	<u>195 CY</u>	<u>203 CY</u>
<u>0602006</u>	<u>DEFORMED STEEL BAR – EPOXY</u> <u>COATED</u>	<u>52,400 LB</u>	<u>53,300 LB</u>

PLANS

REVISED PLANS

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

- 02.01.A2
- 05.43.A2
- 06.07.A2
- 07.07.A2
- 07.08.A2
- 10.02.A2
- 10.04.A2

The Detailed Estimate Sheets do not reflect these changes.

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

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

The foregoing is hereby made a part of the contract.

NOTICE TO CONTRACTOR – ENVIRONMENTAL INVESTIGATIONS

An environmental site investigation has been conducted that involved the sampling and laboratory analysis of soil collected from various locations and depths within the Project limits. Based on the findings of the environmental investigation, four (4) soil Areas of Environmental Concern (AOECs) exist within the Project limits. The Contractor is hereby notified that Controlled Material (soil) within the AOECs will require special management and/or disposal procedures.

The DEEP groundwater classification for the project corridor is “GA”. Groundwater was not encountered during the environmental investigation.

Results of the environmental investigation indicated the presence of polynuclear aromatic hydrocarbons (PAHs), total arsenic, and leachable lead at concentrations exceeding the applicable State of Connecticut Department of Energy & Environmental Protection (DEEP) Remediation Standard Regulations (RSRs) numeric criteria in soil within the Project limits. Soil within AOECs 1 and 3 contains concentrations of PAHs and lead exceeding the criteria, soil within AOEC 2 contains concentrations of lead exceeding the criteria, and soil within AOEC 4 contains concentrations of PAHs, arsenic, and lead exceeding the criteria.

All suitable Controlled Material excavated from a soil AOEC may be reused only in the AOEC from which it was excavated or another AOEC with similar contaminants, as determined by the Engineer. Controlled Material that is to be reused within an AOEC must be reused in accordance with certain restrictions, as described below.

In addition, the remaining project area is deemed to be a “Low Level” Area of Environmental Concern (LLAOEC), where regulated compounds were detected at concentrations below the RSR numeric criteria. The presence of regulated compounds in soil within the LLAOEC will not require material handling measures beyond those required for normal construction operations. Soil excavated within the LLAOEC may be reused at any location within the proposed Project limits with certain restrictions, as described below.

Soil within the AOECs and the LLAOEC is to be reused on-site prior to the use of other soil and/or fill such that the quantity of soil requiring off-site disposal that is generated from the AOECs and the LLAOEC is minimized.

To the extent possible, suitable Controlled Material excavated within the soil **AOECs** shall be utilized as fill/backfill within its originating AOEC or another AOEC with similar contaminants, as determined by the Engineer. To the extent possible, suitable material excavated within the **LLAOEC** shall be utilized as fill/backfill at any location within the Project limits.

Controlled Material reused within an AOEC, or LLAOEC soil reused within the Project limits, shall be reused in accordance with the following conditions: (1) such soil is deemed to be

structurally suitable for use as fill by the Engineer, (2) such soil is not placed below the water table, and 3) such soil is not placed in an area subject to erosion.

Excess or unsuitable Controlled Materials requiring off-site disposal shall be loaded directly into vehicles for immediate transport to the Contractor-selected disposal facility. Controlled Materials shall not be stockpiled within the Project limits, unless otherwise directed by the Engineer.

It is anticipated that the Contractor shall be able to excavate, load, and transport all Controlled Materials requiring off-site disposal directly from the Project site AOEC(s) and LLAOEC. No delay claim will be considered based upon the Contractor's failure to select facility(s) with enough capacity handle the anticipated volume of Controlled Materials being generated by its activities.

Contractor Take Note: Waste characterization of the Controlled Material will be completed by the Engineer prior to the start of any work. The Engineer will provide the Contractor with the waste characterization analytical data. The Contractor shall utilize the waste characterization analytical data to obtain acceptance of the Controlled Material for disposal at the facility selected by the Contractor from the list of approved facilities provided in Item No. 0202315A – Disposal of Controlled Materials before beginning excavation.

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

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

- Item No. 0101000A – Environmental Health and Safety
- Item No. 0202315A – Disposal of Controlled Materials
- Item No. 0101133A – Disposal of Contaminated Railroad Ties

The Contractor is alerted to the fact that a Department environmental consultant will be on site for excavation activities within the AOECs and the LLAOEC to collect soil samples (if necessary) and to observe site conditions for the State.

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

- Task 210 Subsurface Site Investigation Report, Proposed Reconstruction of Metro North Bridges Over Tomac and Sound Beach Avenues, Greenwich, Connecticut. Tetra Tech Rizzo, Inc., February 2009.

SECTION 1.05 -CONTROL OF THE WORK

Article 1.05.06—Cooperation with Utilities (Including Railroads) – is supplemented as follows:

Add the following after the last paragraph:

“Special Requirements Regarding Work in Metro-North territory:”

Description:

This section covers authority, definitions, regulatory requirements, traffic regulation and coordination of the Contractor’s work schedule with the operation of train service, construction equipment and safety requirements for working within railroad right-of-way, and provisions for storage of materials and equipment and worker safety rules. Subsequent to the Engineer’s Pre-construction meeting and prior to commencement to contract activities, a working on the railroad meeting will be held by the Engineer to emphasis these Specifications.

Permission to Enter Upon Railroad Property

Permission is hereby granted to the Contractor to enter property of the State, under the custody and control of the Department and managed by Metro-North Commuter Railroad Company (hereinafter called "Railroad"), a public benefit corporation and subsidiary of Metropolitan Transportation Authority (hereinafter called "MTA"). The purpose of this permission shall be solely for those outlined in this contract and under the following terms and conditions:

- I. Location and Access. Permission is hereby granted to the Contractor and its subcontractor(s), if any, to enter the property within the Project Limits identified on the Contract Plans (hereinafter called the "Property").
- II. Liability. The Contractor covenants and agrees to at all times indemnify, protect and save harmless the “Additional Insureds”, as defined under Article V, from and against any and all losses, damages, detriments, suits, claims, demands, costs, and charges which the “Additional Insureds” may directly or indirectly suffer, sustain, or be subjected to by or on account of the Contractor’s entry upon, occupancy or use of the Property, or the conduct thereon of the Contractor, its subcontractors, officers, employees, agents or invitees, whether such loss or damage be suffered or sustained by the “Additional Insureds” directly or persons (including employees of “Additional Insureds” or Corporations who may seek to hold the “Additional Insureds” liable therefore), and whether attributable to the fault, failure or negligence of the “Additional Insureds” or otherwise.
- III. Consideration. The Contractor will pay to the Railroad, the sum of Zero Dollars (\$0.00) for the right to enter upon the Property.

IV. Terms of Permit. The Railroad reserves the right to revoke this permission at any time. Unless subsequently modified, this shall begin with Notice to Proceed and shall end at Contract Completion Date at which time it shall expire automatically. Under no circumstances shall this temporary permission be construed as granting the Contractor any rights, title or interest of any kind or character in, on, or about the land or premises of MTA or Railroad thereafter. The Permittee agrees to notify the Railroad when use of the Property or work is completed.

V. Definitions of Terms and Permissible Abbreviations:

Authority of the Railroad Engineer - This supplements Form 816, Section 1.05.01 in that all contract work upon or affecting railroad property, right-of-way or facilities, shall also be subject to the approval of the Senior Director, Capital Programs of the Railroad or his duly authorized representative, through coordination with the Engineer.

Additional Insureds - Those individuals or entities appearing under Article 1.03.07, Paragraph entitled "Additional Insured".

Conductor/Flagman - A Railroad employee qualified on the Rules of the Operating Department and qualified on the physical characteristics of the portion of the railroad involved. He/she is the contact employee qualified to obtain the use of track. Each conductor/flagman will have the proper flagging equipment, up-to-date Railroad Operating Rules, Timetables and Safety Rules.

Coordination of Work - This supplements Form 816, Section 1.05.06 in that the Contractor shall be responsible for the coordination of the work of his sub-contractors with respect to the railroad property, right-of-way or facilities.

Groundman - Class "A" employee of the Railroad's Power Department authorized to de-energize/re-energize and ground high tension power lines.

Horizontal Clearance Point - A point 10 feet from the centerline of a track.

Obstruction - An entering of the traffic envelope, also referred to as fouling.

Occupancy - Any use of track other than direct crossing.

On or Adjacent to - shall be interpreted to include space on, above and below the railroad right-of-way operated by the Railroad, as well as space on, above, and below adjacent property which the Railroad determines to affect the safe operations of service.

Qualified Railroad Employee - For the purpose of these specifications, a Qualified Railroad Employee is a Railroad employee qualified to remove track or tracks from service.

Railroad - Whenever the term "Railroad" is used without further qualification, it shall be taken to mean Metro-North Commuter Railroad Company.

Right-of-Way - The limits of railroad property on either side of tracks.

The Safety Rules - All work shall be performed in accordance with rules, regulations, procedures, and safe practices of the Railroad, FRA, OSHA, NESC and all other government agencies having jurisdiction over this project.

Track - The space between the rails plus not less than 4 feet outside each rail.

Traffic Envelope - The area encompassed by the vertical and the horizontal clearance points.

Vertical Clearance Point - A point 22 feet and 6 inches above the top of a running rail unless otherwise authorized by the Railroad.

Use of Track - Obtaining permission from the proper authority of the Railroad for track occupancy.

1 – Requirements for Performing Work on or Adjacent to the Railroad Right-of-Way

(a) General

- (1) The Contractor should note that the proposed work involves construction operations on or adjacent to property owned by State and operated by the Railroad. In working near an operating railroad, great care must be exercised and the Railroad's safety rules must be strictly observed.
- (2) If while completing the work covered by this contract, the tracks or other facilities of the Railroad are endangered, the Contractor shall immediately do such work as directed by the Railroad through the Engineer to restore safety. Upon failure of the Contractor to carry out such orders immediately, the Railroad may take whatever steps as are necessary to restore safe conditions. The cost and expense to the Railroad of restoring safe conditions, or of any damage to the Railroad's trains, tracks or other facilities caused by the Contractor's or subcontractor's operations, shall be considered a charge against the Contractor and shall be paid for by him, or may be deducted from any monies due or that may become due him under this contract.

(b) Rules and Regulations

- (1) Railroad traffic shall be maintained at all times, and the Contractor shall conduct all of his operations on or adjacent to the Railroad right-of-way fully within the rules, regulations, and requirements of the Railroad. The Contractor shall be responsible for acquainting himself with such requirements as the Railroad may demand. The

Contractor shall include in his bid any expenses occasioned by delay or interruption of his work by reason of the operation or maintenance of the Railroad facilities.

- (2) The Contractor shall obtain verification of the time and schedule of track occupancy from the Railroad before proceeding with any construction or demolition work on or adjacent to the Railroad right-of-way.
- (3) All work to be done on or adjacent to the Railroad right-of-way shall be performed by the Contractor in a manner satisfactory to the Railroad and shall be performed at such times and in such manner as not to interfere with the movement of trains or traffic upon the tracks of the Railroad. The Contractor shall use all necessary care to avoid accidents, damage, delay or interference with the Railroad's trains or property.
- (4) If deemed necessary by the Railroad, it may furnish or assign an inspector who will be placed on the work during the time the Contractor or any subcontractor is performing work under the contract on Railroad property.
- (5) Before proceeding with any construction or demolition work on or adjacent to the Railroad Right-of-Way, a pre-construction meeting shall be held at which time the Contractor shall submit for approval of the Railroad, plans, computations, and a detailed description of his method and procedure for accomplishing the specific construction work required under this contract, including methods of protecting Railroad traffic. Such approval shall not serve, in any way, to relieve the Contractor of his responsibility for the adequacy and safety of his methods and procedures for conducting the work.
- (6) The Contractor shall conduct his work and handle his equipment and materials in such manner that neither fouls a live track or wire line without the written permission of the Railroad.
- (7) Equipment shall be considered to be potentially fouling the track when located in such a position that its failure, with or without load, brings the equipment within the traffic envelope. No equipment shall be placed in this position without prior approval of the Railroad.
- (8) **Equipment of the Contractor to be used:**
 - (A) Equipment of the Contractor to be used adjacent to the tracks shall be in first-class condition so as to fully prevent failures of defective equipment that might cause delay in the operations of trains or damage to Railroad facilities. His equipment shall not be placed or put into operation adjacent to tracks without first obtaining permission from the Railroad. Under no circumstances shall any equipment or materials be placed or stored within 25 feet from the near rail of a track in operation, unless approved, in advance, by the Railroad.

- (B) High rail equipment of the Contractor to be used on the tracks shall be subject to prior approval of the Railroad. The equipment must be inspected and approved in advance at the Railroad's facility by Railroad inspectors. The equipment inspection must be renewed every three months.
- (C) On track vehicles shall be equipped with a Railroad approved tow bar and coupler. Multiple vehicles shall move in tandem and coupled when directed by the Railroad. Movement of on track vehicles shall proceed only under the direct supervision of a Qualified Railroad Employee.
- (9) Materials and equipment belonging to the Contractor shall not be stored on Railroad property without first having obtained permission from the Engineer and Railroad. Such permission will be on the condition that the Engineer and Railroad will not be liable for damage to such materials and equipment from any cause. The Contractor shall keep the tracks adjacent to the site clear of all refuse and debris that may accumulate from his operations and shall leave the Railroad property in the condition existing before the start of his operations.
- (10) The Contractor shall coordinate with the Engineer and the Railroad in order to determine the type of protection required to insure safety and continuity of Railroad traffic incidental to the particular methods of operation and equipment to be used on the work.
- (11) The Railroad will require protection during all periods when the Contractor is working on, or over, the right-of-way of the Railroad, or as may be found necessary in the opinion of the Railroad. When protection is required, refer to Paragraph 1(g).
- (12) It shall be expressly understood that this contract includes no work for which the Railroad is to be billed by the Contractor, and it shall be further understood that the Contractor is not to bill the Railroad for any work which he may perform, unless the Railroad gives a written request that such work be performed at its expense.
- (13) Upon completion of the work, and before final payment is made, the Contractor shall remove from within the limits of the Railroad's right-of-way, all machinery, equipment, surplus materials, falsework, rubbish and temporary buildings, and other property of the Contractor/sub-contractor, and shall leave the right-of-way in a condition satisfactory to the Railroad.
- (c) **Railroad Protective Services** - will be provided in accordance with the Roadway Worker's Protective Act, Title 49, Part 214, Sub-part C. Railroad protective services will also be performed to insure safe operations of trains when construction work would, in the Railroad's opinion, be a hazard to Railroad operations.
- (d) **Definition of Hazard** – the Railroad has furnished the statements quoted below, explaining when they consider a hazard to operations exists:

“Protective services will be required whenever the Contractor is performing work on or adjacent to the Railroad tracks or right-of-way, such as excavating, sheeting, shoring, erection and removal of forms, handling materials, using equipment which by swinging or by failure could foul the track, and when any other type of work being performed, in the opinion of the Railroad, requires such service.”

(e) **Contractor Requirements for Work Affecting the Railroad**

- (1) All matters requiring Railroad Company approval or coordination shall be directed to the Engineer or a duly authorized representative thereof, for forwarding to the Railroad Engineer.
- (2) Detailed plans and appurtenant data and calculations for any operation which, in the opinion of the Railroad, affect the Railroad, must be submitted to the Engineer or a duly authorized representative thereof, for forwarding to the Railroad Engineer for approval prior to commencement of the work. All plans and calculations submitted must be stamped by a Connecticut registered Professional Engineer.
- (3) Permissible Track Outages - are identified in the SECTION 1.08 – PROSECUTION AND PROGRESS – Article 1.08.04 – “Limitation of Operations” - Contractor Requirements for Work Affecting the Railroad contained within the General Provisions of the Contract. The times identified are the times that the track may be removed from service. **If power outages are required, the de-energizing/re-energizing and grounding of the wires will subtract approximately forty-five minutes from the start and forty-five minutes at the end of the indicated outage period for a total of up to ninety minutes.**
- (4) The Contractor shall maintain a minimum of 1 foot level shoulder from ends of ties to maintain lateral track support for all excavations and shall not excavate any slope steeper than 1 (vertical) on 2 (horizontal) from the edge of the shoulder. Sheeting shall be required on all excavations where the side of the excavation is intercepted by the Railroad live load influence line. The live load influence line is defined as a line originating at the bottom edge of tie and extending downward at a slope of 1 (vertical) on 1½ (horizontal). Such excavations must be designed to withstand, in addition to all common loads such as soil pressure and hydrostatic pressure, a railroad live load of Cooper E-80.
- (5) The Contractor shall be required to design and install protective scaffolding over the right-of-way where, at the sole discretion of the Railroad, such scaffolding is necessary to protect the Railroad from possible falling debris; paint or other materials; to protect personnel working about the right-of-way or to provide a platform for personnel, materials and/or equipment. Said scaffolding shall be designed for live load of 200 pounds per square foot applied uniformly over the

entire structure and a 2 kips concentrated load placed anywhere on the structure. The two loads are not to be applied simultaneously for design purposes.

- (6) All excavation area shall be located by the Contractor and inspected by the Railroad for the purpose of determining conflicts with underground facilities. Exploratory trenches, a minimum of 3 feet deep and 15 inches wide in the form of an “H” with outside dimensions matching and outside of sheeting dimensions are to be hand dug, as directed by the railroad. In some locations, excavations may exceed 3 feet in depth. Specialty excavations such as screw anchors, cat pole foundations, etc will require additional trenching to ensure all possible conflicts are located. These trenches are for exploratory purposes only and are to be backfilled and compacted immediately. All work outlined above must be done in the presence of a Railroad inspector.
- (7) Cavities adjacent to sheet piling, created by driving of sheet piling, shall be filled with sand and any distributed ballast must be restored and tampered immediately.
- (8) Sheet piling shall be cut off at top of tie during construction and at 3 feet below bottom of tie after construction just prior to completion of back filling.
- (9) Plans and calculations for sheeting and scaffolding must be submitted to the Engineer for forwarding to the Railroad for approval prior to construction. Further, plans and calculations must be stamped by a Connecticut registered Professional Engineer.

(f) Requirements for Erection, Demolition and Other Rigging Operations On or Adjacent to Railroad Right-of-Way

The Contractor will be required to furnish the following information to the Engineer or a duly authorized representative thereof, for forwarding to the Railroad Engineer for approval prior to the start of any rigging operation over or adjacent to the Railroad right-of-way:

- (1) Plan view showing locations of cranes, boom length and rigging operating radii, with delivery or disposal locations shown.
- (2) Crane rating sheets showing crane(s) to be adequate for 150% of the lift. Crane and boom nomenclature is to be indicated.
- (3) Plans and computations showing weight of pick.
- (4) Location plan showing obstructions, indicating that the proposed swing is possible.
- (5) Plans showing locations and details of mats, planking or special decking as may be required by the Railroad.

- (6) Written statement from crane owner giving the date of last crane condition and safety inspection and the results of said inspection.
- (7) Data sheet listing number, type, size and arrangement of slings, spreader bars or other connecting equipment. Include copies of catalog or information sheets of specialized equipment. All such equipment shall be shown adequate to safely carry 150% of the calculated loading.
- (8) A complete procedure is to be included, indicating the order of lifts and repositioning or re hitching of the crane or cranes.
- (9) Temporary support of any components or intermediate stages is to be shown.
- (10) A time schedule of the various stages must be shown, as well as a schedule for the entire lifting procedure.
- (11) All erection, demolition and rigging plans and calculations submitted to the Railroad must be stamped by a Connecticut licensed Professional Engineer.
- (12) Operations directly on or adjacent to the operating right-of-way will be performed only at times and under conditions specified by the Railroad's representative.

(g) Ordering Protective Personnel

The Railroad will furnish Protective Service Personnel (conductors, flagmen, groundmen, inspectors, maintenance and/or other railroad personnel deemed necessary) to protect the operation of train traffic during the Contractor's construction activities. Railroad Protective Services will also be provided in conformance with the Roadway Worker's Protective Act as stated in Paragraph 1(c). There will be no charge to the Contractor for Railroad Protective Services provided. The providing or failing to provide Protective Services shall not relieve the Contractor from liability or payment for any damage caused by his or his subcontractor's operations conducted in their absence.

- (1) The Contractor must obey all instructions from Railroad representatives on the job site promptly. Failure to follow instructions shall be deemed sufficient cause for closing the job site to the Contractor and its employees.
- (2) The Railroad will, at its sole discretion, determine the need for and the availability of protective personnel. The Railroad will provide protective personnel to the extent possible considering its operational and maintenance priorities. The Railroad does not guarantee that protective personnel will be available to meet the Contractor's preferred schedule. Further, no work will commence until the assigned Railroad representative affirmatively advises the Contractor that the necessary protective personnel are stationed and that he may proceed.

- (3) The assessment of the need for protective services will be based upon a weekly Railroad Construction Coordination Meeting. At these meetings, the Contractor shall provide a Bi-weekly Schedule that will begin on the following Saturday. Based on that schedule, the Railroad will determine the Protective Services required for the two-week period. Protective Services will be reserved for the following week beginning on the Saturday and ordered for the second week of the schedule. It will be the Contractor's responsibility to perform work in accordance with the submitted schedule. Variations from the submitted schedule may result in additional and unnecessary costs to the Engineer, Railroad and Contractor.
- (A) The Contractor shall base his operations on a 5 consecutive day work week. The hours of operation during this time shall remain constant. Multiple shifts may be worked.
- (B) The Contractor must demonstrate maximum use of Protective Service Personnel ordered. Failure to do so may result in the inability to consistently obtain services.
- (C) The Contractor shall be responsible for forwarding all Protective Service requests from his subcontractors and suppliers in his Bi-weekly schedule submittal.
- (4) Requests to cancel construction activities, and subsequently the scheduled Protective Service Personnel, will be also submitted at the weekly Railroad Construction Coordination Meeting. At these meetings, the previously scheduled Protective Services for the week beginning on the following Saturday may be cancelled. This will be the only time for cancellation. Once cancelled, no re-ordering of Protective Services for the following week will be allowed.
- (5) Weather conditions will be considered the only basis upon which the Railroad will accept the Contractor's cancellation of scheduled work and will only be recognized on items of work which have been clearly identified and determined to be weather dependent in the Contractor's schedule. Activities not presented on the Bi-weekly schedule at the weekly Railroad Construction Coordination Meeting will not be able to commence until it has been inserted into the schedule and presented at the next meeting.
- (6) Work that requires the support of Railroad personnel shall not be scheduled on the following days, unless the work is of an emergency nature:

Holiday's Observed:	*Independence Day	*Christmas Day
*New Year's Day	*Labor Day	*NewYear's Eve
*President's Day	*Thanksgiving Day	
*Good Friday	*Day Following Thanksgiving Day	

- *Memorial Day *Christmas Eve
- * The Saturday and Sunday preceding a Monday holiday.
- * The Saturday and Sunday following a Friday holiday.
- * The Friday and Monday preceding and following a weekend holiday.

(h) Requirements for Requesting Track Outages

Track outages as described in the plans and specifications must be requested at the weekly Railroad Construction Coordination Meeting.

- (1) All procedures, material and equipment must be approved and on site prior to the Railroad accepting the track outage request(s). This applies to all track outage requests.
- (2) Track outages will be granted based on need for constructability not for convenience.
- (3) The Contractor must demonstrate the maximum use of track outages by coordinating his activities and work so that various elements and multiple activities are performed during approved outages. Failure to consistently utilize track outages may cause the inability to gain approval of future requests for outages.
- (4) No new track outages may be initiated the weekend preceding or following these holidays:

Thanksgiving, Christmas and New Year's.

However, long-term continuous outages may extend through these periods.

(i) Catenary and Transmission Systems/Power Outages

- (1) Catenary and Transmission Systems - The Contractor shall assume that all the wires on the Railroad Company are energized at all times and must be governed by the restrictions imposed by the Railroad with respect to such electrical circuits. Should it become necessary, in the opinion of the Railroad Engineer to de-energize any wire or wires to insure safety of operation, such wires will be de-energized by the Railroad only during such period that will not interfere with the Railroad's operation. When the de-energizing and re-energizing of wires is deemed necessary, a representative of the Power Department of the Railroad must be on duty and present to arrange for the same. He will notify the Contractor in writing when the wires have been de-energized and also when said wires are to be re-energized.

- (A) The Contractor is advised that the overhead electrification will remain in place for the duration of the entire project, except where called for on the drawings and in the specifications.
- (B) Track rails of the Railroad are energized. Particular care must be taken to see that no contact is made between adjoining rails with any material, which is a good conductor of electricity when dry, or material of any nature when wet. Particular care is necessary when any work involving the use of chains, steel rods, cables, pipes, etc., is done. Since the Contractor shall assume the wires and rails of the Railroad will be energized at all times, the Contractor shall require all of his employees, sub-contractors, and others to sign a form similar to the form shown in the Contractor Requirements for Work Affecting the Railroad contained within the General Provisions of the Contract.

(2) Power Outages

- (A) **Catenary Power Outages** - A catenary power outage must be scheduled concurrently with a track outage for the track and is restricted to the same periods as specified in the plans and specifications.
- (B) **Railroad Power and Signal Distribution Feeder Outages** - Outages for feeders can be allowed only during off-peak hours. These outages should be requested at the weekly Railroad Construction Coordination Meeting. One set of power and signal feeders, either the north or south side of the railroad, must remain energized at all times.

NOTE: During peak hours (5:00 a.m. to 10:00 a.m. and 3:30 p.m. to 10:00 p.m., Monday through Friday) of railroad traffic, both the north and south sets of power and signal feeders must be energized.

(j) Safety for Contractor's Employees Working on or Adjacent to the Right-of-Way of the Railroad

(1) Personal Protection Equipment

- (A) Approved hard hats, reflectorized vest and clothing must be worn by all Contractor employees while on the Right-of-Way, in yard, shop facilities, and construction and/or work sites. Approved safety eyewear must be worn by all Contractor employees while on Right-of-Way, in yard, shop facilities and construction and/or work sites and in the operating control cab of a moving locomotive or train. Any exclusion must be jointly approved by Railroad's department head and Director of Safety.
- (B) Other protective equipment such as goggles, face shields, safety belts, floatation vests, gloves and respirators shall be issued by the Contractor when required.

Protection devices for hearing conservation may be used when determined necessary and safe to do so.

(2) Possession or Use of Intoxicants and Illegal Substances

The use of intoxicants, alcohol, narcotics, marijuana, amphetamines, hallucinogens or other illegal substances while working within the Railroad Right-of-Way, is prohibited and is sufficient cause for immediate removal from the Railroad property. Contractor employees under medication before or while on duty, must be certain that such use will not affect the safe performance of their duties.

(3) Surveying Equipment

- (A) Measuring tape must be non-metallic to avoid shunting the signal system electric circuits. This will occur when a metallic object is laid across the top of two rails of any track.
- (B) Electrically rated fiberglass elevation rods must be used to avoid injury in the event contact is made with energized catenary or signal/communication lines. Elevations of catenary wires must be obtained by or under direct supervision of a qualified Railroad Groundman.

(4) Conduct On or About Track

- (A) Contractor employees must not enter the track envelope unless it is absolutely necessary in performance of their duty. If it is deemed necessary, than the Contractor employees must walk on tracks or cross tracks only when accompanied by or with permission from a Qualified Railroad Employee of the Railroad. Always use approved walkways when available; otherwise identify and take the shortest safe route after looking in both directions. If more than one track is to be crossed, stop and look before crossing each track.
- (B) The possession of an umbrella on or about tracks is prohibited.
- (C) Do not rest any object on your shoulder while in close proximity to a moving train or high-rail equipment.
- (D) Expect equipment to move on any track, in any direction, at any time. Contractor employees must look in both directions and have permission from a Qualified Railroad Employee before:
 - 1. Fouling track
 - 2. Crossing track
 - 3. Going between or around end of equipment or structure

4. Moving out from between or under equipment of structure
 5. Getting on or off equipment
 6. Performing any other applicable operation
- (E) When required by a conductor/flagman or other Qualified Railroad Employee to vacate tracks, the Contractor employees must comply immediately.

(5) Catenary Electric Systems

- (A) All overhead wires must be considered energized (LIVE) at all times except when it is known they have been de-energized and properly grounded.
- (B) Until the wires are de-energized, properly grounded, and a Groundman has notified that the overhead wires are such, all Contractor employees must not approach within 10 feet of transmission systems wires, catenary system or signal power wires.
- (C) At the beginning of each tour of duty, the Groundman will instruct the Contractor foreman and each Contractor employee, in the crew, of the dangers surrounding them, calling their particular attention to any hazards to be avoided in performance of the work.
- (D) Whether due to inadequate knowledge of the English language or for any other reason, a Contractor employee who, in the opinion of the Groundman, does not understand the instructions given, shall not be permitted to work or observe.
- (E) When clearances have been obtained and the wires, equipment or apparatus properly grounded, the Groundman will indicate to the Contractor foreman and the crew the location of wires, equipment or apparatus from which power has been removed and the location of the grounding devices applied. The Groundman must obtain on standard form, the signature of the Contractor foreman indicating that he and the crew have been so instructed, and will confine their work within the limits as outlined to them by the Groundman.
- (F) When the Groundman leaves his crew for any reason, he must notify the Contractor foreman and each person in the crew to stop all work in the vicinity of the wires, personally assuring himself that all persons have moved to a safe distance away from the work area before his departure. The Groundman will obtain the signature of the Contractor foreman on standard form, that he and the crew have been informed that the Groundman is leaving the gang and they will not resume work until advised to do so on return of the Groundman.
- (G) When the clearances are to be released, the Groundman will inform the Contractor foreman and each person in the crew and will personally observe that all persons have moved to a safe distance from the wires, equipment or

apparatus to be energized, before removing the grounding devices. The Groundman will obtain the signature of the Contractor foreman, on a standard form, stating that he and the gang have been advised that the wires, equipment or apparatus have been energized, and that they will remain at a safe distance from them until informed otherwise by the Groundman.

- (H) The Groundman will inform the Contractor foreman if any Contractor employee on the job is unsafe and will not comply with instructions. If trouble is experienced with the Contractor foreman in maintaining safe working conditions, the Groundman will immediately notify his supervisor.

(6) Aerial Catenary Construction by Qualified Contractor Employees

- (A) Aerial catenary work addressed in this Section shall include all overhead wire work shown in the contract.
- (B) Aerial catenary work by the Contractor shall be done in accordance with the Railroad's safety rules and in accordance with the National Electric Safety Code. Failure to comply with these rules could result in removal of "Qualified" privileges and or removal from the project.
- (C) Due to the specialty nature of the work, limited construction periods available, and high quality of work required, the aerial catenary construction is to be done only by qualified Contractor employees (except as outlined in section (E)). Only Contractor employees that meet the requirements of the International Brotherhood of Electrical Worker's standards for Journeyman Lineman and who have successfully completed a Metro-North power orientation class shall be considered a Qualified Employee. The Power orientation class will be given periodically and will require less than one-half day to complete. Approval for qualification shall be determined by Metro-North and that approval shall not be unreasonably withheld.
- (D) Metro-North approved Journeyman Lineman shall be issued identification as workers qualified to perform aerial catenary work. Qualified Contractor employees shall work according to the Railroad's MN-290 Electrical Operating Instructions. Metro-North approved Journeyman Lineman are authorized and expected to work within 3 feet of 13.5 kV energized overhead catenary. Contractor employees shall not de-energize circuits, place initial grounds, or provide protection for others.
- (E) Apprentice Lineman shall be permitted to assist qualified Journeyman Lineman and work under their direct supervision within the following guidelines:
 - i. The number of apprentice linemen allowed to work on the catenary will be one less than the total number of Metro-North Railroad Power Department

Class "A" employees assigned to each contractor work operation. Additional groundmen will not be assigned to facilitate the use of Apprentices. (ex. 3,5 men crews are working a section of wire removal under the power outage protection of 2 Metro-North Railroad Power Department Class "A" employees, This contractor work operation can utilize one apprentice lineman.)

- ii. No additional track or power outages shall be granted for the protection of apprentice Linemen.
- iii. The Apprentice Linemen shall maintain an extended reach minimum approach distance of 10 feet to all railroad transmission wires, Catenary system, and signal power wires until such wires are de-energized, tested for potential, properly grounded, and proper protection afforded by a qualified Power Department Class "A" employee.
- iv. The Contractor and his Safety Officer shall enforce the minimum approach distances and submit to the engineer a program to monitor and audit compliance of this procedure.

Apprentice Lineman are prohibited from coming closer than 10 feet from all overhead wires or circuits regardless of whether they have been de-energized or not.

(7) Safety Program and Plan

- (A)** Prior to the commencement of work the Contractor shall submit a "Working on the Railroad Safety Plan" that will include a Program which implements the plan. The submission shall be made to the Engineer or a duly authorized representative and forwarded to the Railroad for compliance with this specification. This plan is separate to the Health and Safety Plan required for other aspects of the project (i.e., lead, excavations, etc.).
- (B)** Each employee of the Contractor, subcontractor or others on site shall be given an initial Railroad Safety Training session administered by a Railroad Safety Representative prior to being allowed to work on the project. All employees receiving this training will receive a Registered Hard Hat sticker that will identify them as a trained employees.. No Contractor employees are permitted on the Railroad Right-of-Way without evidence of this training. Contractor employees shall renew this training annually. The training session will be held on the Railroad Right of Way or conducted at a location mutually agreed upon between the Railroad Safety Representative and the Contractor. At this session the following will be furnished to the employee:

1. Safety Orientation for Contractor Employees Working on Railroad Property produced by the Safety Engineer of the Railroad.
2. Safety Inspection Checklist
3. List of the applicable publications referenced in these specifications with respect to safety and where they are located for review if necessary. The list shall include, but not be limited to, such regulatory standards and mandates, i.e., OSHA, NIOSH, DOL, NFPA, EPA, FRA, MSDS, etc.
4. Copy of the applicable corporate safety plan.
5. Copy of the project Railroad Safety Plan or other project related plans.

NOTE: The employee shall sign the standard form for acknowledgement of the above-noted documents.

- (C) All contractor employees entering the railroad right-of-way must attend and acknowledge the daily job briefings prior to commencing any work. The qualified railroad employees will conduct the job briefings.
- (D) The Contractor shall hold "TOOL BOX" safety meetings for their employees at least once a week that will be documented and attendees listed.
- (E) The Contractor supervisor shall attend a monthly Railroad Safety Meeting.

2. Insurance Requirements – Metro-North Railroad

The Contractor engaged in work on the project shall be required to comply with the requirements set forth under Article 1.03.07 – Insurance of the Specifications Form 816, its supplements and special provisions contained herein.

3. Cost Associated with this Specification

- (a) There shall be no direct payment for compliance to this specification. All costs associated with any regulatory requirements, traffic regulation, specification administration, coordination, materials and incidentals required to fulfill the requirements of this specification will be considered as included in the general cost of the work and distributed in all items.
- (b) Any work, material's supplied, inspections and protective services by the Railroad as described in the plans and specification, expressly needed for the construction of the project, will be compensated to the Railroad by the Engineer under a separate agreement."

ITEM #0101133A – DISPOSAL OF CONTAMINATED RAILROAD TIES

Description:

Work under this Item shall consist of the transportation, and final off-site disposal/recycling/treatment of contaminated railroad ties and contaminated timber members (excluding concrete), which have been generated from various excavations/demolition and determined to be contaminated with regulated substances at non-hazardous levels. Such railroad ties and timber members, after proper characterization by the Engineer, shall be loaded and transported directly to, and treated/recycled/disposed of, at a permitted treatment/recycle/disposal facility (TDRF) listed herein.

The Contractor must use the following Department-approved TDRFs for the disposal of non-hazardous contaminated railroad ties and timber members.

Allied Waste Niagara Falls Landfill, LLC 5600 Niagara Falls Blvd. Niagara, NY 14304 (716) 285-3344; David Hanson	Clean Harbors of Connecticut, Inc. 51 Broderick Road Bristol, CT 06010 (860) 583-8917; Glen Carlson
Environmental Quality Company – Wayne Disposal Facility 49350 North I-94 Service Drive Belleville, MI 48111 (734) 697-2200; Erin Gore	Moretown Landfill 187 Palisades Park Waterbury, VT 05676 (802) 244-1100; Tom Badowski
Waste Management of NH 90 Rochester Neck Road PO Box 7065 Rochester NH, 03839 (603)330-2170; Ellen Bellio	Ontario County Landfill 3555 Post Farm Road Stanley, NY 14561 (603)235-3597; Scott Samson

The above list contains TDRFs that can accept contaminated railroad ties and contaminated timber members generated by the Project in quantities limited by their permits and operational needs. In addition, some of these TDRFs may become unavailable during the duration of the Project. It is the responsibility of the Contractor to verify that a facility will be available and capable of handling the volume, as well as the chemical and physical characteristics of contaminated railroad ties and timber members generated by the Project. As such, the Contractor must factor in such possibilities.

Construction Methods:

A. Submittals

The apparent low bidder shall submit in writing within 14 days after bid opening the following:

1. The name(s) of the TDRF(s) (from the list above) which the Contractor intends to use to receive contaminated railroad ties and contaminated timber members from the Project;
2. A copy of the attached “Disposal Facility Material Acceptance Certification” form from each facility from the list above, which shall be signed by an authorized representative of each TDRF; and
3. A copy of the facility acceptance criteria and facility sampling frequency requirements from each TDRF.

Disposal of contaminated railroad ties and contaminated timber members shall only be made at a ConnDOT approved TDRF that is permitted to receive this type of waste. No facility may be substituted for the one(s) designated in the Contractor’s submittal without the Engineer’s prior approval. If the material cannot be accepted by any facilities from the list above, the Department will supply the Contractor with the name(s) of other acceptable facilities.

Disposal Facility Materials Acceptance Certification

Project Number 301-092

Project Location Rehabilitation of Two Metro-North RR Bridges (No. 03948R – Sound Beach Avenue & No. 03955R – Tomac Avenue), Greenwich, CT

Facility Name _____ Telephone _____

Facility Address _____ Fax _____

The Contractor has supplied the analytical data contained in the report concerning the site investigation performed by the Designer. I have personally reviewed this data and intend to accept the following contaminated materials as described in Item 0101113A – Disposal of Contaminated Railroad Ties.

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

Authorized Facility Representative _____ / _____
Printed/Typed Name Title

_____/_____
Signature Date

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

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

B. Material Disposal

The Engineer shall sample the in-place contaminated railroad ties and contaminated timber members prior to the start of any work for waste characterization purposes. The Engineer will provide the Contractor with the waste characterization sampling results.

The Contractor shall obtain and complete all paperwork necessary to arrange for material disposal (such as disposal facility waste profile sheets). It is solely the Contractor's responsibility to coordinate the disposal of Controlled Materials with the selected TDRF(s). Upon receipt of the final approval from the facility, the Contractor shall arrange for the removal, loading, transport, and treatment/recycling/disposal of the materials in accordance with all Federal and State regulations.

The Contractor shall not begin removal of contaminated railroad ties and contaminated timber members until the selected disposal facility has indicated final approval of the materials for disposal. No claim will be considered based on the failure of the Contractor's TDRF(s) to meet the Contractor's production rate or for the Contractor's failure to select sufficient facilities to meet its production rate.

Any material processing (including, but not limited to, cutting and removal of steel or other non-wood components) required by the Contractor's selected facility will be completed by the Contractor prior to the material leaving the site. It is solely the Contractor's responsibility to meet any such requirements of its facility.

All manifests or bills of lading utilized to accompany the transportation of the material shall be prepared by the Contractor a minimum of 24 hours in advance and signed by an authorized Department representative, as Generator, for each truckload of material that leaves the site. The Contractor shall forward the appropriate original copies of all manifests or bills of lading to the Engineer the same day the material leaves the Project.

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

C. Material Transportation

In addition to all pertinent Federal, State and local laws or regulatory agency policies, the Contractor shall adhere to the following precautions during the transport of contaminated railroad ties and contaminated timber members off-site:

1. Transported railroad ties and contaminated timber members are to be covered sufficiently to preclude the loss of material during transport prior to leaving the site and are to remain covered until the arrival at the selected TDRF;

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

D. Equipment Decontamination

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

The Contractor shall furnish labor, materials, tools and equipment for decontamination of all equipment and supplies that are used to handle the contaminated railroad ties and contaminated timber members. Decontamination shall be conducted at an area designated by the Engineer and shall be required prior to equipment and supplies leaving the Project and/or between stages of the work.

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

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

Method of Measurement:

The work of "DISPOSAL OF CONTAMINATED RAILROAD TIES" will be measured for payment as the actual net weight in tons of contaminated railroad ties and contaminated timber members delivered to the TDRF. Such determinations shall be made by measuring each hauling vehicle on the certified permanent scales at the TDRF before and after unloading and subtracting the weight of the empty vehicle from the weight of the loaded vehicle. Total weight will be the summation of weight bills issued by the facility specific to this Project. Excess excavations made by the Contractor beyond the payment limits specified in Specification Sections 2.02, 2.03,

2.05, 2.06, or the Special Provision (as appropriate) will not be measured for payment and the Contractor assumes responsibility for all costs associated with the appropriate handling, management and disposal of this material.

The disposal of railroad ties and timber members, originally anticipated to be contaminated, but determined by characterization sampling to be suitable for disposal as bulky waste, will not be measured for payment under this Item but will be handled in accordance with the applicable provisions of the Contract regarding disposal of surplus excavated material.

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

Any material processing required by the Contractor-selected disposal facility will not be measured for payment.

Basis of Payment:

This work shall be paid for at the Contract unit price, which price shall include the loading and transportation of contaminated railroad ties and contaminated timber members from the Project to the TDRF(s); the treatment/recycling/disposal of such materials; the preparation of manifests, bills of lading, and fees paid; and all equipment, materials, tools, and labor incidental to this work. **This unit price will be applicable to all of the listed TDRFs and will not change for the duration of the Project.**

This price shall also include equipment decontamination; the collection of residuals generated during equipment decontamination; and the collection and disposal of liquids generated during equipment decontamination activities.

Pay Item	Pay Unit
Disposal of Contaminated Railroad Ties	Ton

ITEM #0202315A - DISPOSAL OF CONTROLLED MATERIALS

Description:

Work under this Item shall consist of the transportation and final off-site disposal/recycling/treatment of Controlled Materials (excluding dewatering fluids) that have been generated from various excavations within the Areas of Environmental Concern (AOECs) and the Low Level AOEC (LLAOEC) and that have been determined to be contaminated with regulated substances at non-hazardous levels. This contamination is documented in the report listed in the “Notice to Contractor – Environmental Investigations”. The Controlled Materials will be properly characterized by the Engineer and shall be excavated, loaded, transported directly to, and treated/recycled/disposed of at, a Department-approved permitted treatment/recycle/disposal facility (TDRF) listed herein.

Contractor Take Note: It is anticipated that the Contractor shall be able to excavate, load, and transport all Controlled Materials requiring off-site disposal directly from the Project site AEOC(s) and LLAOEC. No delay claim will be considered based upon the Contractor’s failure to select facility(s) with enough capacity to handle the anticipated volume of Controlled Materials being generated by its activities.

Controlled Materials include:

- (1) Soil materials (excluding pavement, concrete, sub-base, structures, utilities, and ledge/boulders) that contain regulated substances at concentrations exceeding numeric criteria in the Connecticut Department of Energy and Environmental Protection (CTDEEP) Remediation Standard Regulations (RSRs); and
- (2) Soil materials that contain detectable concentrations of regulated substances that are below numeric criteria in the CTDEEP RSRs, but above typical background concentrations, and which cannot be reused within the Project Limits.

The Contractor must use the following Department-approved TDRFs for the disposal of non-hazardous materials:

Clean Earth of Carteret 24 Middlesex Avenue Carteret, NJ 07008 (732) 541-8909; Cheryl Coffee	Clean Earth of Philadelphia, Inc. 3201 S. 61 Street Philadelphia, PA 19153 (215) 724-5520; Mike Kelly
Clean Earth of Southeast Pennsylvania, Inc. 7 Steel Road Morrisville, PA 19067 (215) 428-1700; Joe Siravo	Cranston Sanitary Landfill 1690 Pontiac Avenue Cranston, RI 02920 (413) 552-3688; Paul Mahoney

ESMI of New York, LLC 304 Towpath Road Fort Edward, NY 12828 (518) 747-5500; Peter Hansen	ESMI of New Hampshire, LLC 67 International Drive Louden, NH 03307 (518) 747-5500; Peter Hansen
Hazelton Creek Properties, LLC 280 South Church Street Hazelton, PA 18201 (570) 207-2000; Allen Swantek	Northampton Landfill (Solid Waste Solutions, LLC) 170 Glendale Road Florence, MA 01062
Ontario County Landfill 3555 Post Farm Road Stanley, New York 14561 (603) 235-3597; Scott Sampson	Phoenix Soil, LLC 130 Freight Street Waterbury, CT 06702 (203) 759-0053; Kenneth Quirke
Soil Safe, Inc. 378 Route 130 Logan Township Bridgeport, NJ 08085 (410) 872-3990 XT. 1123; Mike Kozak	South Hadley Landfill, LLC 12 Industrial Drive South Hadley, MA 01075 (508) 989-7074; Ray Bailey
Ted Ondrick Company, LLC 58 Industrial Road Chicopee, MA 01020 (413) 592-2565; Alan Desrosiers	Upton Landfill (former) / Upton Site Remediation, LLC Maple Avenue Upton, MA (413) 522-3688 ; Paul Mahoney
Waste Management of NH; TLR III Refuse Disposal Facility 90 Rochester Neck Road P.O. Box 7065 Rochester, NY 03839 (603) 330-2170; Ellen Bellio	Waste Management (Chicopee Sanitary Landfill) 161 New Lombard Road Chicopee, MA 01020 (413) 534-8741; Tom Heaton
Waste Management Granby Sanitary Landfill 11 New Ludlow Road Granby, MA 01033 (413) 534-8741; Tom Heaton	The Southbridge Recycling and Disposal Park 165 Barefoot Road Southbridge, MA 01550 (603) 235-3597; Scott Sampson

The above list contains TDRFs which can accept the waste stream generated by this Project in quantities limited by their permits and their operational needs. In addition, some of these TDRFs may become unavailable during the duration of the Project. It is the responsibility of the Contractor to verify that a TDRF will be available and capable of handling the volume as well as the chemical and physical characteristics of soil generated by this Project. As such, the Contractor must factor in such possibilities.

Construction Methods:

A. Submittals

The apparent low bidder shall submit in writing, within 14 days after bid opening the following:

1. A copy of the attached “Disposal Facility Material Acceptance Certification” form from each facility from the list above, which shall be signed by an authorized representative of each TDRF; and
2. A copy of the facility acceptance criteria and facility sampling frequency requirements from the TDRF.

Failure to comply with all of the above requirements may result in the rejection of the bid. If the material cannot be accepted by any of the TDRFs listed above, the Department will supply the Contractor with the name(s) of other acceptable facilities.

Disposal Facility Materials Acceptance Certification

Project Number: 301-092

Project Location: Rehabilitation of Two Metro-North RR Bridges (No. 03948R – Sound Beach Avenue & No. 03955R – Tomac Avenue), Greenwich, CT

Facility Name: _____ Telephone: _____

Facility Address: _____ Fax: _____

The Contractor has supplied the analytical data contained in the report concerning the site investigation performed by the Designer. I have personally reviewed this data and intend to accept the following Controlled Material as described in Item 0202315A - Disposal of Controlled Materials.

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

Authorized Facility Representative

_____/_____
Printed/Typed Name Title
_____/_____
Signature Date

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

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

B. General

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

Controlled Materials requiring disposal off-site shall be loaded directly into vehicles for immediate transport to the Contractor selected treatment/recycling/disposal facility(s). Controlled Materials awaiting disposal shall not be stockpiled within the Project limits, unless otherwise directed by the Engineer.

C. Material Disposal

The Engineer shall sample the in-place Controlled Materials prior to the start of any work for waste characterization purposes. The Engineer will provide the Contractor with the waste characterization sampling results.

The Contractor shall obtain and complete all paperwork necessary to arrange for material disposal (such as disposal facility waste profile sheets). It is solely the Contractor's responsibility to coordinate the disposal of Controlled Materials with the selected TDRF(s). Upon receipt of the final approval from the facility, the Contractor shall arrange for the excavation, loading, transport, and treatment/recycling/disposal of the materials in accordance with all Federal and State regulations.

The Contractor shall not begin excavation within the Project AOECs and/or LLAOEC until the selected disposal facility has indicated final approval of the Controlled Material for disposal. No claim will be considered based on the failure of the Contractor's selected TDRF(s) to meet the Contractor's production rate or for the Contractor's failure to select sufficient TDRF(s) to meet its production rate.

Any material processing (removal of woody debris, scrap metal, treated and untreated wood timber, large stone, concrete, polyethylene sheeting or similar material) required by the Contractor's selected facility, will be completed by the Contractor prior to the material leaving the site. It is solely the Contractor's responsibility to meet any such requirements of its facility. Any materials removed shall be disposed of or recycled in a manner acceptable to the Engineer at no additional cost. If creosote treated railroad ties or timbers are removed, they will be disposed of under the Item No. 0101133A – Disposal of Contaminated Railroad Ties, or in accordance with Article 1.04.05 in the absence of such item.

All manifests or bills of lading utilized to accompany the transportation of the material shall be prepared by the Contractor a minimum of 24 hours in advance and signed by an authorized Department representative, as Generator, for each truckload of material that leaves the site. The

Contractor shall forward the appropriate original copies of all manifests or bills of lading to the Engineer the same day the material leaves the Project.

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

D. Dust Control

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

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

E. Material Transportation

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

1. Transported Controlled Materials are to be covered sufficiently to preclude the loss of material during transport prior to leaving the site and are to remain covered until the arrival at the selected TDRF;
2. Discharge openings on trucks used for the transportation of Controlled Materials must be securely closed during transportation and load tarpaulins must be deployed. Trucks deemed unacceptable for use by the Engineer shall not be used for the transportation of Controlled Materials;
3. All vehicles departing the Project are to be properly logged to show the vehicle identification, driver's name, time of departure, destination, approximate volume, and contents of materials carried;

4. No materials shall leave the site unless a TDRF willing to accept all of the material being transported has agreed to accept the type and quantity of waste; and

5. Documentation must be maintained indicating that all applicable laws have been satisfied and that materials have been successfully transported to and received at the TDRF.

F. Dewatering

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

G. Equipment Decontamination

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

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

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

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

Method of Measurement:

The work of "DISPOSAL OF CONTROLLED MATERIALS" will be measured for payment as the actual net weight in tons of material delivered to the TDRF. Such determinations shall be made by measuring each hauling vehicle on the certified permanent scales at the TDRF before and after unloading and subtracting the weight of the empty vehicle from the weight of the loaded vehicle. Total weight will be the summation of weight bills issued by the facility specific to this Project.

Excess excavations made by the Contractor beyond the payment limits specified in Specification Sections 2.02, 2.03, 2.05, 2.06, or the Contract Special Provisions (as appropriate) will not be measured for payment and the Contractor assumes responsibility for all costs associated with the appropriate handling, management, and disposal of this material.

The disposal of excavated materials, originally anticipated to be Controlled Materials, but determined by characterization sampling not to contain concentrations of regulated chemicals (non-polluted or “clean” materials) will not be measured for payment under this Item but will be considered as surplus excavated materials and shall be handled in accordance with Article 1.04.05.

Any Controlled Materials which are reused within the Project limits will not be measured for payment under this Item.

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

Any material processing required by the Contractor-selected disposal facility, including the proper disposal of all removed materials other than creosote treated wood, will not be measured for payment.

Basis of Payment:

This work shall be paid for at the Contract unit price, which shall include the transportation of Controlled Materials from the Project to the TDRF(s); the preparation of manifests, bills of lading, and fees paid; and all equipment, materials, tools, and labor incidental to this work. **This unit price will be applicable to all of the listed TDRFs and will not change for the duration of the Project.**

This price shall also include equipment decontamination, the collection and handling of residuals generated during decontamination, and the collection and disposal of solids and liquids generated during equipment decontamination activities.

Payment for dust control activities shall be made under the appropriate Contract items.

Pay Item	Pay Unit
Disposal of Controlled Materials	ton

ITEM #0202629A – SETTLEMENT MONITORING PROGRAM

2.02.01 Description: This item consists of monitoring movement of the existing rail facilities during construction for Site No. 1 and Site No. 2. The monitoring program at each site shall be adequate to document any settlement or horizontal movement of the railroad track(s), bridge foundations, catenary supports, soldier pile and lagging or sheet piling installations, and other miscellaneous rail facilities during construction activities at the sites. The monitoring program at each site shall be in conformance with the minimum requirements detailed in this specification or as noted on the plans for number of monitoring points, locations of points, intervals for recording data, procedures and period of time to report the data to the Engineer, maintenance of points, and the removal of points after completion of the work.

2.02.02 Materials: Settlement monitoring points shall be constructed of materials suitable for use as survey reference points and as approved by the Engineer. The material shall be dimensionally stable and the points shall be installed in a manner to allow for easily repeatable survey readings to be taken at the points. Settlement monitoring points for railroad tracks on embankments shall be steel rods, three feet in length, driven into the ballast at the centerline of the track between cross ties. The rods shall be driven so the top of rod is flush with the top of cross tie.

2.02.03 Construction Methods: Settlement Monitoring programs shall be established at all sites a minimum of 2 days prior to the commencement of any construction at the site. Initial readings shall be recorded both at the time of point installation and prior to the commencement of construction activities, to establish the baseline readings. Work under this item shall be performed by qualified engineering or surveying personnel. Qualified engineering personnel shall meet the qualifications as described in Item “Construction Staking”.

The number and locations of monitoring points shall be in conformance with site specific plan details as applicable, and the following minimum criteria: track monitoring points shall be established for the nearest track at intervals not to exceed 25’ for a minimum distance of 100’ from all construction activities which have the potential to cause settlement; lateral support monitoring points shall be established on all support of excavation systems within the railroad right of way, at minimum 20’ intervals; and structure monitoring points shall be established at the corner of each bridge substructure unit or catenary tower foundation within 100’ from all construction activities which have the potential to cause settlement. Construction activities considered having the potential to cause settlement for purposes of this specification include but are not limited to the following: all excavation within the Railroad live load influence line as defined in Section 1.05; installation of piles; installation of sheet piling or soldier pile and lagging; jacking of pipes; and installation of soil anchors.

Monitoring points shall be established by the Contractor for the specific purpose of providing a reliable, reproducible reference point compatible with the survey equipment to be used by the

Contractor for the monitoring program.

The Contractor shall take location readings on the established monitoring points using survey equipment capable of reading to a precision of 0.01 ft in both the horizontal and vertical datum.

The monitoring points shall be monitored at the following minimum intervals:

- prior to the commencement of construction activities for each site
- daily at the beginning and end of each shift for a given site with active construction
- weekly for a given site without any active construction; this interval may be increased to an interval approved by the Engineer for sites that exhibit no evidence of movement
- after the completion of all construction activities at a given site
- the next working day after rainfall in excess of 1-inch in a 24 hour period at a given site
- as ordered by the Engineer

The Contractor shall notify the Engineer if any movement has been measured at a settlement monitoring point. Any points that have measured movement exceeding 1/4" shall be immediately brought to the attention of the Engineer, and construction activities in the immediate vicinity of the movement shall be halted until any necessary corrective action has been taken or as ordered by the Engineer. The Contractor shall modify the means and methods associated with any construction activities that result in movement exceeding 1/4".

Survey monitoring information shall be reduced and tabulated by the Contractor, in a format approved by the Engineer, and shall be submitted to the Engineer in hard copy format. Tabulated data shall be submitted weekly except for sites with measured movement exceeding 0.01', where the reduced data shall be submitted to the Engineer daily.

The Contractor shall maintain the monitoring points during the construction phase and shall be responsible to re-establish or replace monitoring points for all locations damaged during the time periods when monitoring is required at a given site. New baseline monitoring point reference data shall be established for replacement points prior to resuming construction activities at a given site.

Upon completion of the construction at a site, the Contractor shall remove any monitoring point(s) installed and restore the original condition of the affected structure(s) unless the Engineer approves the abandonment of the monitoring point in place.

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

2.02.02.05 Basis of Payment: This work will be paid for at the contract lump sum price for "Settlement Monitoring Program", which price shall include the furnishing and installation of monitoring points, survey monitoring of the points at the required intervals, maintenance and

protection of the points, replacement of damaged monitoring points, removal or abandonment of monitoring points, the recording and processing of the data, the transfer of data to the Engineer and all materials, equipment, tools, and labor incidental thereto.

<u>Pay Item</u>	<u>Pay Unit</u>
Settlement Monitoring Program	L.S.

ITEM #0503151A - REMOVAL OF SUPERSTRUCTURE (SITE NO. 1)

Work under this item shall conform to the requirements of Section 5.03 amended as follows:

5.03.01 - Description: Delete the first two paragraphs and replace with the following:

Work under this item shall consist of the removal and satisfactory disposal of the superstructure and pier including foundation. Those items to be removed and disposed of shall include, but not be limited to, steel girders, concrete encasement, steel brackets, steel columns and bracing, concrete encasement, abandoned utility conduits, safety walks, bridge railing, rail, and bearings as shown on the plans or as directed by the Engineer.

Work under this item shall also consist of removing, containing, and collecting existing paint from all areas of steel superstructure and portion of steel substructure where the Contractor will use flamecutting, arc gouging, or welding for the structure demolition, because of the possible presence of lead in the existing paint. The lead removal is required to comply with OSHA Regulation Nos. 1926.353, 1926.354, and 1926.62. Additional information on lead removal and definitions of the terms used within this special provision may be obtained from the latest edition of the "SSPC 6I Guide for Containing Debris Generated During Paint Removal Operations."

Work under this item also consists of storage of the paint debris collected under this item.

5.03.02 - Materials: N/A

5.03.03 - Construction Methods: Add the following:

1 - Amount of Paint Removal: Prior to applying the heat of welding equipment to localized areas of steel superstructure or substructure, the existing paint shall be removed to a minimum of 6 inches from wherever the heat will be applied, and as directed by the Engineer.

2 - Methods of Paint Removal: Where required, the existing paint shall be removed by chemical stripping, needle guns with vacuum attachments, or by any of the closed abrasive blast cleaning techniques described in SSPC Guide 6I. Open abrasive blast cleaning will not be permitted. All of the debris resulting from the paint removal operations shall be contained, collected, and stored in leakproof storage containers placed on wooden pallets. A test patch shall be done on the existing steel to demonstrate the Contractor's proposed methods of paint removal to the satisfaction of the Engineer.

The Contractor is advised that chemical paint removers may require several days and multiple applications to completely remove the existing paint, especially in temperatures below 50° F.

The Contractor is also advised that chemical paint strippers may not be effective in removing some paints.

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3 - Removal of Superstructure and Pier: All work shall proceed as directed by and to the satisfaction of the Engineer in accordance with the Construction Staging shown on the plans and the requirements of the Special Provisions "Maintenance and Protection of Traffic" and "Prosecution and Progress", contained elsewhere in these Specifications.

Material that is not specified for salvage shall become the property of the Contractor and shall be removed and disposed of by him.

Material designated for salvage shall be removed by methods that shall not cause damage to the salvaged material.

The removal shall not result in damage to any permanent construction (new or existing) or to 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.

The Contractor shall prepare and submit to the Engineer for review working drawings, computations, and written procedures prepared by and signed and sealed by a Professional Engineer registered in the State of Connecticut for the removal of the structure to the Engineer for review in accordance with Article 1.05.02. Acceptance of the Contractor's plans shall not be considered as relieving the Contractor of any responsibility.

Disposal of lead based debris and chemical stripper residue shall be in accordance with the Special Provision "Disposal of Lead Debris".

5.03.04 - Method of Measurement: Delete the entire article and replace with the following:

This work, being paid for on a lump sum basis, will not be measured for payment.

The Contractor shall submit a schedule of values for Basis of Payment.

5.03.05 - Basis of Payment: Delete the second and third paragraphs and replace with the following:

This work will be paid for at the contract lump sum price for "Removal of Superstructure", which price shall include the removal and disposal of the superstructure components, portions of the substructure components including the pier and foundation, the containment, removal, collection, and storage of paint debris as herein described, and all equipment, tools and labor incidental thereto.

Disposal of lead based debris and chemical stripper residue shall be paid for under item " Lead Compliance for Miscellaneous Exterior Tasks ".

<u>Pay Item</u>	<u>Pay Unit</u>
Removal of Superstructure (Site No. 1)	L.S.

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ITEM #0503152A - REMOVAL OF SUPERSTRUCTURE (SITE NO. 2)

Work under this item shall conform to the requirements of Section 5.03 amended as follows:

5.03.01 - Description: Delete the first two paragraphs and replace with the following:

Work under this item shall consist of the removal and satisfactory disposal of the superstructure. Those items to be removed and disposed of shall include, but not be limited to, steel girders, steel floorbeams, steel stringers, steel diaphragms, steel brackets, abandoned utility conduits, safety walks, bridge railing, rail, and bearings as shown on the plans or as directed by the Engineer.

Work under this item shall also consist of removing, containing, and collecting existing paint from all areas of steel superstructure and portion of steel substructure where the Contractor will use flamecutting, arc gouging, or welding for the structure demolition, because of the possible presence of lead in the existing paint. The lead removal is required to comply with OSHA Regulation Nos. 1926.353, 1926.354, and 1926.62. Additional information on lead removal and definitions of the terms used within this special provision may be obtained from the latest edition of the "SSPC 6I Guide for Containing Debris Generated During Paint Removal Operations."

Work under this item also consists of storage of the paint debris collected under this item.

5.03.02 – Materials: N/A

5.03.03 - Construction Methods: Add the following:

1 - Amount of Paint Removal: Prior to applying the heat of welding equipment to localized areas of steel superstructures, the existing paint shall be removed to a minimum of 6 inches from wherever the heat will be applied, and as directed by the Engineer.

2 - Methods of Paint Removal: Where required, the existing paint shall be removed by chemical stripping, needle guns with vacuum attachments, or by any of the closed abrasive blast cleaning techniques described in SSPC Guide 6I. Open abrasive blast cleaning will not be permitted. All of the debris resulting from the paint removal operations shall be contained, collected, and stored in leakproof storage containers placed on wooden pallets. A test patch shall be done on the existing steel to demonstrate the Contractor's proposed methods of paint removal to the satisfaction of the Engineer.

The Contractor is advised that chemical paint removers may require several days and multiple applications to completely remove the existing paint, especially in temperatures below 50° F.

The Contractor is also advised that chemical paint strippers may not be effective in removing some paints.

3 - Removal of Superstructure: All work shall proceed as directed by and to the satisfaction of the Engineer in accordance with the Construction Staging shown on the plans and the

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requirements of the Special Provisions "Maintenance and Protection of Traffic" and "Prosecution and Progress", contained elsewhere in these Specifications.

Material that is not specified for salvage shall become the property of the Contractor and shall be removed and disposed of by him.

Material designated for salvage shall be removed by methods that shall not cause damage to the salvaged material.

The removal shall not result in damage to any permanent construction (new or existing) or to 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.

The Contractor shall prepare and submit to the Engineer for review working drawings, computations, and written procedures prepared by and signed and sealed by a Professional Engineer registered in the State of Connecticut for the removal of the structure to the Engineer for review in accordance with Article 1.05.02. Acceptance of the Contractor's plans shall not be considered as relieving the Contractor of any responsibility.

Disposal of lead based debris and chemical stripper residue shall be in accordance with the Special Provision "Disposal of Lead Debris".

5.03.04 - Method of Measurement: Delete the entire article and replace with the following:

This work, being paid for on a lump sum basis, will not be measured for payment.

The Contractor shall submit a schedule of values for Basis of Payment.

5.03.05 - Basis of Payment: Delete the second and third paragraphs and replace with the following:

This work will be paid for at the contract lump sum price for "Removal of Superstructure", which price shall include the removal and disposal of the superstructure components, portions of the substructure components, the containment, removal, collection, and storage of paint debris as herein described, and all equipment, tools and labor incidental thereto.

Disposal of lead based debris and chemical stripper residue shall be paid for under item " Lead Compliance for Miscellaneous Exterior Tasks ".

<u>Pay Item</u>	<u>Pay Unit</u>
Removal of Superstructure (Site No. 2)	L.S.

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ITEM #0601108A – CONCRETE STAIRS

6.01.01 Description: Work under this item shall consist of furnishing and erecting cast in place and precast concrete stairs as shown on the plans for Concrete Stairs (NW-Stair No. 1), Concrete Stairs (NE-Stair No. 2), Concrete Stairs (SE-Stair No. 3), Concrete Stairs (SW-Stair No. 4), Concrete Stairs (Platform Access) and Concrete Stairs (Retaining Wall) including all materials, foundations, including sonotube foundations, reinforcing, steel support posts, embedded angles, fasteners, anchors, equipment, tools, and labor incidental thereto.

6.01.02 Materials: All materials for new concrete stairs shall meet MTA Metro-North Railroad Station Standards including but not limited to the following:

Design shall conform to applicable state codes, ACI, ADA, ASTM and PCI and applicable industry standards.

Design live load shall be at least 150 psf (pounds per square foot).

A minimum compressive strength for all cast-in-place concrete shall be of 4,000 psi (pounds per square inch) at an age of 28 days. A minimum compressive strength for all precast concrete shall be 5,000 psi at an age of 28 days.

Cement shall conform to the requirements for either type II or Type IIA Portland Cement in accordance with ASTM C150. C3A content to be 8% maximum. Alkali content $Na_2O + 0.658 K_2O$ less than 0.60%. Minimum cement content shall be 7.5 sacks/cubic yard.

Cast-in place for stairs and all precast concrete shall have 45 lbs./cy of microsilica added to the mix, for a total cementitious content of 720 lbs./cy. Microsilica admixture shall be Force 10,000, as manufactured by W.R. Grace & Co., or approved equal.

Concrete shall also contain DCI Corrosion inhibitor, as manufactured by W.R. Grace & Co., or approved equal. The dosage rate for the corrosion inhibitor shall be 3 gal./cy.

For cold weather applications, refer to the latest version of the State of Connecticut Department of Transportation's Standards and Specifications.

Air-entraining admixtures shall be in accordance with ASTM 260 and ASTM C138.

Accelerating admixtures shall be in accordance with ASTM C494.

6.01.03 Construction Methods: All new concrete stairs shall be constructed to MTA Metro-North Railroad Station Standards including but not limited to the following:

The members shall be manufactured in accordance with the plans.

Concrete shall be finished as follows:

- Rough form finish in areas not exposed to view (backfilled areas)
- Smooth finish in areas exposed to view (such as pier surfaces)
- Broom finish shall be utilized on all walking surfaces and finished perpendicular to the normal walking path to provide a wet-slip coefficient of 0.5 or greater.
- All exposed edges of concrete elements shall have a .75 inch chamfer, unless otherwise provided.

Concrete shall be reinforced as follows:

- Reinforcing steel: ASTM A615, grade60, Hot-Dip Galvanized ASTM 767 (with supplementary requirements S1, S2, and S3, including Class 1 coating).
- Welded wire fabric: ASTM A185, 4 x 4-7/7, Hot-Dip Galvanized ASTM 767 (with supplementary requirements S1, S2, and S3, including Class 1 coating).

Shop Drawings: Before fabrication, the Contractor shall submit shop drawings to the Engineer for approval in accordance with Subarticle 1.05.02-3. These drawings shall include complete details of the methods, materials and equipment he proposes to use for the fabrication precast concrete.

Fabricator Qualifications: The precast concrete members shall be manufactured by a fabricator participating in the Prestressed Concrete Institute’s (PCI) Plant Certification Program and be designated a PCI Certified Plant.

Erection Drawings: The Contractor shall prepare and submit erection drawings, signed and sealed by a Connecticut registered Professional Engineer for the erection of the precast stairs. The drawings shall describe all necessary temporary supports, including the sequence of installation. In addition, a description of the work methods, materials, and/or special equipment needed to complete the work of the section shall be provided.

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

6.01.05 Basis of Payment: This work will be paid for at the contract lump sum price for “Concrete Stairs”, which price shall include all materials, foundations, including sonotube foundations, reinforcing, steel support posts, embedded angles, fasteners, anchors, equipment, tools, and labor incidental thereto.

<u>Pay Item</u>	<u>Pay Unit</u>
Concrete Stairs	L.S.

ITEM #0603882A – TEMPORARY SUPPORT SYSTEM (SITE NO. 2)

06.03.01 Description: The work shall consist of installing, maintaining, relocating, and removing a temporary support system made up of temporary steel stringers to provide temporary support for the existing MNR tracks at Site No. 2, as indicated on the Contract Documents.

06.03.02 Materials: Used materials, in good condition, may be used to construct the support system.

06.03.03 Construction Methods: The temporary support system shall be installed to support the existing MNR tracks 1, 2 and 3. The temporary support system shall be installed and relocated under tracks 1, 2, and 3, as required to perform the staged construction as indicated on the Contract Documents. The temporary support system must be installed prior to placing the track back into service during the respective phase of construction.

The purpose of the temporary support system is to support the MNR tracks 1, 2 and 3, during the different stages of construction. The temporary support system shall be designed to support all train loads (E80 Loading) during construction. The temporary support system shall be monitored by the Contractor periodically and adjusted if necessary.

The temporary support system scheme depicted on the plans as temporary steel stringers is for illustrative purposes only. The design of the actual temporary support system shall be the responsibility of the Contractor, subject to approval by the Engineer. The Contractor shall engage the services of a State of Connecticut Licensed Professional Engineer to design and detail the temporary support system. The Contractor's Engineer shall be available for consultation in interpreting his plans and in the resolution of problems that may arise during the performance of the work.

The temporary support system shall be designed such that the existing track elevation is not changed and the existing roadway vertical clearance is not changed. The temporary support system shall include signage for the roadway vertical clearance.

The Contractor shall furnish working drawings, prepared, stamped and signed by a State of Connecticut Licensed Professional Engineer, for the system proposed.

The drawings shall include, but need not be limited to the following:

1. Supporting member locations and respective phases of construction.
2. Calculated support loads.
3. Details for all support systems.
4. Type and grade of all materials.

Eight legible, standard sized (22 inch x 34 inch nominal) prints of each drawing, together with eight copies of all design computations shall be submitted to the Engineer for approval. Failure to submit drawings of the required size will be cause for their return without examination.

The Engineer shall be allowed the longest of the following time durations to examine design computations and working drawings:

- Fifteen working days
- Two working days for each drawing of a set of working drawings
- One working day for every four (4) design computation sheets. Any design computation sheet written on both sides will be considered as two design computation sheets.

All time for examination shall begin upon receipt of all pertinent information by the Engineer.

The Engineer's comments shall be indicated on the returned copies. Should the proposed system not be approved, the reasons shall be indicated with the return of the material. The Contractor shall then resubmit revised drawings for approval, subject to the same terms as the first submission. Resubmission shall not be considered a legitimate reason to request an extension of time.

All work shall be done in accordance with the approved working drawings. The Contractor must have approved working drawings prior to the start of any temporary support system operations.

All materials required for temporary support of the structure shall remain the property of the Contractor and shall be removed from the site after the work is completed, unless otherwise agreed to.

06.03.04 Method of Measurement: Payment for the temporary support system will be made on a lump sum basis.

06.03.05 Basis of Payment: The lump sum price bid shall include the cost of all materials, equipment, tools, and labor incidental thereto, necessary to complete this work for all locations where the temporary support system is required.

<u>Pay Item</u>	<u>Pay Unit</u>
Temporary Support System (Site No. 2)	L.S.