860-594-3150

January 9, 2001

Mr. Donald J. West
Division Administrator
Federal Highway Administration
628-2 Hebron Avenue, Suite 303
Glastonbury, Connecticut 06033

Dear Mr. West:

Subject: State Project No. 92-526
Federal Aid Project No. STPA-IBR-STPN-MGS-1092(110)
Church Street South Extension
City of New Haven

Forwarded herewith is a copy of Addendum No. 4 for the above-captioned project, which is necessary to address questions from prospective bidders.

Please review this addendum and if found satisfactory, notify Mr. Brien Robertson so that he may make proper distribution.

Your early reply will be appreciated.

Very truly yours,

Joseph J. Obara, P.E.
Manager of Design Services
Bureau of Engineering
and Highway Operations

Enclosure
David A. Levesque/kac
bcc: Walter H. Coughlin
Arthur Gruhn - L. Brian Castler
Joseph J. Obara - Robert P. Raiola
Stephen M. Barton
Joseph DeMarco
Brien Robertson

JANUARY 9, 2001
FEDERAL AID PROJECT NO. STPA-IBR-STPN-MGS-1092(110)
STATE PROJECT NO. 92-526

CONSTRUCTION OF CHURCH STREET SOUTH EXTENSION
OVER NEW HAVEN INTERLOCKING AND RAIL YARD
CITY OF NEW HAVEN

ADDENDUM NO. 4

SPECIAL PROVISIONS

NEW SPECIAL PROVISION

The following Special Provision is hereby added:

ITEM #947302A - RELOCATE BUS SHELTER

REVISED SPECIAL PROVISIONS:

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

NOTICE TO CONTRACTOR - ERECTION OF STRUCTURAL STEEL TRUSS (SEGMENT 2)
NOTICE TO CONTTRACTOR - PROTECTION OF EXISTING UTILITIES
NOTICE TO CONTRACTOR - HANDLING WATER
SECTION 1.03 - AWARD AND EXECUTION OF CONTRACT
ITEM #100780A - CRANES
ITEM #507989A - JUNCTION CHAMBER NO. 1
ITEM #507990A - JUNCTION CHAMBER NO. 2
ITEM #507991A - JUNCTION CHAMBER NO. 3
ITEM #603354A - STRUCTURAL STEEL (SEGMENT 2)

CONTRACT ITEMS

NEW CONTRACT ITEMS:

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
651021	48" R. C. PIPE	L.F.	14
912506	REMOVE SINGLE POST	EA.	50
947302A	RELOCATE BUS SHELTER	L.S.	L.S.
949727	CORNUS KOUSA KOUSA DOGWOOD 8' - 10' HT. B.B.	EA.	8
949962	PLATANUS ACERIFOLIA LONDON PLANETREE 2 1/2" - 3" CAL. B.B.	EA.	31
949997	ZELKOVA SERRATA JAPANESE ZELKOVA 2 1/2"- 3" CAL. BB.	EA.	2

REVISED CONTRACT ITEM

ITEM NO.	DESCRIPTION	ORIGINAL QUANTITY	REVISED QUANTITY
205003A	TRENCH EXCAVATION 0' - 10' DEEP	3,7000 C.Y.	3,750 C.Y.

DELETED CONTRACT ITEMS

ITEM NO.	DESCRIPTION	ORIGINAL QUANTITY	REVISED QUANTITY
947302	RELOCATE BUS SHELTER	L.S.	L.S.
949726	CORNUS KOUSA KOUSA DOGWOOD 6' - 8' HT. B.B.	8 EA.	0
949879	ZELKOVA SERRATA JAPANESE ZELKOVA 3 1/2" - 4" CAL. B.B.	2 EA.	0
949882	PLANTANUS ACERFOLIA LONDON PLANETREE 3 1/2" - 4" CAL. B.B.	31 EA.	0

PLANS

REVISED PLAN SHEETS

The plan sheets numbered 1-1, 136, 162, 198, 215, 256, 257 and 268 are hereby deleted in their entirety and replaced with the attached like-numbered plan sheets.

On Plan Sheet No. 75, under the detail labeled "STEP 1 - BASE OF JCT. CHAMBER NO. 3", add the description "5' DIAMETER OVER 10' DEEP" to the existing call-out for the new MH at Sta. 32+80, 30' Right.

QUESTIONS AND ANSWERS:

Q. What restrictions will there be to crossing the RR tracks with hard piping? This piping is required to transport water from the piers and abutments to the water treatment plant. Will we be able to install a 6-inch or less trunk pipeline within the ballast in between RR ties?

A. The contractor will be allowed to install a 6-inch or less trunk pipeline within the ballast between RR ties for the purpose of transporting water to the treatment plant. The contractor must first submit a request to install the pipe. The pipe must be installed under a coordinated track outage. Metro-North Railroad (MNRR) forces will remove the ballast to allow the Contractor to place the pipe, and MNRR forces will replace the ballast around the pipe. The Contractor will likewise be required to make a request to remove the pipe, under a coordinated track outage, when construction is completed. The ballast will again be handled by MNRR forces.

Q. On sheet 162 there is a dashed line just below the top of footing for retaining wall 101. This line does not appear in the section views (refer to sections D-D and G-G) of the retaining wall shown on sheet 166. Is this intended to show a keyway in the wall to footing joint?

A. The dashed line just below the top of footing for Retaining Wall 101 on Sheet 162 has been deleted under Addendum No. 4.

Q. On sheet 159 there is a concrete sidewalk support bracket shown. What is the shape of the top of the bracket, its thickness, location and quantity?

A. The Concrete Bracket for Supporting Sidewalk shown on Sheet 159 is located on Wingwall 1A and 1B, within the areas called out for Detail A on Sheets 154 and 155 respectively. The top of the Concrete Bracket is dimensioned on the Partial Plan on these sheets.

Q. In the Special Provisions section "Notice to Contractor – Protection of existing utilities", on page 15, there is a requirement that the waste stockpile area be completed before any excavation is done for utilities. On page 17 there is a requirement that the overhead electric feeder wires and poles and the overhead communication wires and poles in the rail yard be relocated prior to the construction of the waste stockpile area. Are the existing overhead electric and telephone lines at the south end of the rail yard being relocated in underground duct banks as stated on page 16? And, if they are, will this excavation be allowed prior to the construction of the waste stockpile?

A. The requirement on Page 17 that the overhead electric feeder wires and poles and the overhead communications wire and poles in the rail yard be relocated before the construction of the Waste Stockpile Area has been deleted. No excavation may take place prior to the completion of the WSA, including the relocation of the existing overhead electric and telephone lines at the South end of the rail yard.

Remove existing Notice to Contractor – Protection of Existing Utilities in its entirety and replace with revised Notice to Contractor – Protection of Existing Utilities.

Q. Dwg. STR-64 includes a table specifying steel grades for all truss members (Gr. 50 or 70). Please furnish steel grades for the balance of the members for this segment: Floorbeams, roadway stringers & framing, lateral bracing etc. Steel grades for these members are not indicated.

A. All steel members in Segment 2 shall be Grade 50 unless noted otherwise. A note to this effect has been added to Dwg. STR-64 (Plan Sheet #198) under Addendum No. 4.

Q. Dwg. STR-81 details lateral bracing conns. @ floorbeam ends @ floorbeam webs, a L6x6 is specified – please provide L thickness.

A. Drawing STR-81 (Plan Sheet #215) has been revised to show the connection between the lateral plate and the floorbeam web to be an L 6 x 6 x 5/8 member.

Q. Specifications require all steel to be hot-dipped galvanized by completely submerging the member in the galvanizing tank. Due to tank size limitations, some members cannot be single dipped – is double dipping acceptable?

A. Single dip galvanizing is not strictly required provided that the galvanized coating conforms to the requirements of the Special Provisions, including the thickness, finish and appearance.

Q. Dwg. STR-76 – Intermediate Floorbeams – Inspection Rods: - Are rods required on one side of Floorbeam, or both? – Are rods continuous for full length of girder, or partial length only, as shown @ the left hand end?

A. Inspection rods are required on both sides of Floorbeams FB1 to FB7. The rods are not continuous, as shown at the left hand end of the Floor Beam Elevation.

Q. Will sheeting necessary for the construction of Junction Chambers 1,2, and 3 be paid for under item 714020A?

A. Yes. Also, please note that under Addendum No. 2 – Tidegate Manhole sheeting necessary for construction shall be paid for under item 714020A.

Q. Will excavation necessary for the construction of Junction Chambers 1, 2, and 3 be paid under structure excavation?

A. Yes. Also, please note that under Addendum No. 2 – Tidegate Manhole structure excavation necessary for construction shall be paid for under Item 203004A. Item 101107A - Contaminated Material Excavation and Item 202315A - Disposal of Controlled Material also apply.

Q. There is a feature depicted on the cross sections in the area of Church Street South Extension Station 25+50, 40 ft right. Does this represent temporary sheeting?

A. Yes. As noted under Addendum No. 3 in Response to Contractor's Questions, square area of measurement of temporary sheet piling shown on sheet #74 from Sta 24+50 to 27+00 shall be calculated by the length depicted multiplied by the vertical difference between finished grade and to a depth of El –12 ft.

Q. Sheet #24 Junction Chamber Structures includes a 48-inch diameter R.C. pipe and concrete end stop in junction chamber #1. How will this be measured and paid for?

A. The Bid Proposal Form has been revised by adding new Item No. 651021-48" R.C. Pipe and quantity. The concrete end stop in junction chamber #1 shall not be measured for payment but shall be included in the contract lump sum price for Junction Chamber #1.

Q. Sheet #75 Box Culvert Staged Construction calls for a temporary 48" pipe to be installed from the existing MH #307 to box culvert. How will this pipe be measured and paid for?

A. The Bid Proposal Form has been revised to include Item No. 651021-48" R.C. Pipe. The quantity for Item No. 205003A Trench Excavation 0'-10' deep has also been revised on the Bid Proposal Form.

Q. There are approximately 47 concrete filled steel bollards presently on the east side of Union Avenue opposite Church Street South. How will the removal of these bollards be paid for?

A. The Bid Proposal Form has been revised by adding new Item No. 912506 - Remove Single Post".

Q. Sheet #136 General Plan sheet 1 of 2 includes a note titled "existing facilities to be removed (roadway items)" in the vicinity of the former roundhouse and points to three objects. Please furnish a description of the items to be removed, the extent of removal that is required and how the removal of these items is to be paid for.

A. The facilities to be removed and legally disposed of, as indicated on Sheet #136, consist of an above ground Liquefied Petroleum Gas (LPG) tank, an abandoned transformer pad and an abandoned transformer crib. The LPG tank removal includes all of the supports, foundations, pipes and fencing surrounding the tank. The facilities shall be removed to a minimum of 2 feet below grade, or as directed by ConnDOT/ Metro-North Railroad. The tank removal and disposal, including above mentioned included items, is included in cost of the item "Cranes". The removal and disposal of the transformer pad and transformer crib is included in the cost of the item "Structural Steel (Segment 2)". See the Special Provisions for more details.

Remove existing Special Provisions for Item #100780A – Cranes and Item #603354A – Structural Steel (Segment 2) in their entirety and replace with revised Special Provisions for Item #100780A – Cranes and Item #603354A – Structural Steel (Segment 2), respectively.

Q. Please clarify the following conflicts between the bid proposal items and the table of plantings listed on sheet #68-1 Landscape Design Plan.

Item	Description	Bid Proposal Size	Sheet 68-1 Size
949726	Cornus Kousa Kousa Dogwood	6'-8' Ht.	8'-10' Ht.
949879	Zelkova Serrata Japanese Zelkova	3½"-4" Cal.	2½"-3" Cal.
949882	Platanus Acerifolia London Planetree	3½"-4" Cal.	2½"-3" Cal.

A. Sheet 68-1 sizes are correct. The Bid Proposal Form has been revised by deleting Item #949726, #949879, and #949882 and quantities and by adding Item #949727 "Cornus Kousa Kousa Dogwood 8'-10' Ht. B.B.", Item #949962 "Platanus Acerifolia London Planetree 2½"-3" Cal. B.B.", and Item #949997 "Zelkova Serrata Japanese Zelkova 2½"-3" Cal. B.B." and quantities.

Q. Please specify the class of concrete required for the concrete to be poured in place for the junction chambers.

A. Where cast-in-place is specified on the plans or details, use Class A Concrete. See revised Special Provision for the junction chambers with this addendum.

Q. The paragraphs "description" and "basis of payment" under item #101107A "Contaminated Material Excavation" of the Special Provisions should also include item #1001001 "Trenching and Backfilling". Please clarify.

A. Item #1001001 "Trenching and Backfilling" quantities shall not be included under Item #101107A.

Q. Please provide the size required by the R.W.A. for the meter and check valve vault as shown on sheet #28 Water Service Details.

A. As noted on Sheet #28, Contractor is to install Vault only. Piping in Vault shall be installed by R.W.A.

Q. Owing to the fact that the feature depicted on the cross sections in the area of Church Street South Extension Station 25+50, 40 feet right appears to represent sheeting, and since it is outside excavation limits, what would the pay limit for this sheeting be?

A. As noted under Addendum No. 3 in Response to Contractor's Questions, square area of measurement of temporary sheet piling shown on sheet #74 from Sta 24+50 to 27+00 shall be calculated by the length depicted multiplied by the vertical difference between finished grade and to a depth of El –12 ft.

Q. Do temporary pipes and structures whose removal is not necessary due to conflicts with permanent construction have to be removed? If they are not removed, are they filled under item 651970A, Fill Existing Pipe?

A. All temporary pipes and structures noted on the plans shall be removed upon completion of the particular staged drainage construction or as directed by the Engineer. Cost of trench excavation shall be paid for under the particular pay item for pipe and structure installation only, depending upon depth. The cost of removal of the pipe and structures and excavation required is included in the cost of the specific pipe or structure item.

Q. Note #11 on Sheet 256 requires the contractor to submit a structural analysis of the truss to insure that the methods used during erection do not effect the completed structures ability to perform as intended.

Sheet 198 shows us where to pick the truss and also gives us the vertical reaction at each of the four picking points. Page 11 of the Special Provisions dictates that "No alternative Erection Scheme' will be entertained for the erection of the structural steel truss.

Other than a structural analysis of the lifting lugs, is it necessary to do a complete analysis of the truss when the designer has already calculated the picking locations, the erection scheme, the particular crane to be used and the structural characteristics of the truss itself?

If such an analysis was required and submitted, and it indicated that the original design of the truss was deficient or inadequate in some way, would the contractor then be required to redesign the truss at his expense? Would the contractor then have to build and pay for any structural improvements that were required? Would the long term liability for the revised truss design then revert to the contractor?

A. Referring to the Erection Notes on Sheet No. 256, Note 11 states "The Contractor shall prepare and submit to the Engineer working drawings and computations fully depicting his proposed erection methods. The computations shall insure that forces induced by the erection methods, especially the lifting and moving of the truss, do not effect the completed structures ability to perform as intended. The working drawings and computations shall include a complete analysis of the truss during all applicable phases of the erection operations."

Also, as stated in Form 814A, Section 6.03.03, Article 13 - Methods and Equipment, "The Contractor shall be solely responsible for the adequacy of his erection scheme and for all details of plant, falsework and other equipment and material necessary to carry it out. The Contractor's responsibility includes the investigation of erection stresses." In addition, this article states "If the proposed method of erection requires additional metal in the members, all such additional metal shall be provided at the expense of the Contractor."

The proposed steel truss has been designed for the four vertical lifting forces at the panel points as shown on Sheet No. 198. If the Contractor demonstrates that the lifting forces induced on the truss from his lift plan will not deviate from the four vertical lifting forces shown, then the truss does not have to be analyzed by the Contractor for the internal forces and stresses induced by the lifting forces.

Q. Will there be Crushed Stone for Slope Protection and Geotextile under Junction Chamber 3?

A. See sheet 26 of the Contract Plans, as revised by Addendum No. 1 to find 2 feet of crushed stone for slope protection and geotextile (separation) is proposed under Junction chamber No. 3.

Q. The Specification Section "Notice to Contractor – Handling Water" states handling water will not be measured for payment. What is to be paid under the temporary pipe items in the proposal? Will any other items (e.g. trench excavation, temporary sheeting, etc.) used in the handling of water be measured for payment?

A. Remove the Special Provision "Notice to Contractor – Handling Water" and replace with the provided revised Special Provision "Notice to Contractor – Handling Water". Note that temporary piping and manholes of the sizes and types indicated on the plans shall be measured for payment.

Q. If there should be insufficient material available for reuse in the WSA for backfilling trenches, will the backfill be paid as borrow?

A. The Borrow Pay Item shall be used for backfilling trenches below the seasonal high groundwater (SHGW) elevation. Backfill trenches above the SHGW elevation with material available for reuse in the WSA or as directed by the Engineer.

Q. What diameter manhole is proposed to be constructed over the existing 42" RCP @ Church Street South Extension Station 32+80, 30' Right?

A. Manhole – 5' Diameter over 10' Deep is proposed at Station 32+80, 30' Right. See Plan Sheet 75 as revised by this Addendum.

Q. Under what item will the temporary piping around Junction Chamber 3 be paid? Will trench excavation be paid for this piping?

A. Temporary piping and manholes of the sizes and types indicated on the plans shall be measured for payment using the contract pay items provided. Trench excavation for Temporary piping shall be measured for payment. See revised Special Provision "Notice to Contractor – Handling Water".

Q. On sheet number 256, crane utility note #1 indicates that there are underground and overhead utilities in the vicinity of the high capacity crane that will be used to erect the truss span. It also states that if the contractor determines that the utilities have to be relocated, it shall be done at the contractor's expense. How can the contractor estimate the proper amount to allow in his bid for utility relocation when the plans and specifications don't show the locations and specifics of the utilities in that designated area? Wouldn't it be more expeditious to have the State pay for any required utility relocations if they become necessary?

A. Based on limited field survey, it has been determined that there are existing underground and overhead utilities in the vicinity of the high capacity crane that will be used to erect the truss span (Segment 2). These utilities have been shown in the plans. The owners of these utilities require that any utilities affected by the crane the Contractor proposes to utilize on the job be either temporarily or permanently relocated. The Contractor shall relocate those utilities affected in conformance with the plans and Special Provisions, and to the satisfaction of the owner of the utility. The cost of utility relocations required due to the use of the "high capacity crane" shall be paid for under Section 1.09.04 (b) Specialized Work of the Form 814A on a cost–plus basis.

Remove existing Notice to Contractor – Erection of Structural Steel (Segment 2) and the Special Provision entitled Item #100780A – Cranes in their entirety and replace with revised Notice to Contractor – Erection of Structural Steel (Segment 2) and Special Provision entitled Item #100780A – Cranes, respectively.

Q. On Page 9 "General" of the project specifications under condition of bid acceptance it states "As a condition of bid acceptance, the Contractor shall provide written proof that a crane capable of accomplishing this work is available and can be secured by him for use on this project. The Contractor's documentation from the crane is available to allow for the Contractor to complete the work within the available time for the project. The statement shall be signed by the Contractor and the owner of the crane, and shall be notarized.

Does this paragraph mean this notarized document has to accompany the bid?

A. This requirement has been revised to require the notarized document within 14 days of the bid opening.

Replace the Special Provision "Notice to Contractor –Erection of Structural Steel (Segment 2)" and replace with the provided revised Special Provision "Notice to Contractor –Erection of Structural Steel (Segment 2)".

Q. Regarding project # 92-526, drawing #1 of 2, sheet # 73:

The "new concrete slab" that is to be provided by the contractor for the relocation of the bus shelter is not detailed in the plans. Will you provide details for this slab including reinforcement, concrete type and dimensions?

A. Remove existing Item #947302 – Relocate Bus Shelter in its entirety. Add Item #947302A and the Special Provision entitled "Item #947302A - Relocate Bus Shelter."

This work involves temporary relocation of two existing bus shelters to the locations indicated on the plans. The cost of the required 2 each concrete slab installations, removal, and 1 each new concrete slab shall not be measured for payment, but shall be included in the contract lump sum price for "Relocate Bus Shelters". The concrete slabs shall conform to all requirements of Special Provision Item #921001A – Concrete Sidewalk, excluding payment.

Q. Owing to the fact that the new Mall in New Haven has been cancelled, it would appear that there is reduced need for this project. Is there any possibility that it will never be awarded?

A. There are no plans at present to cancel the project.

Q. Please furnish the design assumptions utilized for the truss member and panel point connection designs. Has the truss been designed so that it can be completely erected in a no load position, then allowed to deflect under its own dead weight?

Or must the truss be pinned and partially bolted temporarily, and allowed to deflect under its own dead load prior to final bolting?

A. Each truss member shall be cambered for its full dead load, all tension members shall be cambered short, all compression members shall be cambered long. If the bridge is erected in a no-load condition, some members will need to be distorted to make up the panel points as is normal for truss construction.

PERMITS

REVISED PERMIT

Add the attached letter from the Connecticut Department of Environmental Protection, Bureau of Water Management, dated December 1, 2000, approving a request to amend Flood Management Certification FM-99-158.

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.

ITEM #947302A – RELOCATE BUS SHELTER

Work under this item shall conform to the requirements of Sections 9.74 and 9.21, supplemented and amended as follows:

Description:

Work under this item shall include the temporary relocation of two existing bus shelters to the locations as shown on the plans or directed by the Engineer.

Materials:

Materials for this work shall conform to the applicable requirements of Section 9.74 Bus Passenger Shelter and Section 9.21 Concrete Sidewalks and the following added to Subarticle 9.21.02:

Wire mesh / mat reinforcing shall conform to the requirements of ASTM 185 (AASHTO M55).

Construction Methods:

Add the following to Subarticle 9.21.03:

8 – Wire mesh / mat reinforcing : Provide 6" x 6" No. 10 gage wire mesh / mat reinforcing in the locations and to the details shown on the plans.

Basis of Payment:

This work will be paid for at the contract unit price Lump Sum for "Relocate Bus Shelter ," complete in place, which price shall include all materials necessary for the installation and removal of temporary concrete slabs, installation of a final concrete slab as noted on the plans, excavation as specified above, backfill, disposal of surplus material, gravel or reclaimed miscellaneous aggregate base, wire mesh / mat reinforcing, all hardware such as anchor bolts, equipment, tools, materials and labor incidental thereto.

If the Contractor's work results in any damage to the existing Bus Shelters during relocation, it will be his responsibility to restore or repair the damaged items or properties to the Engineer's satisfaction. Any costs involved will be borne solely by the contractor.

Pay Item	Pay Unit
Relocate Bus Shelter	L.S.

NOTICE TO CONTRACTOR – ERECTION OF STRUCTURAL STEEL TRUSS (SEGMENT 2)

General

The Contractor's attention is directed to the fact that a specific erection sequence has been developed for completing the erection of the structural steel truss (Segment 2) within the New Haven Interlocking and Rail Yard. See the Erection Drawings and the Special Provisions, "Cranes" and "Structural Steel (Segment 2)".

The erection sequence for the structural steel truss (Segment 2) includes the use of a single high capacity crane (hereinafter referred to as "the crane") with a sufficient load and movement capacity to lift and move the fully assembled truss segment from temporary supports south of Proposed Pier 2 to its final position over the Interlocking and Mainline Tracks. The fully assembled truss is the completed structure of Segment 2, including remain-in-place forms, inspection platforms, proposed utilities and drainage and protective shielding/work platforms, but exclusive of the concrete bridge deck, as indicated on the plans and in these specifications. Additional permanent and/or temporary components may be included in the lift as determined by the Contractor and approved by the Engineer, with the purpose being to minimize the work required over the tracks. No temporary bents or towers will be allowed between Proposed Piers 1 and 2.

Crane

Three companies have determined that they can provide a crane that is capable of completing the erection of the fully assembled truss segment. The companies, that have identified themselves as having a crane model that can accomplish this work, are, in alphabetical order:

Davenport Mammoet, L.L.C.
20525 FM 521
Rosharon, TX 77583
Phone (281) 369 – 2200
Contact: Mr. Donni Davenport

Lampson International, Ltd.
P.O. Box 6510
Kennewick, WA 99336
Phone (509) 586 – 0411
Contact: Mr. Bryan Pepin-Donat

Van Seumeren USA, Inc./
Marino Crane, JV.
13231 Champion Forest Drive
Suite #104
Houston, TX 77069
Phone (281) 893-9337
Contact: Mr. John Nelson

Each company has also acknowledged that they have a crane that can be made available to meet the Contractor's schedule for the project, provided that adequate advance notice is given. As a condition of availability, each company may require that a deposit be paid to secure the crane to meet the Contractor's schedule. The Contractor shall investigate the crane owner that he intends to use, to his full satisfaction, and shall be responsible for the successful completion of the work.

Condition of Bid Acceptance

Within 14 days after the bid opening the apparent low bidder shall provide written documentation that a crane capable of accomplishing this work is available and can be secured by him for use on the project. The Contractor's documentation from the crane company shall state that the crane is available to allow for the Contractor to complete the work within the available contract time for the project. The statement shall be signed by an officer of the Contractor and the owner of the crane, and shall be notarized.

As a condition of bid acceptance, the Contractor shall verify that he has secured the crane that he proposes to use to complete the erection of the proposed truss segment. The crane secured shall be capable of completing the erection without future modifications or waivers of the Metro-North

Railroad requirement that the crane be capable of completing the operation using 150% of the load.

This verification shall indicate that the Contractor has met any and all of the requirements of the crane owner to secure the crane including placing a deposit, if required by the crane company, prior to the award of the contract.

Payment to Contractor for Securing the Crane

Immediately following the "Notice to Proceed" for the contract, and as part of the pay item for "Cranes", the Contractor may submit a request for payment for the full amount of the deposit that the Contractor has placed with the crane owner to secure the crane.

Metro-North Railroad Review and Requirements

The erection sequencing and methods developed for the truss segment, as shown on the plans and in the specifications, has been coordinated with and reviewed and endorsed by Metro-North Railroad. It was developed with consideration given to minimizing impacts to the rail operations within the New Haven Interlocking and Rail Yard.

All work within the New Haven Interlocking and Rail Yard is governed by the ConnDOT Department of Rails, Metro-North Railroad and Amtrak requirements, as applicable, and shall be coordinated by the Contractor. The coordination of the work with all affected parties is the complete responsibility of the Contractor. The Department will acknowledge no changes, claims or delays to the Contractor's work, due to insufficient coordination of the work.

Track and power outages are required for the Contractor's operations on and adjacent to the tracks, including but not limited to the erection of the truss segment. Metro-North Railroad and Amtrak will determine the allowable periods that this work can be accomplished.

Additional information regarding specific requirements governing the Contractor's work within the New Haven Interlocking and Rail Yard, is given on the plans and elsewhere in these specifications, including, the Special Provisions, "Notice to Contractor – Work on Railroad Property" and "Section 1.05.06 – Cooperation with Utilities (Including Railroads)".

Geotechnical/Crane Foundations

The Contractor shall note that limited subsurface investigations have been completed in the areas designated for the placement of the crane as shown on the erection sequence drawings. The crane foundations shown on the plans are schematic and for information only. Included in this work, is the requirement that the Contractor submit a foundation analysis and design for the crane. It shall be prepared by a Professional Engineer licensed in the State of Connecticut, and experienced in this type of work. Any and all foundations required to adequately support the crane shall meet the requirements of the crane owner. The Contractor shall perform additional subsurface investigations that are required to complete the analysis and design.

Work Area

The Contractor shall note that a sizeable work area will be required to assemble, operate and disassemble the crane. Work areas as shown on the erection sequence drawings have been designated to complete this work. The work areas have been coordinated with Metro-North

Railroad and Amtrak for use by the Contractor. If the Contractor requires the use of additional areas for his operations he shall be responsible for coordinating the use with the railroads. Refer to the plans and in the special provision "Notice to Contractor – Work on Railroad Property" for additional information pertaining to work on railroad property.

Relocation/protection of utilities within the crane work areas is the responsibility of the Contractor. The measures taken to relocate/protect the utilities shall be coordinated with and as required by the owner of the each utility. Coordination, design and construction of this work is the responsibility of the Contractor. The work will be paid for under Section 1.09.04 (b) – Specialized Work of Form 814A. This notice does not supercede Section 1.05.06 – Cooperation With Utilities (including Railroads).

Contractor Proposed Alternatives

The Contractor is hereby notified that the Department has determined that no feasible alternative erection methodology exists that will have equal or less disruption to railroad operations within the New Haven Interlocking and Rail Yard. Therefore, the Contractor is hereby advised that **No Alternative Erection Schemes** will be entertained for the erection of structural steel truss (Segment 2). This includes but is not limited to any Value Engineering Proposal the Contractor may consider appropriate.

The Contractor may consider the use of a crane company other than the three (3) mentioned within this Notice To Contractor, however should the footprint of any approved equal require more area for assembly and operation than that shown on the erection sequence drawings for the truss of Segment 2 then the Contractor shall be responsible for the following:

- Coordination with and approval from the appropriate rail company/property owner of any additional parcel of property required.
- Any time required to procure the use of the additional property.
- Any utility relocation resulting from the use of the additional property.
- Any restoration of additional property.

In no case shall any additional cost to the State be incurred for the Contractors attempt to secure the use of an alternative crane.

Note: If the Contractor chooses to pursue the use of an alternative crane company, the Contractor must submit a complete package that addresses all the requirements in the contract specifications and on the contract plans for the crane. This submission must be made to the Department within 30 days of the Contractor being deemed the apparent low bidder. The Department shall review and approve or comment on the Contractor's submission within 30 days of receipt of the submission. The Department must approve the submission as a condition of the award. No extension of the time frame for award will be issued due to the Contractor's failure to receive approval of the alternative crane submission. Failure to receive approval of the alternative crane submission will result in the Contractor's bid being deemed a non-responsive bid.

NOTICE TO CONTRACTOR – PROTECTION OF EXISTING UTILITIES

The utilities within the limits of the New Haven Rail Yard are owned by The State of Connecticut/Metro-North Railroad, except for the gas service, which is owned up to the building connections by The Southern Connecticut Gas Company (SCG) and the communications cables at the base of the retaining wall along Union Avenue, which are owned by SNET. See also Section 1.07 – "Contractor's Responsibility for Adjacent Property and Services".

It should be noted that the work included under this contract requires the relocation of numerous utility installations, both within the limits of the New Haven Rail Yard and Interlocking, and outside the Rail Yard. The removal of previously abandoned utilities is also required. In general, the utility relocations and removals are required to allow for construction of the proposed substructure components of the bridge and the proposed drainage facilities. The required utility relocation work is to be completed under this project, as well as several concurrent projects, as noted on the plans and in these specifications or as directed by the Engineer. It is the responsibility of the Contractor to insure that the required utility relocations and/or removals that he is performing are completed prior to the proposed construction.

The Contractor shall be aware that before, during and after the completion of the project, there are several other ongoing independent projects adjacent to and within the project limits. These projects are as listed in Section 1.05.07 – "Coordination with Work by Other Parties". These projects also include the relocation of existing utilities and the installation of new facilities. It should be noted that the Contractor's activities may overlap the activities of the contractors engaged in the execution of the other projects, as well as, the activities of State of Connecticut, Metro-North, Amtrak and other railroad and utility company personnel.

The Contractor shall completely coordinate his operations with the affected utility companies and/or agencies, and to insure that his work is coordinated with that of the other contractors. The coordination of the work is the complete responsibility of the Contractor. When the work required under his contract is in conflict with work being carried out by another contractor or agency, it is the responsibility of the Contractor to notify the Engineer immediately of the conflict.

Existing utilities shall be maintained during construction except as specifically stated herein and/or noted on the plans and as coordinated with the utilities. The Contractor shall verify the location of underground, structure mounted and overhead utilities. Construction work within the vicinity of utilities shall be performed in accordance with current safety regulations.

The Contractor shall notify "Call Before You Dig", telephone 1-800-922-4455 for the location of public utility, in accordance with Section 16-345 of the Regulations of the Department of Utility Control.

Representatives of the various utility companies shall be provided access to the work, by the Contractor.

Contractors are cautioned that it is their responsibility to verify locations, conditions, and field dimensions of all existing features, as actual conditions may differ from the information shown on the plans or contained elsewhere in the specifications.

The Contractor shall notify the Engineer prior to the start of work and shall be responsible for all coordination with the Department. The Contractor shall allow the Engineer complete access to the work.

The Contractor shall be liable for all damages or claims received or sustained by any persons, corporations or property in consequence of damage to the existing utilities, their appurtenances, or other facilities caused directly or indirectly by the operations of the Contractor.

Any damage to any existing private and public utility, as a result of the Contractor's operations, shall be repaired to the utilities and Engineer's satisfaction at no cost to the State or the Utilities, including all materials, labor, etc., required to complete the repairs.

The Contractor's attention is directed to the requirements of Section 1.07.13 – "Contractor's Responsibilities for Adjacent Property and Services".

Prior to opening an excavation, effort shall be made to determine whether underground installations, i.e., water, sanitary, gas, electric ducts, communication ducts, etc., will be encountered and, if so, where such underground installations are located. When the excavation approaches the estimated location of such an installation, the exact location shall be determined by careful probing or hand digging, and when it is uncovered, proper supports shall be provided for the existing installation. Utility companies shall be contacted and advised of proposed work prior to the start of actual excavation, as noted above. Note that test pits have been dug at several locations throughout the project. The test pit data is shown on the plans.

Railroad Protection

Railroad flagging that is required within the rail yard by the privately owned utilities to complete their work is the responsibility of the Contractor. The Contractor shall coordinate the scheduling of the protection with the railroad and the privately owned utility company requiring the flag.

Proposed UI and SNET Easement Within the Rail Yard.

The Contractor shall survey and stake out the proposed utility easement (UI and SNET) prior to the installation of the proposed utilities. The stakes shall sufficiently identify the easement.

Clearing and Grubbing

The Contractor shall complete all clearing and grubbing required by each of the utilities within the limits of their work as soon as possible.

Waste Stockpile Area (WSA)/Ground Water Treatment

The utilities are required to transport all excess and/or unsuitable excavated material and ground water to the WSA and Ground Water Treatment Facility, respectively. The utilities may not begin any excavation prior to the completion of the WSA and Ground Water Treatment Facility. Therefore, it is essential that the WSA and Ground Water Treatment Facility be established to allow for the utility relocations to begin. Each of the utility companies is responsible for dewatering their excavations and to adhere to the required environmental

specifications. Construction of the WSA shall allow for the future relocation underground of the overhead wires as shown in the plans.

Utility Installations on Segment 2

It shall be specifically noted that the water main and telephone conduit on the truss span of Segment 2 shall be installed prior to the lifting and moving of the completed truss into its final position on Piers 1 and 2. The section of the water main shall be completely pressure tested by the water company prior to lifting the truss (approximately 48 hours will be required for the water company to complete the testing). The Contractor shall be responsible for and completely coordinate this work with the utility companies so as not to delay the project.

It is the responsibility of each utility company to properly ground and bond their pipe/conduit over electrified wires within the yard. Metro-North Railroad and/or Amtrak will determine the need for the ground and bonding system.

It is anticipated that the installation of the proposed telephone conduits and water main on the proposed Church Street South will be completed in several stages depending on the actual sequencing of the work by the Contractor. The Contractor is responsible for the complete coordination of the work with each of the utilities.

Utility Installations Within the Project Limits

The utility installations being completed as part of this project, includes but is not limited to the following:

- The existing gas mains are being abandoned and the proposed gas mains are being placed by SCG. SCG will require approximately one month to complete this work.
- The existing overhead electric and telephone lines at the south end of the Rail Yard are being placed underground in concrete encased duct banks by UI and SNET, respectively. UI and SNET will require approximately six months to complete this work.
- The existing overhead electric, telephone and communications lines along the retaining wall at the south side of Union Avenue will be relocated to new poles along the north side by UI, SNET and AT&T Local Services. Approximately six months will be required to complete this work.
- The existing communications cables at the base of the Union Avenue retaining wall are to be relocated by SNET. Under this contract, the Contractor is required to provide surface mounted and underground conduit, conduit installed through the existing concrete retaining wall and connections to the existing manholes, etc. as shown on the plans to accommodate the communications wires by SNET. SNET will complete this work as part of the relocation of their underground duct bank in Union Avenue.
- Existing overhead, surface mounted and embedded electric wires are to be relocated by the Contractor, as shown on the plans.
- Existing overhead communications wires within the rail yard are being relocated underground or removed by Metro-North Railroad prior to the Contractors work under the project in this area.
- Existing water mains and sanitary sewers, as shown on the plans, are to be relocated by the Contractor.
- New water mains and sanitary sewers, as shown on the plans, are to be installed by the Contractor.

- The Contractor is required to relocate all existing utilities impacted due to the operation of the High Capacity Crane. The Contractor is responsible for the design and coordination of the relocations with the utility owners, as required.

Utility Sequencing/Details

The following utility sequencing and details are required to allow for the completion of the construction of the project. It does not necessarily include all of the relocation work required, the coordination of which shall be the complete responsibility of the Contractor. The listing includes work that is to be completed under other projects and by Metro-North Railroad.

- The Contractor shall complete all work required to allow each of the utilities to relocate their facilities. The Contractor shall completely coordinate the timing and sequencing of the relocation work with the work required under the contract. Delays to the project as a result of the Contractor's lack of coordination with the utilities is the complete responsibility of the Contractor.
- The existing gas mains are to be abandoned and removed prior to construction of Piers 6 and 7, Abutment 2, the retaining structure and the proposed drainage, box culvert and water mains at Church Street Extension. The Contractor shall take extreme caution at the crossing of the box culvert and proposed gas main at Church Street South. It is anticipated that the proposed box culvert will be installed under the proposed gas main.
- The existing overhead electric and telephone wires and poles and the south end of the rail yard shall be relocated prior to construction of Pier 7. It is anticipated that the proposed conduit duct banks will be installed above the existing and proposed drainage pipes to the west of the bridge at the south end of the rail yard.
- The existing fire protection main shall be relocated prior to construction of Pier 7.
- The existing overhead electric and telephone wires and poles along the Union Avenue retaining wall and the underground telephone duct bank at Union Avenue are to be relocated prior to reconstruction of the wall and construction of Abutment 1 and Wingwalls.
- The existing communications and electric wires in and adjacent to the Union Avenue retaining wall shall be relocated prior to construction of Abutment 1 and Wingwalls.
- The proposed drainage at Church Street South is to be installed prior to the relocation of the underground telephone duct bank.
- The Contractor shall take extreme caution in the vicinity of the Union Avenue retaining wall not to damage the existing underground electric duct bank to remain. The location of the duct bank shown on the plans is based on limited field investigations.
- The overhead electric feeder wires and poles and the overhead communications wire and poles in the rail yard shall be relocated prior to the construction of Pier 5.
- The guy wires for the existing railroad catenary system shall be relocated prior to construction of Pier 5.
- The existing abandoned communications wires and handhole shall be removed prior to construction of Pier 4.
- Existing drainage and water mains in the rail yard shall be relocated prior to construction of various proposed piers.
- In the vicinity of the Wheel Mill Building and the Train Masters Building, the overhead electric wires are to be relocated by the Contractor and the overhead communications wires are to be relocated by Metro-North Railroad, prior to assembly of the High Capacity Crane.

- The overhead power and signal feeder wires supported on TP #3 and TP #4 are to be removed under State Project No. 301-0039 prior to construction of proposed Piers 3 and 4, proposed superstructure of Segment 3 and the proposed truss of Segment 2.
- The Contractor shall coordinate the installation of the load center at Church Street South/Union Avenue with UI.

NOTICE TO CONTRACTOR - HANDLING WATER

DESCRIPTION:

This work shall consist of furnishing and installing labor, materials, and equipment in order to handle flows in the storm drain and sanitary sewer systems. This item includes flows from any source, including, but not limited to, storm drainage, sanitary sewer flows, tidal flows, and groundwater. The handling of water shall be in accordance with the requirements of Section 1.10

MATERIALS:

The Contractor shall furnish, install, operate, maintain, and remove material and equipment for the purpose of handling water, including, but not limited to, sandbags, temporary bulkheads, temporary pipe plugs, bypass piping, temporary piping, temporary manholes and catch basins, bypass pumps and hoses, pipe taps for pump discharges, and the like. The Contractor shall also provide on site sections of piping and incidental materials to install in order to handle storm flows during construction.

CONSTRUCTION METHODS:

The Plans indicate a suggested method for handling water. The Contractor may propose a different approach, provided the approach complies with the requirements specified herein.

Sanitary Sewer Flows: Sanitary sewer flows shall be maintained at all times. The Contractor shall provide bypass pumping during the tie-ins to the existing line. The Contractor shall provide pumping sufficient to handle the sewer pipe flowing full. Actual flow conditions may vary at the time of construction.

Tidal Flows: The Contractor shall handle tidal flows while constructing the new storm drainage system. The Contractor shall obtain tide charts to determine the times of high and low tides and estimated elevations of tides in New Haven Harbor. The Contractor's attention is directed to the existing flap valves at the downstream end of the twin 72-inch pipes. Currently, these valves do not completely close. The Contractor's plan for handling water should not rely on the use of the existing valves to control tidal flows. The Contractor may adjust his work hours to take advantage of low tide conditions.

Storm Drain Flows: The Contractor shall handle flows in the existing storm drain system while constructing the new storm drainage system. The Contractor shall provide temporary piping and structures, bypass pumping, temporary bulkheads or plugs, sandbags, temporary bypass piping, and other material and equipment in order to maintain flows. Existing dry weather flows in the storm drain system may include tidal flows in and out of the pipes (see description above) and groundwater.

Bypass Pumping Operations: Whenever bypass pumping is utilized, the Contractor shall provide labor to maintain and operate the pump on a 24-hour-a-day, 7-day-a-week basis. The Contractor is responsible for obtaining and paying for power if electric pumps are used.

Any pumped water must be discharged in accordance with the requirements of Section 1.10.

METHOD OF MEASUREMENT:

Temporary piping and manholes will be measured for payment as follows:

1-Temporary Pipe Culverts will be measured for payment by the actual number of linear feet of pipe of the various sizes and types as indicated on the plans, completed and accepted and measured in place along the invert. Removal of Temporary Pipe Culverts will not be measured for payment.

2-Temporary Manholes will be measured for payment as units of the various sizes and depths as indicated on the plans. The depth of the unit shall be the total depth, measured from the highest point of the cover to bottom of floor slab. Removal of Temporary Manholes will not be measured for payment.

There will be no measurement or direct payments for all other applicable work, but the cost of this work shall be considered as included in the general cost of the work.

BASIS OF PAYMENT:

Temporary piping and manholes will be paid for as follows:

1-Excavation will be paid for as "Trench Excavation" in accordance with the provisions of Article 2.05.05.

2-Temporary Pipe Culverts will be paid for at the contract unit price linear foot for temporary pipe of the various sizes and types as indicated on the plans, completed in place , including all materials, equipment, tools and labor incidental thereto. Removal of Temporary Pipe Culverts will be included in the contract unit price.

3-Temporary Manholes will be paid for at the contract unit each for temporary manholes of the various sizes and types as indicated on the plans as units of the various sizes and depths as indicated on the plans. completed in place , including all materials, equipment, tools and labor incidental thereto. Removal of Temporary Manholes will be included in the contract unit price.

There will be no direct payment for all other work, but the cost thereof shall be included in the general cost of the contract.

SECTION 1.03 - AWARD AND EXECUTION OF CONTRACT

Article 1.03.01 – Consideration of Bids. This Article is amended by adding the following at the end of the first paragraph:

The Contractor is not required to provide documentation and samples of materials furnished by the Utility Companies. The Utility Companies will furnish material documentation directly to the Connecticut Department of Transportation.

Article 1.03.02 - Award and Execution of Contract:

In the second sentence of the only paragraph, "The award, if made, etc.", change "within 60 days after the opening of the proposals to read "on or before March 23, 2001".

Article 1.03.08 – Notice to Proceed and Commencement of Work.

Change the first paragraph to read as follows:

"The Contractor will commence and proceed with the Contract work on the date specified in written notice to proceed issued by the Engineer to the Contractor. The date specified will be on or before April 2, 2001."

Delete the last sentence of the fourth paragraph, "If, however, the Engineer ... than said April 1."

ITEM #100780A – CRANES

Article 6.03.01 - Description:

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

This special provision provides requirements for the erection of the structural steel truss of Segment 2 within the New Haven Interlocking and Rail Yard. A specific erection sequence has been developed for completing the erection of the truss by the use of a single crane (hereinafter referred to as "the crane"), as shown on the Structure Drawings. The crane has a sufficient load and movement capacity to lift and move the fully assembled truss segment from temporary supports south of the Proposed Pier 2 to its final position over the Interlocking and Main Line Tracks. The fully assembled truss is the completed structure of Segment 2, including all components of the truss, remain-in-place forms, inspection platforms, proposed utilities and drainage and protective shielding/work platforms, but exclusive of the concrete bridge deck, as indicated on the plans and in these specifications. Additional permanent and/or temporary components may be included in the lift as determined by the Contractor and approved by the Engineer, with the purpose being to minimize the work required over the tracks. No temporary bents or towers will be allowed between Proposed Piers 1 and 2.

This item shall consist of all work necessary and required to complete the following: securing the crane for use on the project; mobilization and assembly of the crane; completion of the lifting and moving of the proposed truss segment into its final position; and disassembling and demobilization of the crane and the restoration of the site to its original condition.

For additional information related to the use of the crane see, "Notice to Contractor – Erection of Structural Steel Truss (Segment 2)" and the Structure Drawings.

This item shall also include, but not necessarily be limited to, the following work required to incorporate the crane into the contract:

1. Providing all equipment for lifting and moving the fully assembled proposed truss (Segment 2) from the temporary location to the proposed location, as indicated on the plans and in these specifications.

2. Providing all materials, equipment, tools, labor, transportation, including any temporary works that may be required for mobilizing, assembling, completing the lifting and moving of the truss, and disassembling and demobilizing the crane.

3. Providing all equipment, materials and temporary shoring for the protection of the existing and proposed railroad tracks, as may be required, existing utilities, including drainage systems and existing structures impacted by the work included under this item. The work also includes the protection/relocation of utilities within the foundation limits of the crane and the crane work areas as required. The Contractor is responsible for the coordination with the owner of the facility impacted, and the design and construction required to relocate/protect the utilities as approved by the owner of the utility and the Engineer. This work shall also include the removal and legal disposal of the Liquefied Propane Gas (LPG) tank including supports, foundations, pipes, and fencing around the tank, as indicated on the plans.

4. The use of the crane will require a foundation analysis and design by a geotechnical engineer employed by the Contractor, including but not limited to determination of the soil bearing capacity and settlement analysis for the construction conditions covered under this item.

5. The results of the foundation analysis may require complete foundations and/or foundation improvements for the safe operation of the crane and all other equipment required. The Contractor is responsible for determining the foundation requirements, and for providing all engineering analysis and design services required.

6. Provide all materials, labor, equipment, and incidentals required to construct any foundations/foundation improvements required.

7. Hauling and legal disposal of all excavated materials from the foundation improvements, including the removal of any existing masonry, timbers, boulders, steel piles, and all other materials including natural and/or man made obstructions, including contaminated materials.

8. This item will also include the analysis, design, furnishing, fabricating, delivering, installing, removal, and disposal of any foundation improvements, as well as the restoration of the work area at the crane to the original condition in a timely manner when the work covered under this item is completed

9. Recording and documenting any foundation improvements made.

10. The Contractor shall provide all materials, equipment, tools, labor, transportation, operations and all work incidental to completing the work under this item.

Working drawings and computations prepared by the Contractor and stamped by a Professional Engineer licensed in the State of Connecticut, shall be submitted to the Engineer, as required, for any and all work required to complete the work covered under this item, including but not limited to the following:

- Crane layout drawings, including loading charts and computations.
- Crane detail and assembly drawings, catalog cuts, parts listing.
- Crane rigging working drawings and computations, including the layout and design and detailing of the attachment of the rigging to the proposed truss.
- Structural analysis and design for all components required for the operation of the crane as required.
- Crane foundation analysis and design and working drawings.
- Utility relocation/protection drawings.

The Contractor shall provide sufficient copies of all submittals to include distribution of the submittals to those parties identified elsewhere in these specifications and Metro-North Railroad, Amtrak and ConnDOT - Rails Unit. The Contractor may have to provide additional copies of the submittals as directed by the Engineer. The Department reserves the right to approve the use of any and all Professional Engineers performing the work.

Article 6.03.02 - Materials:

Delete the entire article and replace with the following:

The materials for this work shall conform to the requirements of the Standard Specifications Form 814A, these Special Provisions, and additional specifications and codes as required by the Department, the crane manufacturer, supplier and the Contractor's Engineer and as deemed necessary by the Contractor.

Foundation Improvements:

All materials used for any foundation improvements shall conform to Division III, Materials Section of Form 814A as amended by the Special Provisions.

Article 6.03.03 - Construction Methods:

Add the following to Subarticle 1 – Shop Drawings:

The contractor shall submit working drawings to the Engineer for approval in accordance with Article 1.05.02(2). The working drawings shall be prepared, sealed and signed by a Connecticut Licensed Professional Engineer. These drawings shall include, but not be limited to, the following information:

A layout and work area plan for the operation of the crane to lift and move the proposed truss into its final position, including timetable and sequencing of the work. This shall include the sequencing and timetable to move the crane away from the tracks after the truss has been placed in its final position.

The plan shall include complete details of all materials and parts of the crane, crane assembly details including the assembly sequencing and the required work area for the assembly, assembly time schedule, equipment used for assembling the crane, rigging member sizes, elevations, sections, attachment points, details of method of detaching rigging after setting, and lateral restraint to be used during the pick. It shall include the crane pick schedule, crane capacity charts, operators experience, crane certification, crane certification test results, monitoring procedures for the truss as well as the crane and foundation during the pick, rigging design including computations, wind load analysis, results of preloading the crane work area, and the approval of the crane owner of all foundation analysis and improvement designs and results of preloading. Sufficient crane charts including safe working loads and radii, factors of safety and any other crane capacity information as deemed necessary by the Contractor, his engineer, the crane manufacturer and regulations and codes.

It shall include foundation analysis results including allowable bearing pressures and predicted settlements, dimensions, sheeting for excavations, field measurements, utility relocation or protection plans. The plan shall be accompanied by computations which shall include field measurements, foundation analysis results including allowable bearing pressure and predicted settlements, analysis and design of any required foundation improvements, crane area preload procedure. The Contractor shall submit, in addition to the aforementioned working drawings, fully checked design computations prepared by a Professional Engineer licensed by the State of Connecticut with experience in this type of work.

In addition to these submittals, the Contractor shall submit a full report detailing the results of the preloading by the crane prior to lifting and moving the truss into its final position. The Contractor shall allow sufficient time for the Department to review this submittal, prior to completing the truss erection.

The Contractor shall develop contingency plans the can be used if the truss cannot be set into its final position and must be brought back to its staging area. This plan must be submitted to the Engineer for review.

Add the following general requirements:

Protection of Coated Structural Steel: All fully coated and cured assemblies shall be protected from handling and shipping damage with the prudent use of padded slings, dunnage, separators and tie downs. Loading procedures and sequences shall be designed to protect all coated surfaces.

Erection marks for field identification of members and weight marks shall be affixed in such a manner as to facilitate removal upon final assembly without damage to the coating system.

Add the following subarticle:

39 – High Capacity Crane

(a) Securing the Crane: The Contractor shall secure the use of a single crane with a sufficient load and movement capacity to lift and move the fully assembled structural steel truss of Segment 2 from temporary supports south of Proposed Pier 2 to the final location over the Interlocking and Mainline Tracks, as shown on the plans. The awarding of the contract will be contingent upon verification that the Contractor has secured a crane capable of completing the erection of the fully assembled truss without future modifications or waivers of the Metro-North Railroad requirement that the crane be capable of completing the operation using 150% of the load. The crane shall be provided by a company experienced in this type of work.

(b) Crane Foundation: The Contractor shall retain an experienced geotechnical engineer to analyze the foundation conditions and requirements in consultation with the owner of the crane to be used. The Contractor shall submit the resume of the Geotechnical Engineer he proposes to use for this work to the Department for approval, prior to beginning the work. The geotechnical engineer shall determine foundations required for the safe operation of the crane as required for the completion of the contract. The geotechnical engineer shall be a Professional Engineer licensed in the State of Connecticut, experienced in analysis and design of foundations for large construction loads. The geotechnical engineer shall perform the analysis and design based on loadings, bearing pressures, and settlement requirements, etc. provided by the owner of the crane to be used. The foundation analysis and the proposed crane foundation design shall be submitted to the Engineer for review. Any and all foundations required to adequately support the crane shall meet the requirements of the crane owner.

The Contractor shall submit working drawings for the as-built foundations. Drawings shall be on Mylar sheets of approved size and shall be sealed by a Registered Land Surveyor in the State of Connecticut. The Contractor shall note that limited subsurface investigations have been completed in the areas designated for the placement of the crane as shown on the "Erection

Sequence (Segment 2)" drawings. The existing subsurface borings are shown in the contract drawings in the vicinity of the bridge and work area. The Contractor shall perform additional subsurface investigations that are required to complete the analysis and design. The borings shall be coordinated with Metro-North, Amtrak, and Department and shall be performed at no cost to the State. The results of the borings shall be provided to the Engineer for review. Existing borings performed under a separate project in the location of the crane work area are included below and on the following pages for informational use.

(c) Existing Utilities: Prior to performing any work adjacent to or above any existing utilities, including drainage systems, the Contractor shall notify the owner of the facility to coordinate the work. For utilities that are impacted by the crane, the Contractor is responsible for providing protective measures to insure that the facility it is not damaged. The Contractor may elect to either temporarily or permanently relocate the facility in allowable locations as shown on the plans, and as approved by the owner of the facility and the property owner. All work performed by the Contractor shall be in accordance with the requirements of the owner of the facility involved.

The Contractor shall remove and legally dispose of the LPG tank, including supports, foundations, pipes, and fencing surrounding the tank to a minimum of 2 feet below finished grade, or as directed by ConnDOT/ Metro-North Railroad (MNRR). The tank will be taken out of service and purged by MNRR prior to the Contractors start of removal.

If existing service lines, utilities, and utility structures to remain in service are uncovered or encountered during these operations, the Contractor shall relocate them, protect them from damage and provide support if necessary and as required. There following charted utilities are within the limits of the proposed locations of the crane foundations, as shown on the plans as follows: water mains, sanitary sewer main, underground electric line, propane gas line and tank, overhead electric and communications wires on poles and drainage system.

Should uncharted or incorrectly charted piping or other utilities be encountered during this work, the Contractor shall immediately notify the Engineer and the utility owner. The Contractor shall cooperate with the utility owner in keeping their respective service, utilities, and facilities in operation. The Contractor shall perform additional subsurface investigations to verify that the utilities with in the influence of the crane have been adequately located and accounted for.

The Contractor is responsible for maintaining and protecting all existing facilities and shall repair any facility damaged due to his operations to the satisfaction of the Engineer and the owner of the facility, at no cost to the State.

The Contractor shall excavate with the utmost care in the vicinity of existing facilities to prevent damage. Hand digging shall be employed as required and as directed by the Engineer.

(d) Preloading: The Contractor shall survey the area to be used by the crane for completing the erection of the truss segment after all foundation improvements have been made. The area shall be preloaded to at least 125% of the intended loads during the full operation of the crane. The area shall be resurveyed and the results submitted to the geotechnical engineer, the crane owner and the Engineer for review. The Contractor shall provide any other additional data as required. The Contractor shall be responsible for correcting the foundation due to uneven settlement as a result of the preloading so as to insure that the operation of the crane is within

the tolerances of the crane owner.

(e) Equipment: The equipment shall be in good working condition. No leaking, broken, temporarily repaired or missing parts will be allowed.

The Contractor shall have on the project site replacement parts for all major mechanical and electrical components of the crane and any non-major parts that are not locally readily available within 30 minutes during the operation of lifting and moving the truss segment into place. The Contractor shall provide proof of availability of any part as requested by the Engineer. The parts list shall be as approved and as ordered by the Engineer.

(f) Crane Operation: The crane shall be operated by a licensed operator(s) with a minimum of 10 years experience in lifts of comparable weight at the proposed radius, and successful completion of at least three lifts of comparable weight at the proposed radius. At the time of award of the contract, the crane shall be capable of making the lift as required without future modifications or waivers of Metro-North load requirements, including any required capacity chart increases above the pick weight of any governing agencies, as stated in the Special Provisions. The pick shall be performed with a heavy-duty crane with a demonstrated capacity chart in accordance with SAE J 786 and J 987. All equipment shall be maintained in satisfactory working condition and shall be operated by competent and experienced personnel throughout the operation.

Vibration or excessive wheel loads shall not be allowed within the immediate vicinity of any railroad tracks.

Track outages are required for the Contractor's work on and adjacent to the railroad right-of-way. Metro-North Railroad will determine the work that requires track outages. The Contractor shall coordinate track outages required with Metro-North Railroad.

The Contractor is required to comply with FAA requirements regarding the use of temporary cranes so that the Determination of No Hazard is granted. The markings and lights are to be included in the general cost of the project.

(g) Miscellaneous: If for any reason the truss can not be placed onto the final proposed bearings during the allowable railroad outage time, the Contractor shall be prepared to place the truss onto proposed Piers 1 and 2 on temporary supports. This will require the subsequent jacking of the truss onto its final bearings.

The Contractor is made aware that the location of the crane operation is within the 100 year flood plane, as shown on the Roadway Drawings. If necessary, the Contractor shall be prepared to follow the requirements of the "Best Management Practices for the Protection of the Environment", contained within the specifications.

Article 6.03.04 – Method of Measurement:

Add the following after the third paragraph:

The Contractor will be paid for the work under this item as follows: All labor, materials, equipment, parts, and incidentals required for the analysis, design, review, approval, furnishing, fabricating,

transporting, delivery, excavation, handling, treatment, disposal, installation, preloading, measuring, adjusting, repairing, removal, treatment, and disposal of, or any other item of work associated with, any crane will not be measured for payment, but will be included under this item.

The work included under this item will be paid for upon the completion of the following milestones:

- Securing the Crane.
- Mobilization and Assembly of the Crane.
- Completion of the Lifting and Moving of the Proposed Structural Steel Truss (Segment 2).
- Disassembly and Demobilization of the Crane and Restoring the Site.

The Contractor will be paid at each milestone an amount that is based on his actual costs. Immediately after the Notice to Proceed, the Contractor shall submit to the Engineer for approval, a "Schedule of Values" that details the portion of the bid amount to be included under each milestone.

Article 6.03.05 - Basis of Payment:

Add the following after the second paragraph:

No additional payment will be made for engineering services performed by the Contractor and/or his engineers as required to incorporate the crane into the contract, in accordance with this specification and as directed by the Engineer. These services include but are not limited to structural, geotechnical, including subsurface investigations that the Contractor deems necessary to adequately design the proposed crane foundations.

No additional payment will be made for any foundation improvements required, either by the Engineer or the owner of the crane. Any foundation improvements required will be included in the unit price for structural steel completed in place.

Utility protection, relocation, removal or disposal associated with the crane foundation requirements or crane pick, or as specified in this item shall be paid for under Section 1.09.04 (b) – Specialized Work of Form 814A on a cost-plus basis. This notice does not supercede Section 1.05.06 – Cooperation With Utilities (Including Railroads).

Immediately after the award of the contract, and included in the pay item for "Cranes", the Contractor may submit a request for payment for the full amount of the deposit that the Contractor has placed with the crane supplier to secure the crane. The Contractor shall submit with the request for this payment sufficient evidence of the amount and acceptance by the crane owner of the amount for the sole purpose of securing the crane for use on this project. The Contractor is advised that no additional payment will be made associated with any penalties invoiced by the crane company resulting from the Contractor rescheduling the time frame for use of the crane which are due to the Contractor's inability to progress the work in a timely manner.

ITEM #507989A - JUNCTION CHAMBER NO. 1
ITEM #507990A - JUNCTION CHAMBER NO. 2
ITEM #507991A - JUNCTION CHAMBER NO. 3

Description:

These items shall consist of furnishing and installing junction chambers where shown of the plans.

Materials:

General: Junction Chambers may be constructed utilizing precast concrete, poured-in-place concrete, or a combination. The Contractor shall submit detailed shop drawings illustrating the construction of each chamber, including details of reinforcing steel. For precast elements, the Contractor shall submit detailed structural calculations stamped by a structural engineer registered in the State of Connecticut.

Precast elements shall be designed to withstand all dead loads including, but not limited to, lateral earth pressure, dead weight of cover materials, AASHTO HS20-44 vehicle loading (including impact), and hydrostatic pressure due to groundwater.

Materials shall conform to the applicable requirements of Article M.08.02 and the following:

Concrete shall conform to the requirements of Article M.03.01. All poured-in-place concrete shall be Class "A" concrete.
Reinforcing steel shall conform to the requirements of Article M.06.01.

Manhole Steps: Provide manhole steps of the type detailed on the plans.

Non-shrink grout: Non-shrink, non-metallic grout: Provide non-metallic cement based grout requiring only the addition of water, with minimum 28-day compressive strength of 8,000 psi, with shrinkage compensation characteristics in both the plastic and hardened states, conforming with ASTM C1107, "Grade C." Provide one of the following products:

1) Five Star Grout 100 by Five Star Products, Inc.

2) SikaGrout 212 as manufactured by Sika Corporation.

3) Masterflow 928 by Master Builders, Inc.

4) Or equal.

Construction Methods:

Confirmation of Existing Conditions: Prior to the start of construction, the Contractor shall excavate test pits at Junction Chambers No. 1 and 3 to locate the existing drainage pipes and verify the inverts. At Junction Chamber No. 3, locate the twin 72-inch pipes and the 24-inch inlet pipe. Verify the distance between the 72-inch pipes. At Junction Chamber No. 3, locate the CMP arch pipe. Also verify locations of pipes and inverts for all pipes at existing structures No. 126 and 127. The Contractor shall prepare sketches of the existing structure at 1/4 inch = 1 foot scale and submit them to the Engineer. The sketch at Junction Chamber No.1 shall show the relations ship of the proposed manhole to Pier #7. The Contractor shall note and differences between what was found in the field and what is shown on the plans.

General: Construct manhole in accordance with the requirements of Section 5.07 and the following:

Reinforced concrete shall be installed in accordance with Sections 6.01 and 6.02.

Install manhole steps from the inlet to the invert of the manhole as shown on the plans.

Junction Chamber No. 3: Construct Junction Chamber No. 3 around the existing 72-inch RCPs. Saw cut or use other means to cleanly cut the existing RCPs. Remove sections of the existing RCPs and CMPs within the footprint of the proposed chamber. The Contractor's attention is drawn to the detail of how the existing 72-inch RCPs are joined to the 60-inch CMPs by use of concrete collars. The Contractor shall completely remove all of the existing concrete that interferes with the construction of Junction Chamber No. 3.

Pipe connections: Utilize flexible sleeve or compression gasket for connection pipes up to 36-inch in diameter to precast concrete. For larger pipes, utilize non-shrink grout where the interstitial space is 3 inches or less. Where the space between the pipe and the precast concrete is greater than 3 inches, utilize reinforced concrete as detailed on the plans.

Method of Measurement:

Junction Chambers, being paid for on a lump sum basis, will not be measured for payment.

Basis of Payment:

Junction Chambers will be paid for at the contract lump sum price for each chamber, complete in place, including all materials, labor, equipment, tools and work incidental thereto.

ITEM #603354A - STRUCTURAL STEEL (SEGMENT 2)

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

Article 6.03.01 – Description:

Add the following to the end of the article:

This item shall include the assembly of the structural steel truss of Segment 2 supported on the proposed welded girders of Segment 3, as shown on the "Suggested Erection Sequence – Truss Assembly" plans. The Contractor is completely responsible for the erection of the truss and shall completely design and detail the erection sequencing and methods. Also included under this item is the use of temporary transfer beams and hold-down devices, as shown on the "Suggested Erection Sequence – Truss Assembly" plans. It shall include the design of, and the furnishing, fabricating, transporting, erecting, installing, and the removal and disposal of, the transfer beams and hold-down devices, as required.

This item will also include supporting and jacking the fully assembled truss segment at the four reaction posts for the purpose of determining the correct installation of remain-in-place forms, and to allow for the installation of the proposed inspection platforms. The remain-in-place forms and the inspection platforms shall be installed when the truss is in the temporary location. This jacking will require the use of temporary support structures, including bracing and foundations, and hydraulic jacks, as required, and as determined by the Contractor. It shall include the design of, and the furnishing, fabricating, transporting, erecting, installing, jacking, and the removal and disposal of, the temporary supports, bracing, foundations and jacks, as required.

Included under this item is the preparation of working drawings and computations, as required, and as noted herein and elsewhere in these specifications, for the methods and temporary work the Contractor proposes to complete the work included under this item. All working drawings and computations shall be signed and sealed by a Professional Engineer licensed in the State of Connecticut and experienced in this type of work. The Department reserves the right to approve the use of any and all Professional Engineers performing the work.

It is anticipated that the placement and removal of the concrete forms for the cantilever deck slab will be completed after the structural steel truss of Segment 2 is lifted and moved into its final position. Metro-North Railroad and Amtrak requires that this work be completed above temporary work platforms/protective shielding.

The installation of the work platforms/protective shielding over the railroad right of way for the purposes of deck forming and any of the other Contractor's operations as required by the railroad(s) will be included under this item.

This item will also include the removal and legal disposal of the abandoned transformer foundation and appurtenances at Pier 2 and the abandoned transformer crib at Pier 3, as indicated on the plans.

Article 6.03.02 - Materials:

The materials for this work shall conform to the requirements of Section M.06 amended as follows:

Subarticle M.06.02-1 – Structural Steel: Delete the entire subarticle and replace with the following:

The structural steel shall be low alloy conforming to the requirements of AASHTO M270, Grade 50 or ASTM 709 HPS Grade 70W as shown on the plans.

Fasteners: All high strength ASTM A325 Type 1 bolts, nuts and washers for use in the galvanized steel truss shall be mechanically galvanized in accordance with ASTM B695, Class 50.

The structural steel for the main load carrying components of the structure shall meet the Zone 2 Charpy V-notch Impact Testing requirements, for fracture critical and non-fracture critical members, in accordance with AASHTO M270 (ASTM A709).

Subarticle M.06.03 – Galvanizing: add the following:

Before hot dip galvanizing, the tanks shall be cleaned to remove surface and bottom contamination, i.e. dross, sludge, ash and flux.

The steel members shall be hot-dip galvanized by completely submerging them in the galvanizing tank.

The hot-dip galvanizing shall conform to the requirements of ASTM A123 as amended as follows:

Subarticle 6.2 – Add the following:

The coating shall be inspected by visual means with the aid of straight edge and dry film thickness instruments. The overall dry film thickness shall be 3.4 – 8.0 mils. Joint faying surfaces shall have a dry film thickness of 3.4 – 4.5 mils.

Subarticle 6.4 – Appearance: Delete the first three sentences and replace with:

Galvanized articles shall be free from uncoated areas, blisters, flux deposits, acid and black spots, and dross inclusions. Lumps, projections, globules, or heavy deposits of zinc will not be permitted. All holes shall be clean and free of excess zinc.

Inspection shall be visual with the aid of straight edge instruments to determine compliance with the requirements of 6.2 and 6.4. Articles that have a nonuniform, rough coating shall be ground smooth with power tools such as disc grinders. If grinding has been performed, the resultant surface shall comply with 6.2 and 6.4.

All damage, (i.e., scratches, nicks, cracks), on the hot dip galvanized steel shall be repaired in accordance with ASTM A780 Annex A2 "Repair using Zinc-Rich Paints". The Zinc-Rich paint shall conform to Federal Specification TT-P-641 Type 1 and shall be brush applied with a dry film thickness range of 3 to 6 mils.

Add the following Subarticle.

Subarticle M06.05 – Certified Tests Reports, Material Certificates and Certificates of Compliance:

The Contractor shall furnish Certified Test Report in conformance with Article 1.06.07 confirming that the structural steel meets the chemical and strength requirements stated herein. The

Contractor shall furnish Materials Certificate in conformance with Article 1.06.07 confirming that the structural steel galvanizing meets the requirements stated herein.

Temporary Supports: All steel for the temporary support of the structural steel shall conform to the requirements of ASTM A709 Grade 36 or Grade 50, as proposed by the Contractor and approved by the Engineer. All material shall be in conformance with the Connecticut Department of Transportation Standard Specifications Form 814A. The structural steel for the temporary supports need not be painted. All bolts shall be high strength bolts conforming to ASTM A325. Anchor bolts shall be fully threaded rods conforming to ASTM A449. Threaded rods for the hold-down devices shall conform to ASTM A354 Grade BD. All materials required for the temporary support of the proposed structural steel, which are not required in the completed structure, shall remain the property of the Contractor and shall be removed from the site when it is no longer needed.

Article 6.03.03 - Construction Methods:

Add the following to Subarticle 1 – Shop Drawings:

The Contractor shall prepare and submit to the Engineer, Working Drawings and Computations for approval in accordance with Article 1.05.02(2), for the work required under this item. The working drawings and computations shall be stamped by a Professional Engineer Licensed in the State of Connecticut and experienced in this type of work. The drawings and computations shall fully depict the erection methods, sequences, details and materials and equipment the Contractor proposes to use.

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

Truss Assembly:

- A sequencing plan for the complete assembly of the proposed truss, including bracing members and floor beams and stringers.
- A layout plan for the temporary supports required, including bracing and guying to be used during the assembly of the proposed truss.
- Complete member sizes, material specifications, dimensions, connection details, temporary support systems, working loads and design methods, field measurements and grades as required, and an estimated time schedule for the truss assembly operation.

Truss Jacking:

- A sequencing plan for supporting and jacking the fully assembly truss for the purpose of determining the correct installation of remain-in-place forms, and to allow for the installation of the proposed inspection platforms.
- A layout plan for the temporary support structures, including bracing and foundations, and hydraulic jacks, as required. It shall include the design of, and the furnishing, fabricating, transporting, erecting, installing, jacking, and the removal and disposal of, the temporary supports, bracing, foundations and jacks, as required.

The Contractor's attention is directed to the fact that specific "Erection Sequencing" as shown on the plans and elsewhere in these specifications, have been developed for the erection of the Structural Steel Truss (Segment 2) over the Metro-North Railroad. The Contractor shall determine the specifics of and be responsible for the actual erection methods and sequencing with the approval of the Engineer. Prepare and submit to the Engineer working drawings and computations in accordance with Article 1.05.02-2 of Form 814A. The drawing shall be prepared and stamped by a professional Engineer licensed in the State of Connecticut fully depicting his proposed methods and sequencing. These drawings shall include, but not be limited to complete details of the methods, materials and equipment he proposes to use for this purpose.

Add the following subarticle:

39 – Removal of Existing Facilities

The contractor shall remove and legally dispose of the abandoned transformer foundation and appurtenances at Pier 2 and the abandoned transformer crib at Pier 3 to a minimum of 2 feet below grade or as directed by ConnDOT/ Metro-North Railroad.

Article 6.03.05 – Basis of Payment

Add the following at the end of the article:

No additional payment will be made for the removal and legal disposal of existing facilities under this item. The cost will be included in the unit price for this item.

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER MANAGEMENT

December 1, 2000

Connecticut Department of Transportation
2800 Berlin Turnpike
P.O. Box 317546
Newington, CT 06131-7546
Attn: Edgar T. Hurle

RE: Revisions to FM-99-158
DOT Project No. 92-520
Reconstruction of Church Street
New Haven

Dear Mr. Hurle:

This Office has reviewed your change request submitted on November 16, 2000 for the above referenced project. The DOT's request to install a new chamber with twin 72-inch flex valves within the Church Street Extension drainage system is hereby approved.

This change is requested because the downstream Mall project, which has been authorized to install flex valves at the outlet, has been delayed. In the event the Mall project is constructed and the outlet work is accomplished, then the DOT's internally mounted chamber flex valves will be removed from the system. Therefore, there would be only one set of flex valves in place at any one time. The approval issued by this Department on March 29, 2000 is still valid for this proposed project.

If you have any questions regarding this matter, please contact Sharon Yurasevecz, of my staff, at 424-3019.

Sincerely,

Charles E. Berger, Jr.
Director
Inland Water Resources Division

CEB:SKY

cc: Michael Masayda, Hydraulics and Drainage Unit, DOT
Stephen Scholz, DOT