

ATTACH TO CONTRACT DOCUMENTS

THE CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION

DIVISION OF BRIDGES
BRIDGE ENGINEERING

Rehabilitation of Broadway Bridge Over
The Harlem River

NYCDOT P.I.N. 84118MNBR160

Contract No. HBM1147

NYSDOT P.I.N. No. X757.53

Fed. Aid Project No. X757533

B.I.N.: 2-24013-7

TOGETHER WITH ALL WORK INCIDENTAL THERETO
BOROUGH OF MANHATTAN

ADDENDUM NO. 3

April 9, 2018

NOTE

Attached please find Addendum No. 3 (pages AC-1 to AC- 128)

1. NOTICE TO BIDDERS (AC-1 to AC-8)
2. Responses to Contractor's questions (Pages AC-9 to AC-65)
3. Contract Specification Book 1 of 3 - Revised pages 000021, 000031 and 000036 (Page AC-66 to AC-68)
4. Contract Specification Book 2 of 3 - Revised pages 000464 and 000522 (Pages AC-69 and AC-70)
5. Contract Specification Book 3 of 3 – Revised pages 001172, 001173, 001233, 001234, 001302, 001696, 001711, 001775 and 001885 (Pages AC-71 to AC-79)
6. In Contract Specification Book 3 of 3 - Specification for Item 567.64000001 – Replacing Compression Seal For Existing Bridge Joints was added as page 1205A and Item 572.0002NN01 – Metalizing was added as pages 001216A to 001216I (Pages AC-80 to AC-89).
7. Revised (39) Contract drawings (Pages AC- 90 to AC-128) (Separate Package)
Sheet Nos. 2 (G-2), 3 (G-3), 4 (G-4), 5 (G-5), 6 (G-6), 8 (G-8), 9 (G-9), 32 (C-5), 40R (WZTC-4R), 41R (WZTC-5R), 51 (S-5), 54 (S-8), 56 (S-10), 69R (S-23R), 75 (S-29), 76 (S-30), 78 (S-32), 84 (S-38), 90 (S-44), 91 (S-45), 92 (S-46), 94 (S-48), 100 (S-54), 102 (S-56), 105 (S-59), 106 (S-60), 141 (S-95), 142 (S-96), 148 (A-5), 161 (A-18), 171 (A-28), 172 (A-29), 217 (E-9), 223 (E-15), 224 (E-16), 225 (E-17), 226 (E-18), 235 (E-27), 281 (E-73)

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NYCDOT P.I.N. 84118MNBR160
Contract No. HBM1147
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Fed. Aid Project No. X757533

B.I.N.: 2-24013-7

ADDENDUM NO. 3

April 9, 2018

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

NOTICE TO BIDDERS:

1. **Except as otherwise stated below and by any previous and subsequent Addenda, the above referenced Invitation for Bids (“IFB”), remains unchanged. Furthermore, this Addendum is hereby made part of the contract documents.**
2. Clarifications in response to questions from Prospective Bidders.
3. In Contract Specification Book 1 of 3 pages 000021, 000031 and 000036 were revised.
4. In Contract Specification Book 2 of 3 pages 000464 and 000522 were revised.
5. In Contract Specification Book 3 of 3 pages 001172, 001173, 001233, 001234, 001302, 001696, 001711, 001775 and 001885 were revised.
6. In Contract Specification Book 3 of 3 specifications for Item 567.64000001 – Replacing Compression Seal For Existing Bridge Joints and Item 572.0002NN01 – Metalizing were added.
7. Thirty nine (39) Contract Drawings were revised and included in this addendum.

These drawings (AC-90 to AC-128) will not be available online. Separate package must be picked up at the ACCO’s Contract Unit, Bid Window, Ground Floor, at 55 Water Street, New York, NY 10041 between 9:00 AM and 3:00 PM Monday to Friday, excluding holidays, starting from 04/11/18 by 10:00 AM.

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Addendum No. 3**

A. REFER TO CONTRACT SPECIFICATION BOOK 1 OF 3

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|----|-------------------------------|---|
| 1. | REFER
DELETE
SUBSTITUTE | To Sheet 000021 (Page F-1)
The referenced sheet in its entirety
with ATTACHED Sheet 000021R (Page F-1R) |
| 2. | REFER
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SUBSTITUTE | To Sheet 000031 (Page F-11)
The referenced sheet in its entirety
with ATTACHED Sheet 000031R (Page F-11R) |
| 3. | REFER
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SUBSTITUTE | To Sheet 000036 (Page F-16)
The referenced sheet in its entirety
with ATTACHED Sheet 000036R (Page F-16R) |

B. REFER TO CONTRACT SPECIFICATION BOOK 2 OF 3

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| 4. | REFER
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SUBSTITUTE | To Sheet 000464 (Page S-7)
The referenced sheet in its entirety
with ATTACHED Sheet 00464R (Page S-7R) |
| 5. | REFER
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SUBSTITUTE | To Sheet 000522 (Page S-66)
The referenced sheet in its entirety
with ATTACHED Sheet 000522R (Page S-66R) |

C. REFER TO CONTRACT SPECIFICATION BOOK 3 OF 3

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| 6. | REFER
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SUBSTITUTE | To Sheet 001172 (Page I-i)
The referenced sheet in its entirety
with ATTACHED Sheet 001172R (Page I-iR) |
| 7. | REFER
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SUBSTITUTE | To Sheet 001173 (Page I-ii)
The referenced sheet in its entirety
with ATTACHED Sheet 001173R (Page I-iiR) |
| 8. | REFER
INSERT | To Sheet 001205 (Page I-32)
ATTACHED sheet 001205A (Page I-32A) |

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| 9. | REFER
INSERT | To Sheet 001216 (Page I-43)
ATTACHED sheets 001216A to 001216I
(Pages I-43A to I-43I) |
| 10. | REFER
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SUBSTITUTE | To Sheet 001233 (Page I-60)
The referenced sheet in its entirety
with ATTACHED Sheet 001233R (Page I-60R) |
| 11. | REFER
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SUBSTITUTE | To Sheet 001234 (Page I-61)
The referenced sheet in its entirety
with ATTACHED Sheet 001234R (Page I-61R) |
| 12. | REFER
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SUBSTITUTE | To Sheet 001302 (Page I-129)
The referenced sheet in its entirety
with ATTACHED Sheet 001302R (Page I-129R) |
| 13. | REFER
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SUBSTITUTE | To Sheet 001696 (Page I-523)
The referenced sheet in its entirety
with ATTACHED Sheet 001696R (Page I-523R) |
| 14. | REFER
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SUBSTITUTE | To Sheet 001711 (Page I-538)
The referenced sheet in its entirety
with ATTACHED Sheet 001711R (Page I-538R) |
| 15. | REFER
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SUBSTITUTE | To Sheet 001775 (Page I-602)
The referenced sheet in its entirety
with ATTACHED Sheet 001775R (Page I-602R) |
| 16. | REFER
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SUBSTITUTE | To Sheet 001885 (Page I-712)
The referenced sheet in its entirety
with ATTACHED Sheet 001885R (Page I-712R) |

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D. REFER TO CONTRACT DRAWINGS

- | | | |
|-----|---------------------------|--|
| 17. | REFER
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INSERT | To Drawing No. G-2 (Sheet 2)
The referenced sheet in its entirety
ATTACHED Drawing No. G-2R (Sheet 2R) |
| 18. | REFER
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The referenced sheet in its entirety
ATTACHED Drawing No. G-3R (Sheet 3R) |
| 19. | REFER
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The referenced sheet in its entirety
ATTACHED Drawing No. G-4R (Sheet 4R) |
| 20. | REFER
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The referenced sheet in its entirety
ATTACHED Drawing No. G-5R (Sheet 5R) |
| 21. | REFER
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The referenced sheet in its entirety
ATTACHED Drawing No. G-6R (Sheet 6R) |
| 22. | REFER
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The referenced sheet in its entirety
ATTACHED Drawing No. G-8R (Sheet 8R) |
| 23. | REFER
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The referenced sheet in its entirety
ATTACHED Drawing No. G-0R (Sheet 9R) |
| 24. | REFER
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INSERT | To Drawing No. C-5 (Sheet 32)
The referenced sheet in its entirety
ATTACHED Drawing No. C-5R (Sheet 32R) |
| 25. | REFER
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INSERT | To Drawing No. WZTC-4R (Sheet 40R)
The referenced sheet in its entirety
ATTACHED Drawing No. WZTC-4R1 (Sheet 40R1) |

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| 26. | REFER
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The referenced sheet in its entirety
ATTACHED Drawing No. WZTC-5R1 (Sheet 41R1) |
| 27. | REFER
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ATTACHED Drawing No. S-5R (Sheet 51R) |
| 28. | REFER
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ATTACHED Drawing No. S-8R (Sheet 54R) |
| 29. | REFER
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ATTACHED Drawing No. S-10R (Sheet 56R) |
| 30. | REFER
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ATTACHED Drawing No. S-23R1 (Sheet 69R1) |
| 31. | REFER
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ATTACHED Drawing No. S-29R (Sheet 75R) |
| 32. | REFER
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ATTACHED Drawing No. S-30R (Sheet 76R) |
| 33. | REFER
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INSERT | To Drawing No. S-32 (Sheet 78)
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ATTACHED Drawing No. S-32R (Sheet 78R) |
| 34. | REFER
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ATTACHED Drawing No. S-38R (Sheet 84R) |

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| 35. | REFER
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ATTACHED Drawing No. S-44R (Sheet 90R) |
| 36. | REFER
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ATTACHED Drawing No. S-45R (Sheet 91R) |
| 37. | REFER
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ATTACHED Drawing No. S-46R (Sheet 92R) |
| 38. | REFER
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The referenced sheet in its entirety
ATTACHED Drawing No. S-48R (Sheet 94R) |
| 39. | REFER
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ATTACHED Drawing No. S-54R (Sheet 100R) |
| 40. | REFER
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ATTACHED Drawing No. S-56R (Sheet 102R) |
| 41. | REFER
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ATTACHED Drawing No. S-59R (Sheet 105R) |
| 42. | REFER
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The referenced sheet in its entirety
ATTACHED Drawing No. S-60R (Sheet 106R) |
| 43. | REFER
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INSERT | To Drawing No. S-95 (Sheet 141)
The referenced sheet in its entirety
ATTACHED Drawing No. S-95R (Sheet 141R) |

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| 44. | REFER
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INSERT | To Drawing No. S-96 (Sheet 142)
The referenced sheet in its entirety
ATTACHED Drawing No. S-96R (Sheet 142R) |
| 45. | REFER
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INSERT | To Drawing No. A-5 (Sheet 148)
The referenced sheet in its entirety
ATTACHED Drawing No. A-5R (Sheet 148R) |
| 46. | REFER
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INSERT | To Drawing No. A-18 (Sheet 161)
The referenced sheet in its entirety
ATTACHED Drawing No. A-18R (Sheet 161R) |
| 47. | REFER
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INSERT | To Drawing No. A-28 (Sheet 171)
The referenced sheet in its entirety
ATTACHED Drawing No. A-28R (Sheet 171R) |
| 48. | REFER
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INSERT | To Drawing No. A-29 (Sheet 172)
The referenced sheet in its entirety
ATTACHED Drawing No. A-29R (Sheet 172R) |
| 49. | REFER
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INSERT | To Drawing No. E-9 (Sheet 217)
The referenced sheet in its entirety
ATTACHED Drawing No. E-9R (Sheet 217R) |
| 50. | REFER
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INSERT | To Drawing No. E-15 (Sheet 223)
The referenced sheet in its entirety
ATTACHED Drawing No. E-15R (Sheet 223R) |
| 51. | REFER
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INSERT | To Drawing No. E-16 (Sheet 224)
The referenced sheet in its entirety
ATTACHED Drawing No. E-16R (Sheet 224R) |
| 52. | REFER
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INSERT | To Drawing No. E-17 (Sheet 225)
The referenced sheet in its entirety
ATTACHED Drawing No. E-17R (Sheet 225R) |

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|-----|--------|---|
| 53. | REFER | To Drawing No. E-18 (Sheet 226) |
| | DELETE | The referenced sheet in its entirety |
| | INSERT | ATTACHED Drawing No. E-18R (Sheet 226R) |
| 54. | REFER | To Drawing No. E-27 (Sheet 235) |
| | DELETE | The referenced sheet in its entirety |
| | INSERT | ATTACHED Drawing No. E-27R (Sheet 235R) |
| 55. | REFER | To Drawing No. E-73 (Sheet 281) |
| | DELETE | The referenced sheet in its entirety |
| | INSERT | ATTACHED Drawing No. E-73R (Sheet 281R) |

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E. CLARIFICATIONS IN RESPONSE TO QUESTIONS FROM PROSPECTIVE BIDDERS

1. **Question:** Specifications, Item 596.1202129 – Open Roadway Grid Deck. Under DESCRIPTION, page I-60, remove the word “sealed.” Under Field Installation on page I-61, add the following sentences, “As with other decks, the filled grid portion is not leak proof and minor concrete and grout seepage may occur. Gaps between the main bars and form pans shall be field sealed by the contractor with a silicone caulk as required to prevent excessive concrete and grout leakage.”

Response: See revised page I-60R (001233R) of Book 3 of 3. The Item DESCRIPTION has been revised. Refer to revised Dwg. No. S-45R (Sheet No. 91R). A note has been added regarding the sealing requirements.

2. **Question:** Specifications, Item 596.1202129 – Open Roadway Grid Deck. Under MATERIALS, page I-60, revise the minimum section properties to 3.5 in³/ft for the top and 4.1 in³/ft for the bottom to match BGFMA publication.

Response: See revised page I-60R (001233R) of Book 3 of 3. MATERIALS has the bottom section revised but the top shall remain as shown.

3. **Question:** Specifications, Item 596.1202129 – Open Roadway Grid Deck. Under MATERIALS, page I-60 add “Bailey Bridges” to the list of authorized fabricators.

Response: The Contractor has the option to submit a different manufacturer as an approved equal.

4. **Question:** Contract Plans, Drawing WZTC-7, Sheet 43. The ends of grid deck installed in Stage 1 are supported by temporary stringers. With no longitudinal deck joint connection detail provided, once the temporary stringers are removed, a cantilevered grid deck will result. Please provide a longitudinal deck joint connection detail or permanent support to eliminate the cantilever.

Response: See revised Dwg. No. S-45R (Sheet No. 91R). A longitudinal deck joint connection detail has been provided.

5. **Question:** Contract Plans, Drawing WZTC-7, Sheet 43. The deck replacement in NB Stage 2 consists of an 8’-6” FRP deck supported by the three outboard stringers, and a 3’-6” concrete filled grid deck supported by the third stringer from the outside and a temporary stringer. Once the temporary stringer is removed, without a longitudinal deck

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joint connection detail or a permanent support, the concrete filled grid deck will be supported only at one end.

Response: See response to question 4 above.

6. **Question:** Contract Plans, Drawing WZTC-8, Sheet 44. Same condition described in #5 above applies to SB Stage 3.

Response: See response to question 4 above.

7. **Question:** Contract Plans, Drawing WZTC-8, Sheet 44. The 10-0" deck replacement in NB Stage 3 needs to fit in between deck which has already been installed in previous stages. There can be zero positive length tolerance on these panels, and the panels need to be supported and spliced as discussed above. Shims will need to be supplied, but are not specified. Please add provisions for shims for splice locations.

Response: See revised Dwg. No. S-45R (Sheet No. 91R). A note has been added that indicates the need for shims.

8. **Question:** Contract Plans, Drawing WZTC-8, Sheet 44. Is it possible for the NB Staging to mirror that of the SB staging so that panel placement works from inside to outside?

Response: The suggested scheme would result in four "cattle chutes", an undesirable condition.

9. **Question:** Contract Plans, Drawing S-45, Sheet 91. Note 2 specifies a post-galvanization maximum weight of 18.2 lb/sf. With the required 1/2" trim bar all-around and galvanization, the weight of the panel will be closer to 22 lb/sf and more depending on the details of the "clamping" system.

Response: See revised Dwg. No. S-45R (Sheet No. 91R). Note 3 has been revised.

10. **Question:** Contract Plans, Drawing S-45, Sheet 91. Note 3. See #2 above for revisions to the minimum section properties.

Response: See revised Dwg. No. S-45R (Sheet No. 91R). The minimum section properties for the bottom has been revised but the top shall remain as shown in Note 4.

11. **Question:** Contract Plans, Drawing S-45, Sheet 91. The plan detail shows the requirement for 4" long, 3/8" square bars to be attached to the ends of the panels along the longitudinal joint. What purpose do these serve? Where on the panel are they

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attached? How are they attached?

Response: See revised Dwg. No. S-45R (Sheet No. 91R). The square bars have been deleted.

12. **Question:** Contract Plans, Drawing S-45, Sheet 91. Please provide a longitudinal deck joint connection detail showing shims, as required.

Response: See response to question 4 above.

13. **Question:** Contract Plans, Drawing S-45, Sheet 91. In the TRANSVERSE DECK JOINT DETAIL, please add provisions for a shim pack between the connection plates as required. Please revise the spacing of the 7/8" diameter bolts to 8" maximum center to center spacing to coordinate with spacing of the grid deck components. Please provide more detail on the plate shown between the bottom of the main bearing bar and the vertical trim plate to include thickness, dimensions, and how it is attached to the deck components.

Response: See revised Dwg. No. S-45R (Sheet No. 91R). The detail has been revised.

14. **Question:** Contract Plans, Drawing S-45, Sheet 91. In the TYPICAL SECTION AT CROSS BARS, reference is made to a "clamp." Please provide details of this clamping system including all dimensions and any details for attachment to the deck components. Please provide a transverse detail showing the clamping system.

Response: See revised Dwg. No. S-45R (Sheet No. 91R). The attachment details have been revised.

15. **Question:** The contract documents call for a Zn-Al (85-15) thermal spray coating to new and existing structural steel. Wet concrete paste reacts with aluminum and creates hydrogen gas and blisters the concrete. Please ensure that the 1'-6" concrete in the filled strip of grid does not interact with the aluminum in the thermal spray coating.

Response: As noted in question 1, the Open Roadway Grid Deck item includes a form pan. The form pan will serve to isolate the concrete from the metalizing.

16. **Question:** Please refer to DWG S-46 (sheet 92). Note 9 states "REPLACING COMPRESSION SEAL FOR EXISTING BRIDGE JOINTS TO BE PAID UNDER ITEM 567.64000116.". There is no 567.64000116 on bid form. Please be advise where this item will get paid.

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Response: See revised Dwg. No. S-46R (Sheet No. 92R). Item 567.64000001 has been indicated in Note 9 and has been added to the bid schedule in Part F in Book 1 of 3 as well as the revised Estimate of Quantities – 1, Dwg. No. G-8R (Sheet 8R).

17. **Question:** Please refer to DWG S-48 (sheet 94) Section A-A. This shows ¾” plates and 6”x3”x3/4” angles under the finger joint plate to support it. Please advise how these are connected to the finger joint plate.

Response: See revised Dwg. No. S-48R (Sheet No. 94R). The required welds have been indicated.

18. **Question:** Please refer to DWG S-30 (sheet 76) and DWG S-55 (sheet 101). The Concrete Median Barrier Details shown on drawing S-30 show a top width of 9” and a bottom width of 18” per the slope dimensions. On drawing S-55, the callout for the South Tower Span shows 10” and 2’4” for the width of median barrier. Please confirm which median barrier dimensions to use.

Response: The dimensions on Dwg. No. S-30 (Sheet No. 76) are correct. The top width is 9” and the bottom width is 2’-3”. On Dwg. No. S-55, the intent is to provide 5’-0” transitions from those dimensions to those of the steel median barrier shown on Dwg. No. S-56 (Sheet No. 102) 9½” top width, 1’-9¼” base width.

19. **Question:** Please refer to DWG S-48 (sheet 94) Section A-A and DWG S-51 (sheet 97) Section A-A. Section A-A on sheet 94 shows new support framing for expansion finger joint between South Tower Span and Lift Span. Section A-A on sheet 97 shows new support framing for deck joint between North Tower Span and Lift Span, however, there are no sections and no plan shown for existing joint support framing. Please show us sections of existing joint support framing and let us know what item number for removal of exist. Expansion joint removal is under.

Response: Supplemental drawings have been provided showing existing support framing. The removal of the existing structural steel associated with the expansion joints is paid for under Item 589.010001.

20. **Question:** Please refer to DWG S-24 (sheet 70) Section A-A. This shows the new stringer connection to the existing floor beam, however there is no detail on how the new open roadway is connected to the existing floor beam. Please provide this detail.

Response: See revised Dwg. No. S-45R (Sheet No. 91R).

21. **Question:** Please refer to Sheet 161 (Dwg A-18), Door Schedule: The door frames for

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Doors GH1 and G1 are shown to be made of Hollow Metal. Should these door frames be made of stainless steel to match their respective door material?

Response: Refer to revised Dwg. No. A-28R (Sheet No. 171R). The Door Schedule has been corrected.

22. **Question:** Please refer to Sheet No. 171 (Dwg A-28), Door Schedule: The door frames for Doors GH1 and G1 are shown to be made of Hollow Metal. Should these door frames be made of stainless steel to match their respective door material?

Response: Yes

23. **Question:** Please refer to spec page 001311, Item 690.11240029 – Control House. Metal Plate Roofing is included in the “Description” paragraph. This work is not shown in the drawings. Please advise if this work is to be included. If so, please provide drawings, details, and specifications.

Response: Metal Plate Roofing is existing to remain.

24. **Question:** Please refer to spec page 001392, Item 690.11250029 – Gateman’s House. Exterior Corrugated Metal Wall Paneling is included in the “Description” paragraph. This work is not shown in the drawings. Please advise if this work is to be included. If so, please provide drawings, details, and specifications.

Response: Exterior Corrugated Metal Wall paneling is existing to remain.

25. **Question:** Please refer to spec page 001427, Item 690.11260029 – North & South Gateman’s Shelters. Refinishing Exterior Metal Wall Paneling is included in the “Description” paragraph. This work is not shown in the drawings. Please advise if this work is to be included. If so, please provide drawings, details, and specifications.

Response: Clean as specified in Item 690.11260026 – NORTH & SOUTH GATEMAN’S SHELTERS per paragraph N(4)(d) on page 001452 (page 26 of 46).

26. **Question:** Please refer to DWG S-19 (sheet 65) Section A-A and DWG S-24 (sheet 70) Section F-F. These drawings indicate that the median is to be removed under Bid Item No. 587.01, however, this item number is not listed on the bid form. Please advise where to include this work.

Response: See response to question 3 in Addendum No. 2.

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27. **Question:** Please refer to DWG S-19 (sheet 65) Section A-A and DWG S-24 (sheet 70) Section F-F. Please provide the connection detail for the existing median barrier to the existing structure.
- Response: See response to question 10 in Addendum No. 2.**
28. **Question:** Please provide the connection detail of the existing concrete filled grid deck on top of the Floor Beams and Stringers.
- Response: Supplemental drawings have been provided showing existing connections.**
29. **Question:** Will the NYC DOT publish the list of attendees to the Pre-bid meeting?
- Response: See Addendum No. 2 for list of Attendees.**
30. **Question:** Would you please provide the As-Built drawings for this bridge?
- Response: As-built drawings will be provided at award of contract.**
31. **Question:** Please refer to Dwg S-59 to S-61 (sheet 105-107). These drawings show the proposed sidewalk stair enclosure with expanded metal fabric. There is no demolition drawing showing the removal of the existing wooden enclosure. Please advise if this is to be removed. If so, what item number should this be included in?
- Response: See revised Dwg. No. S-59R (Sheet No. 105R). A pay Item has been provided.**
32. **Question:** Please refer to DWG WZTC-4 to WZTC-5 (Sheets 40-41). There is an IMPACT ATTENUATOR-Item 619.1802 shown on the Northwest most corner of the temporary precast barrier in the drawing on the top of sheet 40, however, the drawing on the lower half of the page calls this out in a different location, on the barrier string just to the East of that. Should there be an attenuator at the beginning of each of the four the barrier strings? Similarly, on sheet 41.
- Response: See revised Dwg. Nos. WZTC-4R1 and WZTC-5R1 (Sheet Nos. 40R1 and 41R1). Additional impact attenuator locations have been indicated.**
33. **Question:** Reference is made to Part F – Bid schedule checklist on specification page 18 and the forms contained on specification pages 314, 318, 319, 322, 323, 324 and 410. Are the forms contained on specification pages 314, 318, 319, 322, 323, 324 and 410 required to be completed and submitted with the bid?

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Response: Yes. As per Item 5 under BID SCHEDULE CHECKLIST on Page 000018 and last paragraph on Page 000315, the forms in Attachment 3b need to be submitted with the bid.

34. **Question:** Please refer to Sheet 112, 113, and 114. These show work items on South Tower, North tower, and Lift Span Elevation structure, respectively. Please provide the bid item numbers, the scope and the detail for this work.

Response: Details, scope, and bid items for all work locations shown on Sheet Nos. 112-114 are contained within Sheet Nos. 115-140 with pay items listed. Sheet Nos. 112 to 114 are to give general reference to location of the miscellaneous steel work on the structure.

35. **Question:** Please refer to DWG S-70 (sheet 116) for the Southwest Lift Span Expansion Shoe Repair:
- a. Please let us know what the minimum jacking load should be.
 - b. To provide temporary support on South Pier, we need to know lift span truss chord member size. Please provide this information.
 - c. If there is any existing steel piece connecting to vertical and horizontal truss member near the expansion shoe, please provide us with the connection detail.

Response: The amount of jacking required to unload the existing expansion shoe will be due to the imbalance at the time of work which is expected to be small and within balance tolerances required by the Contract Documents. The live load reaction will fluctuate depending on the number of open lanes and sidewalks. The maximum, unfactored live load reaction at the expansion shoe is 980kips for the condition of all lanes, sidewalks, and tracks open. The Contractor must make his own assessment of this reaction, including any construction equipment on the span, for the stage he proposes to perform the shoe repair work. Details of the chord at the expansion shoe have been provided in the supplemental information.

36. **Question:** In reference to spec page 001646, Items 690.11370029 – Maintaining Balance and 690.11380029 – Balance Blocks, please confirm that “unit price” should be revised to “lump sum” for Lines 1, 2, and 3 under the Partial Payment Schedule.

Response: The Unit Price refers to the Lump Sum pay item 690.11370029- Maintaining Balance as there is no need for partial payment of the blocks.

37. **Question:** Please refer to Sheet 208 (M-35), Note 9, “The existing pit steel floor shall be reinforced as required to have sufficient strength to sustain vertical forces on guide mast and to withstand, without permanent deformation, the impact resulting from the buffer engagement at the governor tripping speed.” Please provide detailed drawings

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and specifications to perform this work at the two elevator pits.

Response: The Contractor must make his own assessment of this reaction, for the elevator system he proposes to replace the existing elevator and determine if reinforcing is required. Select drawings of the existing elevator that includes details of the elevator pit and buffers have been provided as supplemental information, see “1998 Replacement of Elevators and Rehab of Ropes.pdf”.

38. **Question:** Refer to NYSDOT Spec. 558 – Longitudinal Sawcut Grooving of Structural Slab Surface. Para. 558-1 Description. Saw cut grooves into the surface of a Portland cement concrete structural slab at the locations indicated in the contract documents. Please confirm there is no requirement for Longitudinal Saw cut Grooving for this project.

Response: No longitudinal sawcut grooving of the structural slab surface is required for this project.

39. **Question:** Refer to DWG S-45 (sheet 91). This drawing shows a typical transverse deck joint detail, however, it does not show the detail for the longitudinal deck joints which are not on top of a new stringer (see DWG WZTC-7 (sheet 43), WZTC-8 (sheet 44) and S-42 (sheet 88)). Please provide the connection detail for the longitudinal construction joints.

Response: See response to question 4 above.

40. **Question:** Refer to DWG S-23 (sheet 69). This drawing shows the metalizing of the Lift Span floor beam’s top flange (bid item 570.96750129). Please clarify if the top flange is to be metalized both on top and the bottom of the top flange or just to top of the top flange.

Response: Only the top of the top flange is to be metalized.

41. **Question:** Refer to Bid Item No. 634.20010111 – Primary Protective Shields. Is there a weight limit for the protective shield used on the Lift Span?

Response: Since the movable span needs to remain operational (except for the 3 month closure period), the contractor shall minimize the amount of protective shielding to be used. As the work progresses, the lift span becomes lighter and additional shielding may be permitted. This will be determined through the contractor’s balance calculations.

42. **Question:** Refer to DWG M-4 (sheet 177) Work Item No. 10 – “Remove select wire

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ropes (up to 12) at any sheave”. When will the Engineer determine the “then (10) ropes elsewhere as ordered by the engineer”

Response: Refer to Book 3 of 3, page 001537 – Counterweight Sheaves. The Engineer will determine the wire ropes to be replaced based on the review of the Contractor’s inspection report provided under Item 690.11290029 – Operating Machinery.

43. **Question:** Refer to spec book 2 of 3, page 1129, Metro-North Railroad Requirements, note 10 states “Unless otherwise noted by a qualified Metro North Railroad representative, work hours for any project activities with the potential to affect the railroad’s operation are set to begin at 2:00am daily. Contractors must clear the site within Metro North’s ROW no later than 4:45am.” Does installation and removal of protection shielding over the Railroad constitute as an activity with the potential to affect the railroad’s operation?

Response: Yes. This operation will require coordination with MNR.

44. **Question:** Who is responsible for the cost of Metro-North flagmen, inspectors, and maintenance of way personnel?

Response: See response to question 47 in Addendum No. 2.

45. **Question:** Refer to Spec Book 2 of 3, page 1133, second paragraph, first sentence which states “Under the direction of a Metro-North representative (engineer, inspector) the sponsor shall – at no cost to Metro-North – perform pre and post construction surveys of tracks and structures to establish existing horizontal and vertical clearances.” Does this pertain the length of track directly underneath the Broadway Bridge, or does this extend beyond the limits of the bridge? If the survey is to be extended beyond the limits of the bridge, please provide the distance.

Response: Since this pertains to vertical and horizontal clearances, survey is only under bridge.

46. **Question:** Refer to Speck Book 2 of 3, page 1149 thru 1152. Are the insurances shown to be used in conjunction or in addition to the insurances shown in ‘Part H Article 22 – Insurance’ in the General Conditions?

Response: In addition. Insurance reference on pages 001149 through 001152 are for entry permit to MNR property.

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47. **Question:** Refer to Spec Book 2 of 3, page 1157, which states “NYCT is in the process of planning rail track replacement consisting of the middle track (M Track) and Northbound Track on the Broadway Bridge. This work will, if feasible and authorized by NYCDOT, be scheduled during the time the NYCDOT bridge rehabilitation contract is underway.” If any of this work interferes and disrupts the progress of construction for HBM1147, will this be considered a compensable event?

Response: This work will be closely coordinated with Contractor schedule to prevent any claims or delays.

48. **Question:** Refer to Speck Book 2 of 3, page 1163 thru 1166. Are the insurances shown to be used in conjunction or in addition to the insurances shown in ‘Part H Article 22 – Insurance’ in the General Conditions?

Response: Insurance called for in NYC Transit requirements will be in conjunction to the insurances in Part H Article 22. For example, Railroad Protective Liability is required, but not called for in Part H.

49. **Question:** Refer to contract drawing G-11 (sheet no. 11), under PEDESTRIAN CURB RAMPS, SIDEWALKS AND CROSSWALKS. Note 1 states “the exact location and limits of the work are to be determined by the engineer...one or two ramps may be constructed at each corner AOB.” Under what biditem does this work get paid for?

Response: Ramps are shown on Dwg. No. C-2 (Sheet No. 29) and paid for under 608.01050009.

50. **Question:** Refer to contract drawing G-12 (sheet no. 12), under FIELD CONDITIONS. Note 16 requires that the contractor perform a Pre and Post Construction Survey of Existing Buildings within close proximity of the project. Please provide a list of the buildings that are to be surveyed for the purpose of estimated a cost to perform work.

Response: Dwg. Nos. TS-2, TS-4 and TS-5 (Sheet Nos. 18, 20 and 21) show locations of adjacent buildings. Note refers to excavation and other contractor work requirements. If contractor’s operations do not require excavation or operations that may cause distress or damage to buildings near the abutments, survey is not required.

51. **Question:** Refer to sheet no 39 thru 42. Biditem 619.1702 Temporary Concrete Barrier with Warning Light is called out on each page. The bid quantity is 1,440 LF, however our take offs are showing a significant overrun of 5000.

Response: See revised Dwg. Nos. WZTC-3R, WZTC-4R and WZTC-5R (Sheet Nos. 39

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to 41) show correct references to Pay Item 619.1704.

52. **Question:** Refer to sheet 54, Note 6 states “FIELD PLACED CONCRETE SHALL BE PAID FOR UNDER 555.09”, however, according to the legend on this sheet concrete work is paid under 582.06. Please clarify if the concrete repairs on Sheet 54 are paid under 582.06 or 555.09.

Response: See revised Dwg. No. S-8R (Sheet No. 54R), Note 6 has been deleted.

53. **Question:** Refer to Spec book 3 of 3, page 1213 Section G. Tests. These specifications indicate that Adhesion and Bend tests are to be performed on the Floorbeams after receiving the TSC application. Will the NYCDOT perform these tests? What type of testing procedure and what equipment is to be used for these tests?

Response: Tests shall be performed by the Contractor in accordance to D4541 in the presence of the NYCDOT authorized representative.

54. **Question:** Refer to sheet 65, Existing Section A-A. The existing median barrier and existing fence are called out to be removed under Item 587.01. There is no biditem 587.01 in the specifications biditem schedule. The same callout is shown on sheet 66, 67, 68, 69, 70, 71, Please amend this detail.

Response: See revised Dwg. Nos. S-3R (Sheet No. 49), and S-19R through S-25R (Sheet Nos. 65 to 71) in Addendum No. 2.

55. **Question:** Refer to sheet 69, Detail 1. ½” Foam Supported Silicone Joint is to be paid under Item 567.61010107. There is no such biditem in the biditem schedule. Please amend this detail.

Response: See revised Dwg. No. S-23R1 (Sheet No. 69R1). The reference to Item 567.601070107 has been deleted.

56. **Question:** Refer to sheet 84, Note 3 states “REPLACING COMPRESSION SEAL FOR EXISTING BRIDGE JOINTS SHALL BE PAID UNDER ITEM 567.64000116.” Biditem 567.64000116 is not shown on the Biditem List. The same is shown on sheet 92, note 9. Please clarify.

Response: See response to question 16 above.

57. **Question:** Refer to biditem 690.11520029, please indicate where the Vertical Clearance

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Gauge is to be installed on the contract drawings.

Response: See Dwg. No. S-97 (Sheet No. 143) for details on Vertical Clearance Gauge. See E-43 (Sheet No. 251) for location.

58. **Question:** Refer to sheets 105 and 106. The plan views claim the fences are to both be 6' high, but elevation views show the landing fence to be 5'5", and the control room level fence to be 8' (on north elevation) and 8'6" (on east elevation). Please verify which height is correct.

Response: See revised Dwg. Nos. S-59R and S-60R (Sheet Nos. 105R and 106R). Fence heights have been clarified.

59. **Question:** Refer to sheet 105, Elevation (Looking North). The scale is shown to be 1/4"=1'0", but dimensions do not match. Please confirm the correct scale.

Response: See revised Dwg. No. S-59R (Sheet No. 105R). The scale has been corrected.

60. **Question:** Drawing E-43 Indicates a LED Clearance Gauge Light mounted to an existing Timber. Please advise or provide mounting detail.

Response: Contractor shall prepare mounting detail based on specific light fixture to be purchased, and submit in the form of shop drawings per note G6 on Dwg. No. E-1 (Sheet No. 209).

61. **Question:** Drawing E-43 Indicates a LED Clearance Gauge Light mounted to an existing Timber. Please provide Fixture Type and description.

Response: The gauge light shall be as specified in Book 3 of 3 page 001790 (I-617), item 5.

62. **Question:** Drawing E-43 Indicates a LED Clearance Gauge Light mounted to an existing Timber. Please provide conduit and cable type.

Response: Conduit shall be PVC-RGS and wire shall be XHHW-2 as described in Book 3 of 3 for Item 690.11460029.

63. **Question:** Drawing E-7 shows the "Rail Permissive Remote Contractor" going to the "Transit Authority Interlock". Please provide MTA interlock control location.

Response: MTA interlock contactor is located in the control house and is operated by

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the permissive signal from MTA. See Dwg. No. E-73 (Sheet No. 281) for conceptual control schematic.

64. **Question:** Drawing E-8 indicates a photocell going to the PLC cabinet. What is the location of the photocell and what are the mounting details for this photocell?

Response: Contractor to determine best location for installation of photoelectric units for navigation lights, gauge lighting and outdoor lighting, and submit installation details in the form of shop drawings per note G20 on Dwg. No. E-1 (Sheet No. 209). Photocell sensor shall be facing north avoiding any shadows or obstructions.

65. **Question:** Drawing E-9 shows circuits 10, 16, and 28 as 175KW Genset circuits. Is this a Typo for the 250KW Generator requirements?

Response: See revised Dwg. No. E-9R (Sheet 217R) showing correct generator size. For consistency circuit 12 was also changed.

66. **Question:** Drawing E-24 shows a new 105w underdeck luminaire. What is the voltage and panel designation for these fixtures? Where is the location of the lighting controller?

Response: See REMARKS column on conduit and cable schedule for conduits P76 and P77 on Dwg. No. E-102 (Sheet 310).

67. **Question:** Are there present As-built Electrical drawings of the existing bridge and are they available?

Response: Preliminary set of As-built information has been supplied to bidders as part of the supplemental material. Final set of As-built information is to be provided after award.

68. **Question:** E-100 shows conduit P31 having a conduit designation type as PVC-RGS and PVC-SCHED-80. What type conduit should be used?

Response: Underground portion of the conduit run is to be PVC-SCHED 80, aboveground portion of the conduit run is to be PVC-RGS. Contract specifications shall be followed in the case of discrepancy in conduit types.

69. **Question:** The cable and conduit schedule on E-108 seems to have conduits P-193 and P-198 missing from the schedule. Are they located in another part of the drawings? Or was it just a clerical error?

Response: P193 and P198 are intentionally excluded.

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70. **Question:** On drawing E-101 can you please clarify “# of conductors and size” for conduit P44. I assume that there is a total of five conduits, one of one type and four of another. Or are there three types of conduit runs with different conductors? Please advise.

Response: For both P22 and P44, there are a total 5 conduits, 1 of one type and 4 of second type.

71. **Question:** One drawing E-101 can you please clarify “# of conductors and size” for conduit P21. I assume that there is a total of five conduits, one of one type and four of another. Or are there three types on conduit runs with different conductors? Please advise.

Response: - For both P21 and P43, there are a total 2 conduits, one of each size. Wire sizes shown are correct, however, final wiring to be determined by particular drive manufacturer.

72. **Question:** On drawing E-24, E-25 it indicates three (3) new sidewalk lights. The legend shows that it should be surface mounted. It also says that the fixture can be mounted on a 2’ pole. Is this a typo? Should it be a 20’ pole? How are these fixtures Fed? What panel are these lights fed from? What voltage? How are they controlled? What are the details for a pole mounted roadway light?

Response: Fixture only shall be replaced at existing locations indicated in drawings. Existing horizontal pipe mounts, circuits and controls shall remain in place.

73. **Question:** Drawing E-7 indicates a new hoist for the South Generator Platform. Note #9 denotes that a power disconnect be mounted as per NEC. That provides a means of power disconnect, but how is this hoist controlled?

Response: Control for the crane shall be local control only and is to be coordinated by Crane manufacturer.

74. **Question:** On Sheet No. 75, please provide bolt up detail for Floor beam 3F5 Repair.

Response: See revised Dwg. No. S-29R (Sheet No. 75R). The detail has been clarified.

75. **Question:** In regards to work item 12, is cleaning and polishing of the bushing in the trunnion bearing base required or does this apply to just the caps?

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Response: Refer to Contract Specification Book 3 of 3, Page 001538 – Sheave Trunnion Bearings. The cleaning and polishing to remove any high material and smooth negative areas only pertains to the trunnion bearing caps and the trunnion shaft journals.

76. **Question:** Is the required clearance on the centering device 1/8” total clearance split with 1/16” on each side? If one side is in hard contact should the other side clearance be 1/8”?

Response: The required clearance on the centering device is 1/16” on each side. If one side is in hard contact the clearance on the other (opposite) side is to be adjusted not to exceed 1/16”.

77. **Question:** Please provide the latest span balance reports for the bridge.

Response: Balance report will be provided after award.

78. **Question:** Are there any times of year the bridge shutdown will not be permitted?

Response: Dwg. No. C-9R shows suggested period for shutdown, but Contractor may propose other time. Contractor is to coordinate shutdown with US Coast Guard and NYCDOT.

79. **Question:** Will more than 90 days be permitted for a marine shutdown?

Response: See response to question 78 above.

80. **Question:** Will lifting of the bridge for construction purposes be permitted?

Response: Yes, but all lifts for contractor work shall be at night

81. **Question:** Is the documentation of sheave grooves for all grooves or only the grooves associated with rope removals?

Response: The documentation of sheave grooves are for all grooves at all main and auxiliary sheaves as indicated in Work Item 11 of Dwg. No. M-4 (Sheet No. 177) and as specified under Item 690.11290029 – Operating Machinery.

82. **Question:** In reference to sheet S-56 on drawing 102, what is the bolt spacing between connections for the steel median barrier?

Response: See revised Dwg. No. S-56R (Sheet No. 102R). A note has been added

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regarding connection spacing.

83. **Question:** Has a job specific work stipulation agreement been developed between MNRR and NYCDOT? If so, please provide.

Response: Force Account between NYCDOT and MNR is in place. This will not be provided to contractor.

84. **Question:** Appendix J article 10 on p. 1129 states that the Contractors work hours will be from 2am to 4:45am.
- a. Are these work hours correct? This is a very limited time frame for the Contractor to accomplish any productive work on a daily basis,
 - b. Are these specified work hours typical for M-F only?
 - c. Are longer work hours available on Saturday and Sunday? If so, what are they?

Response: These hours are correct. These are for M-F, but should be considered the same for Saturday and Sunday unless MNR states otherwise.

85. **Question:** How will access be provided to the Contractor to enter upon MNRR property/ROW to perform work such as the installation and removal of the temporary shield?

Response: There is a gate located at the NE corner of the bridge for personnel. Equipment access will need to be coordinated with MNR.

86. **Question:** On p. 1132 under paragraph "Track Use" it states that MNRR can de-activate single tracks at night between the hours of 2:30am and 5am.
- a. How long does de-energizing a track take before the Contractor is permitted to go to work?
 - b. When will re-energizing a track occur?
 - c. If both de-energizing and re-energizing power occur within the 2am to 4:45am work hour period then how does NYCDOT and MNRR expect the Contractor to accomplish any productive work in such a short window of time?

Response: Generally de-activation and re-activation take 30 minutes each. Depending on where work is being performed this may occur before and after the 2:30 am and 5 am period respectfully.

Contractor's bid shall reflect the restrictions shown.

87. **Question:** Are there any MNRR grade crossings in close proximity to the bridge?

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Response: No. If access is required, this will have to be coordinated with MNR.

88. **Question:** Will MNRR provide work trains during the Contractor's permitted working hours of 2am to 4:45am? If so, 1) where is the maintenance yard located to load and unload materials?, 2) what days & times is the Contractor allowed to load and unload the work train?, 3) please define a work train, for example, loci plus two flats?, 4) what size and capacity are the flats?

Response: No. Contractor will be required to furnish required equipment to perform work.

89. **Question:** On dwg G-14 under "Special Notes for Railroads" Note 3.b indicates that the minimum vertical clearance required is not to be less than existing. This implies that the bottom of the temporary shield is not to extend below the bottom flange of the existing floorbeams. Is this requirement correct?

Response: This is correct. Shielding will not go below bottom flange.

90. **Question:** Do crane loads need to be factored 150% while working adjacent and over NYCT and MNRR property?

Response: Yes. See page 001138 Section B of Appendix J in Book 2 of 3.

91. **Question:** When a crane is lifting a load over MNRR ROW but with the temp shield in place, is the Contractor able to work at any time on any day or is the Contractor only permitted to work between the hours of 2am to 4:45am?

Response: Currently work will only be permitted between hours permitted by MNR.

92. **Question:** When a crane is lifting a load over NYCT will the Contractor be permitted to work at any time on any day or is the Contractor only permitted to work certain hours on certain days? If restricted work days and hours then please provide.

Response: Current NYCT restrictions are called for in General Notes on Dwg. Nos. G-14 and G-15 (Sheet Nos. 14 and 15) as well as Appendix K in Book 2 of 3.

93. **Question:** How will payment be made for any required NYCT and MNRR supervisory and flagging costs?

Response: See response to question 44 above.

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94. **Question:** Please provide full width sounding elevations of the existing waterway bottom at the bridge as well as upstream and downstream of the structure.

Response: Available soundings of waterway will be provided at time of award.

95. **Question:** Please provide historical monthly data indicating the number of bridge openings for the pass through of marine traffic and for bridge maintenance operation.

Response: All relevant supplemental information for this project is as per Appendix A page 535R.

96. **Question:** Please provide traffic control details to be implemented each time the bridge is required to be opened to marine traffic.

Response: See Item 690.11410029 – TEMPORARY OPERATING SYSTEM for description requirements.

97. **Question:** Please provide drawings depicting the limits of work at designated locations labeled “No Drop Areas” for the installation and removal of temporary protective shields.

Response: See response to question 6 in Addendum No. 2.

98. **Question:** Reference drawing S-36, sheet number 82, please provide the thickness for the batten plate shown on this drawing.

Response: The thickness of the batten plate is 7/16”.

99. **Question:** Reference drawing S-39, sheet number 85, please provide the thickness for the gusset plates shown on this drawing.

Response: See response to question 65 in Addendum No. 2.

100. **Question:** Bid Item 564.0507 states that pack rust is to be removed and caulk is to be applied. Please provide quantities (SF of rust and LF of Caulk) to assume, or drawings depicting the limits of rust removal.

Response: See response to question 50 in Addendum No. 2.

101. **Question:** Reference drawing S-14, sheet number 60, please provide the spacing for the

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shear connectors on the lift span stringers.

Response: There are no shear studs in the lift span.

102. **Question:** Please provide the details for the existing hangers for the lateral bracing that are to be removed.

Response: Supplemental drawings have been provided showing existing details.

103. **Question:** In Section "A" Metro -North Railroad Specifications; under Track Use: it states "de-activating all tracks of the main line system must be performed on weekend nights at times specified by Metro-North" when and at what times is this allowed?

Response: Time period listed under Track Use will be used unless directed otherwise.

104. **Question:** Please supply us with details of shear connectors used on the existing steel in both the tower and lift span deck concrete. Also; please give us a detail on how the existing grid deck is attached to the floor beams and stringers.

Response: No shear connectors were used on the existing steel. Supplemental drawings have been provided showing existing details.

105. **Question:** Please locate the Bid Item 619.110512 (PVMS) Standard Size -Full Matrix (LED) No Optional Equipment Specified, Cellular Communications on the drawings.

Response: See Dwg. No. WZTC-6 (Sheet No. 42) for locations of Variable Message Signs denoted as VMS on drawing.

106. **Question:** Reference sheet No. 39-41, all the temporary concrete barriers are marked as Bid Item 619.1702 Temporary Concrete Barrier (Unpinned) with Warning Lights, please provide details of Bid Item 619.1704 on drawings.

Response: See response to question 11 in Addendum No. 2.

107. **Question:** Reference drawings S-38 & S-46, sheet numbers 84 & 92, bid item # 567.64000116 is referenced in the drawings but not in the Bid Schedule. Please add this item to the bid schedule and specify the quantity of compression seal to be replaced for existing joints.

Response: See response to question 16 above.

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108. **Question:** Item 596.1202129 – Open Roadway Grid Deck states that the grid deck will be supplied with form pans. Is this only at the location of the Lightweight Fill?

Response: Yes.

109. **Question:** Reference drawing A-18, Sheet No. 161, please provide the description for all the numbers shown on this drawing.

Response: See revised Dwg. No. A-18R (Sheet No. 162R). The descriptions have been added.

110. **Question:** Sheets 90 & 100 notes say that Steel Reinforcement will be paid under item 556.2020; yet the quantity is only 4820 pounds. NYSDOT section 557 include the rebar in Basis of payment for these two items 557.0101 and 557.2003. please clarify were payment is made.

Response: Refer to revised Dwg. Nos. S-44R and S-54R (Sheet Nos. 90R and 100R). The notes have been deleted.

111. **Question:** Due to the complexity of the work both in steel and mechanical systems to the structure; along with the coordination required with MNRR, NYCTA, Coast Guard and the motoring public, we are requesting a 4 week postponement for receipt of bids to have more time to evaluate their effect on the contract work.

Response: See Addendum No. 1 for revised bid opening date

112. **Question:** Please refer to drawing no. S-19 – S-25. Item 587.01 is not included in the contract specifications.

Response: See response to question 3 in Addendum No. 2.

113. **Question:** Please refer to drawing no. S-23 and S-46. Item 567.64000116 is not included in the contract specifications.

Response: See response to question 16 above.

114. **Question:** Please refer to drawing no. S-28. Please confirm the Type 9 connection detail applies to the locations indicated in parenthesis. It appears these locations are in conflict with the Type 6 connection detail locations.

Response: See response to question 22 in Addendum No. 2.

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115. **Question:** Please provide the following information with regard to the new elevators:
- a. Details of power cable feeds to the new elevators.
 - b. Details for the communication systems cable to be included in the traveling cable.
 - c. Details on the communication equipment to be installed in the elevator cab, elevator shafts, and staircases.
 - d. Please provide block diagrams detailing the power/control and communications wiring & interconnections between panels and respective components.

Response: This information is to be determined/proposed by the contractor's elevator supplier. Supplemental drawings have been provided showing existing elevator plans, sections and one-line diagrams and panel schedules for additional information.

116. **Question:** With reference to Sheet 15, Additional Notes, Note 2:
- a. Where does the cost for flaggers and crash vehicles get paid?
 - b. How many bridge openings should the bidders assume?

Response: Cost to be included in Item 690. 11350029 – Span Operation. See page 001635 in Book 3 of 3.

117. **Question:** Please provide estimated quantities for Structural Steel bid items 564.0501 through 564.0512.

Response: Quantities are shown for estimating purposes on drawings.

118. **Question:** Please reference bid item 690.11510029 “Bird Control Systems”: This item is a LS, but no details or quantities are given in the drawings for the contractor to base their price on. Please provide quantities and details so the contractor can accurately estimate this item.

Response: Refer to Dwg. Nos. S-95R (Sheet No. 141R) and S-96R (Sheet No. 142R) for location of pest bird control system and typical details.

119. **Question:** With reference to specifications page 464, item 34: Please provide details on the ben guide flange repair. Also, in what bid item does this repair get paid?

Response: See page 000464R of Book 2 of 3, Item 34 has been eliminated.

120. **Question:** Please provide a make and model number for the marine radio shown on drawing no. E-31.

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Response: See page 001795 of Book 3 of 3 for Marine Radio Requirements.

121. **Question:** Please provide a light fixture schedule with manufacturer and part number for the fixtures mentioned in specification section 690.11460029 and as noted on drawings E-36, E-40 – E-44, and E-116.

Response: Sheet No. 244 (Dwg. No. E-36) is demolition plan. Fixture information is provided on Sheet Nos. 248 (Dwg. No. E-40), 252 (Dwg. No. E-44) and 324 (Dwg. No. E-116) and specifications.

122. **Question:** Please refer to drawing no. E13 and E-18. The panel board schedule shows a different main circuit breaker size then the size shown in the panel description. Please clarify the correct main circuit breaker size.

Response: Amp rating in panel description indicates panel rating and not the breaker rating. Panel main breakers shall be as listed below, panel schedules have been revised accordingly on Sheet Nos. 223 (Dwg. No. E-15), 224 (Dwg. No. E-16), 225 (Dwg. No. E-17) and 226 (Dwg. No. E-18).

Panel Main Breakers:

CH-LP: 225A

NR-PP: 225A

SR-LP: 225A

NM-LP: 225A

NM-PP: 100A

SM-LP: 225A

SM-PP: 100A

NG-LP: 100A

BCP: 100A

SG-LP: 100A

SV-LP: 150A

123. **Question:** Please provide the following records:
- a. Most recent bridge balance report
 - b. Mechanical & electrical maintenance schedule and tickets
 - c. Mechanical & electrical maintenance records for the past 2 years
 - d. Bridge opening logs for the past 3 years, including time and vessel name
 - e. Documentation of any opening/closing failures over the past 3 years
 - f. Existing Operation & Maintenance manuals

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Response: All relevant supplemental information for this project is as per Appendix A on page 535R.

124. **Question:** Please confirm the contractor will not be responsible for the costs of railroad flagmen.

Response: Contractor will not be responsible for the cost of railroad flagmen.

125. **Question:** Biditem 555.09 is noted on sheets 54, 98, and 99. However, the biditem is not called out on any of the drawing details. Please explain which work is specifically paid for under this biditem on these pages.

Response: See revised Dwg. No. S-8R (Sheet No. 54R). Note 6 has been deleted. On Dwg. Nos. S-52 and S-53, the item covers structural concrete shown in the details.

126. **Question:** There are no drawing details for biditem 560.08 Truck Pointing. Please provide details and notes for this biditem in the drawings.

Response: The tuck pointing shall match the existing. For the purpose of the bid, assume that the width of the tuck pointing shall be $\frac{3}{4}$ " , and it shall be concave, $\frac{1}{2}$ " recessed and will have 3" penetration.

127. **Question:** There are no drawing details for bid item 619.110512 (PVMS) Standard Size – Full Matrix (LED). Please provide details and notes for this item in the drawings.

Response: See response to question 105 above.

128. **Question:** There are no drawing details for bid item 619-1704 Temporary Concrete Barrier (Pinned). Please provide details and notes for this item in the drawings.

Response: See response to question 11 in Addendum No. 2.

129. **Question:** Special Provisions, SP-38 indicates that Contractor will be responsible for all damages (actual and consequential) associated with delays that impact NYC Transit trains on the upper level of the Broadway Bridge and/or the Metro North trains under the North Tower Span. In view of some of the consequential damage risks presented by the Project for the Contractor, will NYC DOT consider one of the following options:

- a. Provide a maximum hourly and/daily rate for NYCTA's and MN damages in the event the NYCT and/or MN are fouled for an unanticipated, extended period. As a suggestion the rate could reflect the cost of operating an emergency busing system on a daily basis if NYCTA and/or the MN service was out. These rates

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would reasonably compensate NYCTA and/or MN in the event of an unexpected outage, and would allow Contractor to responsibly price the risk.

- b. Provide an overall cap on consequential damages for the Project.
- c. Provide details regarding the specific consequential damage risks that NYCDOT expects Contractor to cover, so that a more comprehensive risk matrix can be developed and priced.

Response: Contractor shall not delay NYCT or MNR trains.

130. **Question:** Please reference Part 2. Types of Insurance. Please confirm Builders Risk Insurance is not required on this project.

Response: As per Schedule A on page 000015 of Book 1 of 3, Builders Risk Insurance is not required.

131. **Question:** Please refer to drawing S-50. We cannot tell which steel here is new or existing. Please clarify what steel is new and which is existing.

Response: On Dwg. No. S-50 (Sheet No. 96), Section B-B, angles 6X4X1/2 and 3 1/2X3 1/2X3/8 are new. On Dwg. No. S-50 (Sheet No. 96), Section C-C, angles 6X4X1/2 and 6X4X3/8 are new.

132. **Question:** Please refer to drawing S-57, detail 2. This detail is taken from drawing S-50. In how many locations does this detail occur? Is it just at the 4 end vertical members of the truss, or are there other locations as well? It appears that there are existing vertical batten plates at these locations (the end vertical truss members), do they need to be removed? Please clarify what is required.

Response: This repair is for the four (4) end vertical members. Section B-B shows new horizontal plate.

133. **Question:** When the existing sidewalk is removed, the top flange of the C channel below will be exposed. Does this flange need to be de-leaded? Does it need to be painted? Please clarify what work the top flange needs prior to installing new sidewalk.

Response: After removal of the existing sidewalk, the top of the existing channels shall be cleaned and receive a primer coat of paint.

134. **Question:** Please reference drawing S-42. The drawing proposes open roadway grid deck above all stringers and floorbeams. The existing bridge deck has concrete fill in these locations. Have the final balance calculations for the bridge taken the elimination

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of the concrete on the lift span into account? Based on 5” grid deck and 110 lb/cy the weight of the existing concrete is 230.000 lbs.

Response: See Additional Notes, Note 3 on Dwg. No. G-15 (Sheet No. 15).

135. **Question:** Please reference the Bird Control Spec and Bird Deterrent drawings. Notes such as ‘as recommended by the approved manufacturer and as directed by the Engineer’ puts the risk of quantity overruns and schedule impacts on the Contractor when bidding Lump Sum. Please consider changing the Bird Control System work to unit price items where the risk of quantity overruns and underruns is equitably shared by the Engineer and the Contractor.

Response: The unit for Item 690.11510029 - Bird Control Systems will not change.

136. **Question:** Please reference the spike mounting and cable connection details on drawing S-96. Note 6 recognize the use of alternative fastening practices to eliminate drilling into existing structural steel. We are assuming that alternative fastening practices, such as adhesives are preferred over drilling many additional holes into the existing steel structure. (Typical mechanical fastener spacing is 6 inches. 100 feet of barrier spikes equals 200 mechanical fasteners). Please confirm.

Response: Alternative fastening methods in lieu of drilling into existing structural steel include metal flange clamps and clips that can be fastened to steel members without damage to them. Fixing adhesives specifically designed for use with bird control spikes may be considered for use with fasteners that allow for spike strip removal and re-installation without damaging the adhesive bond, the strip or the installation surface. Fastener spacing shall be as recommended by the manufacturer of the project approved bird control system(s).

137. **Question:** Please reference the Bird Control Spec. Certain products called out are not made in America. Please confirm products supplied for the Bird Control System are exempt from the Buy America Clause.

Response: Ferrous materials are made in America. Non-ferrous material is not subject to Buy America requirement.

138. **Question:** If a Buy America Waiver is required for the Bird Control System we are assuming the NYCDOT will pursue the waiver expeditiously and any delay to the project schedule caused by the waiver will be cost and time compensable. Please confirm.

Response: See response to question 137 above.

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139. **Question:** Can you tell me what type of Load banks are required for each Generator either Radiator mounted or free standing...seems to be a few discrepancies between the drawings and specs.

Response: South side generator load bank shall be free standing unless generator supplied requires radiator mounted load bank to be code compliant. The two north side generator load banks shall be radiator mounted due to space limitations.

140. **Question:** Can you tell me what type and size circuit breakers are required for each Generator.

Response: Size and type of circuit breakers shall be determined by the generator manufacturer.

141. **Question:** Please provide a copy of the new Standard Construction Contract which has been incorporated into the bid via Attachment 3f.

Response: Book 1 of 3 is the Standard Construction Contract. Attachment 3f provides indication of significant changes.

142. **Question:** S-30 Haunch Type A detail is a condition for stringer 1S13 and 1S23 at FB 1F2, however these two stringers do not coincide with FB 1F2. Please clarify the detail for Haunch Type A.

Response: See revised Dwg. No. S-30R (Sheet No. 76R). The stringer numbers have been corrected.

143. **Question:** S-30 does not have a detail for the lateral brace connection at the CL BRGS South Pier. Please provide a detail.

Response: For detail of the lateral bracing connection, see Dwg. No. S-31 (Sheet No. 77), DETAIL 1.

144. **Question:** S-31 calls out detail 4 which is on drawing S-32, however detail 4 shows a twin floor beam which is only present in the North Tower. Please provide the correct detail for the South Tower Span on S-31.

Response: On Dwg. No. S-32 (Sheet No. 78), DETAIL 4 shows a twin floorbeam but the lateral bracing connection to a single floorbeam is the same. The connection is for a single lateral bracing to a single floorbeam.

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145. **Question:** S-32 calls out detail 2 which is on drawing S31, however detail 2 shows a single floor beam which is present in the South Tower. Please provide the correct detail for the North Tower Span on S-32.

Response: See response to question 144 above.

146. **Question:** S-32 Detail 1 that's called out does not look like the Detail 1 on S-31. Please provide the correct detail.

Response: See revised Dwg. No. S-32R (Sheet No. 78R). Detail 5 has been added and the callout has been corrected.

147. **Question:** S-32 does not contain a detail for the north (end) abutment connection. Please provide a detail for this connection.

Response: See response to question 146 above.

148. **Question:** S-31 through S-34 contain the details of the proposed connections for the lateral bracing, however, there are no details for the existing connections. Please provide the details for the existing connections to better determine what temporary supports are needed.

Response: On Dwg. Nos. S-31 to S-34 (Sheet Nos. 77 to 80), the existing connection details are the same as the proposed. The gusset (connection) plates are not being removed, just the lateral bracing.

149. **Question:** Please confirm the floor finish F1 is a rubber floor as indicated in the Finish Schedule on A-30, and NOT the VCT floor indicated in the specification for the Control House, Gateman's Shelter and the North and South Gateman's Houses. Please provide a specification for the Rubber flooring.

Response: In lieu of rubber flooring, use VCT for Control House as per paragraph S(4) on page 001347 (page 37 of 81), Gateman's House as per paragraph (K)(4) on page 001411 (page 20 of 35) and North and South Gateman's Shelters as per paragraph (M)(4) on page 001451 (page 25 of 46).

150. **Question:** Reference is made to Specification for the Control House Page 58, Item C. Metal Cleaning; please clarify the extent of "Metal Cleaning" required at the Control House? Indicate what existing surfaces are to be cleaned according to the specification provided. Are we to clean the entire exterior steel wall cladding system?

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Response: Exterior wall is existing to remain. Interior extent of work see Dwg. No. A-6 (Sheet No. 149) Notes 10 and 15, Dwg. No. A-7 (Sheet No. 150) Note 1 and for roof scope of work see Dwg. No. A-8 (Sheet 151) Key Notes 1 and 2.

151. **Question:** Reference is made to Specification for Control House, Page 59, Item 3, and Paint Removal; please clarify what metal surfaces are to have paint removed from them utilizing the methods indicated in the specifications? The drawings call for removal of paint from existing structural steel and concrete surfaces, is this the method required for removal of paint from existing structural steel within the buildings? Please confirm if paint must be removed to bare metal or just loose and peeling paint.

Response: As per Dwg. No. A-7 (Sheet 150) Note 1 scrape, clean and repair existing roof structure and underside of roof deck; paint in accordance with Finish Schedule on Dwg. No. A-30 (Sheet No. 173). Remove loose and peeling paint.

152. **Question:** Reference is made to the Finish Schedule provided on Drawing A-30 as well as individual specification sections; please provide missing manufacturers and other pertinent information for all scheduled materials to allow for accurate pricing.

Response: See response to question 149 above.

153. **Question:** Please reference sheet 49 Drawing S-3. Please confirm that there is no work to be done to the existing track floorbeams.

Response: No work is proposed for the existing track floorbeams.

154. **Question:** On SHEET NO. 58 note 7, calls for metallizing of the Lift Span Stringers top flange shall be paid for under item 572.00020101. On Sheet No. 69 the note on proposed section E-E says Metallize stringers, diaphragms and lateral bracing Item 572.00020101. Please clarify which steel items are being Metallize and what area of the beams?

Response: See revised Dwg. No. S-23R1 (Sheet No. 69R1). The note on Section E-E has been revised.

155. **Question:** On Sheet No. 91. Open Roadway Grid Deck Details, it shows a transverse deck joint detail. Please provide a longitudinal deck joint detail.

Response: See revised Dwg. No. S-45R (Sheet No. 91R). A longitudinal deck joint connection detail has been provided.

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156. **Question:** Please provide minimum clearance required at bridge section over the Harlem River.

Response: No channel restrictions, or vertical clearance reductions may be made without written approval from the First Coast Guard District Bridge Branch Office as per Appendix C in Book 1 of 3.

157. **Question:** S-33 there is no detail for the lateral connection on the CL Bridge. Please provide this detail.

Response: See Details 4 and 7 on Dwg. No. S-34 (Sheet No. 80) for the lateral connection detail on the CL Bridge.

158. **Question:** S-10 “South Tower – Proposed Framing Plan” shows C18 diaphragms between the stringers towards the south pier. However, section C-C on page S-21 shows these to be C12x25 diaphragms. Please clarify which diaphragm is required.

Response: See revised Dwg. No. S-10R (Sheet No. 56R). The diaphragm size has been revised.

159. **Question:** S-2 and S-3 show the stringers on the track level as an area where there is work to be performed; however, there is no pay items associated to this. Please confirm if there is to be any work on the track stringers.

Response: No work is proposed for the existing track stringers.

160. **Question:** Please provide the details of how the existing curb is attached to the existing stringer below the curb line and how the existing curb will be attached to the new stringers. This appears to be a significant amount of work based on our site visit, but those details do not appear to be in the contract documents.

Response: See response to question 12 in Addendum No. 2.

161. **Question:** Please reference the WZTC drawings. These drawings show up to 3 continuous lengths of temporary concrete barrier along the length of the bridge. The temporary concrete barrier weighs approximately 450lb/lf. 3 lengths of this barrier extending the entire length of the lift span will add approximately 410,000 lbs to the lift span deck. It is very unlikely that the counterweight has the ability to add this amount of weight to it, and the wire ropes may not be designed for this additional load either. This barrier will need to be bolted to the existing grid deck due to its close proximity to

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the work zone. Will the contractor be required to remove this barrier entirely from the bridge for bridge openings? It seems as though the weight of this barrier on the bridge deck has not been considered in relation to opening the bridge. Please clarify.

Response: The heaviest condition occurs in the beginning of stage 2 with the addition of the temporary barriers and temporary stringers. Contractor shall be responsible for balancing the bridge for this condition. The operating machinery can withstand the addition of the deadload. Subsequent stage that follow will be lighter due removal of concrete and the addition of the FRP deck.

162. **Question:** The contractor is required to install a temporary protective shield under bid item 634.20010111. This shield will be required under the lift span to prevent debris from going into the river. The shield will add a significant amount of weight to the lift span. The contract drawings do not show the limits of the shielding, but the bid quantity is 59,205FS. Has the designer considered the dead weight of the shield, and the affect it will have on the bridge balancing? Please clarify what is expected by the contractor regarding the need to balance the bridge for the temporary shield, as this could be a significant amount of weight added to the span.

Response: See response to question 41 above.

163. **Question:** Please clarify if the top flange of the end floor beam adjacent to the finger joint depicted on S-48 gets metalized, since it is covered entirely by either concrete or the 2" finger joint plate.

Response: The part of the floorbeam that is exposed to air (although covered by the finger joint plate) shall be metalized.

164. **Question:** Please see drawing S-51. The splice detail is shown at the centerline of the W18 stringers. Is there a splice at each stringer? Is there a different splice detail at the stage lines, or should this detail be used at the stage lines as well?

Response: The splice detail shown is for splicing at the stage lines. The detail shown happens to be coincident with the centerline of the stringer.

165. **Question:** Please provide details of how the existing finger joint is attached to the lift span, similar to the detail on drawing S-48 for the new finger joint.

Response: Supplemental drawings have been provided showing existing details.

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166. **Question:** Is the existing grid deck on the lift span attached to the existing floor beams in any way? The existing grid deck is concrete filled over the floorbeams and there aren't any details in the plans showing an attachment between the deck and floorbeams. If they are connected, please provide the attachment detail.

Response: The existing grid deck is not attached to the floorbeams. Supplemental drawings have been provided showing existing details.

167. **Question:** Please confirm that the allowable tolerance for squareness measured corner-corner on the open roadway grid deck, bid item 596.12020129 is ½", not 1 ½" as written in the specs on page 001234.

Response: See revised page 001234 of Book 3 of 3, the allowable tolerance for squareness measured corner to corner on the open grid deck is ½".

168. **Question:** Spec section 575.00310129, on page 001218 says that the new FRP Bridge decking shall be connected to the girders using hardware as required in the contract plans. The means of connecting these panels to the stringers is not provided. Please provide these details.

Response: See revised Dwg. No. S-46R (Sheet 92R). Connection detail has been added.

169. **Question:** We believe from discussions from the suppliers of the brakes for the machinery that the brakes will not be 100% in compliance with the buy America provisions on the project. Please confirm that the brakes are exempt from the buy America provisions.

Response: There are no exemptions from the Buy America requirements. Contractor shall be responsible to submit request for a Buy America Waiver if actual costs of the iron/steel sub-components exceeds 0.1 percent of the total bid price.

170. **Question:** If Buy America Waiver is required for the machinery brakes we are assuming the NYCDOT will pursue the waiver expeditiously and any delay to the project schedule caused by the waiver will be cost and time compensable. Please confirm.

Response: See response to question 169 above.

171. **Question:** Please confirm existing interior walls in the control house are glazed block walls and not a wall with applied ceramic tiles. Note 20 on drawing A-5 indicates that there are ceramic tiles on these walls. Please confirm the intent of note 20 is that during

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demolition of the interior partitions, we need to save some of the glazed blocks to repair broken blocks elsewhere throughout the control house.

Response: See revised Dwg. No. A-5R (Sheet No. 148R), Note 20 has been revised.

172. **Question:** Drawing A-6 indicates that the east most wall in the new Locker Room, has a partition type 1, which on drawing A-26 indicates no ceramic tiles on the face of the wall. Drawing A-6 calls for a ceramic tile finish on this wall, as does drawing A-13. Please clarify what is required on this wall.

Response: The east wall of the Locker Room will have ceramic tile finish as indicated on Dwg. Nos. A-^ (Sheet No. 149), A-13 (Sheet No. 156) and A-30 (Sheet No. 173).

173. **Question:** Please reference the paint schedule on drawing A-30. Also, reference the other architectural drawings. Please provide limits on and types of exterior paint system, and necessary surface prep. For instance is exterior surface of the control house floor slab to be painted and what surface prep is required? Similar query for walls, roof, and for other structures.

Response: See specifications for required Construction Details. For concrete sealer over existing concrete floor, surface preparation is as per manufacturer's recommendation.

174. **Question:** Please reference drawing A-7, note 1. We are assuming 'Scrape clean and repair existing roof structure...' refers to scraping and repainting with no structural steel repairs. Please confirm.

Response: See Dwg. No. A-7 (Sheet No. 150), Note 1 – Scrape, clean and repair existing steel roof structure and underside of roof deck. Structural steel repair is required prior to applying paint finishes. Also see Item 690.11240029 CONTROL HOUSE, CONSTRUCTION DETAILS, C. Metal Cleaning.

175. **Question:** Please extend the bid date for this project 4 weeks to allow time to prepare a proper estimate. Please extend the closing date for asking questions an equal amount of time.

Response: See Addendum No. 1

176. **Question:** Please reference special provisions S-60, where all material excavated and removed from the project site become the Contractor's property and be disposed of in accordance with applicable laws... Please provide any information available on the soils

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to be excavated and disposed of on this project. For now we are assuming the soils excavated and disposed of on this project. For now we are assuming the soils excavated on this project can be excavated as noncontaminated, non hazardous and that any additional testing or cost associated with disposal are compensable, and the NYCDOT will be considering the generator of any excavated materials with preexisting contamination. Please confirm.

Response: Correct. For disposal purposes bid price shall assume non-hazardous material.

177. **Question:** Please reference special provisions S-57, and Field Condition note 16 on drawing G-12. Both requiring pre and post construction survey of buildings in the vicinity of this project, one because of excavation concerns and the other because of vibration concerns. The scope of work of this project has limited excavation and vibration concerns. Please confirm that pre and post construction surveys are required, and if so, then identify specific buildings to be surveyed.

Response: See response to question 50 above.

178. **Question:** Please reference special provision S-38, where the Contractor shall pay additional RR FA costs which arise from failure to complete the work on time. If the train or bus service across the bridge was unexpected interrupted please provide the MTA's compensable cost for interrupting train service across the bridge, on an hourly basis; similarly for interrupting bus service across the bridge, on and hourly basis.

Response: See response to question 129 above.

179. **Question:** Please refer to the Gypsum Board Ceiling Detail on drawing A-16, Sheet 159. Note 1 under this detail states to "Install resilient channels at right angles (perpendicular) to the framing members," but the detail depicts the furring channel attached along the same axis as the angle framing members. Please clarify if the resilient furring channels are to be attached in-line or perpendicular to the angle framing members.

Response: While the attachment (i.e., the pan screw) is perpendicular, the furring channel runs along the framing member as shown on the drawing.

180. **Question:** Please clarify the composition of the Gateman House walls. Drawing A-19, sheet 162 shows the walls as type two, which indicates tiles yet no tiles are called out within the finish schedule and details on drawing A-30, sheet 173. In addition Note 2

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on Drawing A-19, details “re-facing” the interior walls. There is no partition type on drawing A-26 which shows an exterior wall and indicates reusing the existing wall studs. Please provide an appropriate detail.

Response: Provide mold and moist resistant GWB in all interior walls.

181. **Question:** Please reference the jamb details on drawing A-29. Please clarify which Jamb is detail J-1.

Response: Refer to revised Dwg. No. A-29R (Sheet No. 172R). Jamb J-1 has been indicated.

182. **Question:** Please reference the balance block specification, third paragraph in the General section of Construction Details. We are assuming there are no balance blocks stored and available as spares. Please confirm.

Response: Correct. Assume no spare balance blocks available.

183. **Question:** Please reference General Provisions 45.B. Removal of Sign Post and Trees which requires the Contractor to remove all trees over 4 inches in diameter. There are no trees identified on the drawings to be removed. We are assuming no trees need to be removed. Please confirm.

Response: Correct. No trees over 4 inches are anticipated to require removal.

184. **Question:** Please reference item 564.98270129, steel plate for epoxy grit surface. This plate is to be galvanized per the specs. The plate is also seal welded where it meets other plates. Is it acceptable to weld through the galvanizing, or is it required to remove the galvanizing from the perimeter of the plate where the weld will be made? If we need to remove the galvanizing from the perimeter, is a cold galv touchup spray acceptable to repair the coating in this area?

Response: It is acceptable to weld through the galvanizing; however, touch up of the galvanizing will be required. A cold touchup spray will be acceptable.

185. **Question:** Please refer to specification 690.11410029 – Temporary Operating System:
- a. Page 1679, first paragraph, states to use the temporary operating system during the reconstruction of the Operator House, Gateman’s House, and Gateman’s Shelters.
 - b. Page 1679, second paragraph, states that the temporary operating system shall be

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installed only after the span drive machinery and the new counterweight ropes have been installed.

- c. Page 1683, Construction Phasing Requirements, Paragraph 1, states that the temporary operating system should be in service before the removal of any existing main and emergency span operating machinery. These sentences appear to be conflicting. Please clarify when the temporary operating system is to be in service.

Response: The purpose of the temporary operating system is to provide the Contractor with the option of installing temporary systems to facilitate their work during the multiple phases of construction.

- a. **Temporary systems may include, but not limited to, temporary electrical power and control to traffic control and signals, span locks, NYCT permissive/interlock controls, and operator's control desk.**
 - b. **Temporary systems for this stage may include, but not limited to, the temporary span operating system for emergency and/or auxiliary drive to allow span operation for mechanical/electrical testing if main drive motors are offline.**
 - c. **Temporary systems for this phasing may include, but not limited to, traffic control and signals, span locks, and NYCT permissive/interlock controls.**
186. **Question:** In reference to Item 690.11410029 – Temporary Operating System, spec page 1695, Basis of Payment, second paragraph, states that the operation of the temporary operating system shall be paid for under Item “Span Operation”. Please confirm that the payment for all lifts using the temporary operating system will be included in Item 690.11350029 – Span Operation – 36 Each.

Response: See page 001640 of Book 3 of 3 - Cost for any temporary systems put in place for the operation of the span while the systems are being rehabilitated is not included in item 690.11350029 – Span Operation.

187. **Question:** Please refer to DWG S-5 (sheet 51), South Elevation. Please confirm that the “MISSING MORTAR JOINTS TO BE REPAIRED” should be included with Bid Item No. 560.08 – TUCK POINTING.

Response: MISSING MORTAR JOINTS TO BE REPAIRED will be paid under Item 560.08 – TUCK POINTING.

188. **Question:** Please refer to DWG S-5 (sheet 51). Please confirm that the TUCK POINTING (Bid item 560.08) is only being done on the South face of the South Pier.

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Response: On Dwg. No. S-5 (Sheet No. 51), Tuck Pointing is shown on the South face of the South Pier but the North face and also the North Pier may require Tuck Pointing. The bid quantity reflects the square footage for the perimeter of both piers.

189. **Question:** Please refer to DWG S-5 (sheet 51), Note 5. Please confirm that the bid item for TUCK POINTING should be shown as 560.08 and not 560108.

Response: Confirmed.

190. **Question:** Please refer to DWG A-28 (sheet 171). Please provide the following details:
- a. H1-J1 – Head and jamb sections for F1 type frames
 - b. H2-J2 – Head and jamb sections for F1 type frames
 - c. S1, S2, S3 and S4 sill details
 - d. Please provide the stainless steel material and gauges for doors and frames as they are not shown on pages 001463 and 001464
 - e. Please advise partition and anchoring details for the frames.

Response: For a – c, see details on Dwg. No. A-29. For d, refer to the MATERIALS sections of the specifications. For e, refer to the CONSTRUCTION DETAILS sections of the specifications.

191. **Question:** Please refer to spec page 1696 – In reference to Item 690.11410029 – Temporary Operating System, Basis of Payment, Paragraph 2, line 2: please define what is meant by “state I Construction”

Response: See revised Page 001696R of Book 3 of 3.

192. **Question:** Please refer to spec page 1711 – In reference to Item 690.11420029 – Bridge Electrical Testing, Basis of Payment, second paragraph: please confirm that the third sentence should read, “A minimum of ten-percent of this bid item will be retained by the NYCDOT until final acceptance...”

Response: See revised Page 001711R of Book 3 of 3.

193. **Question:** Please refer to spec page 1775 – In reference to Item 690.11450029 – Bridge Control System, Basis of Payment, last paragraph: please confirm that the third sentence should read, “A minimum of ten-percent of this bid item will be retained by the NYCDOT until final acceptance...”

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Response: See revised Page 001775R of Book 3 of 3.

194. **Question:** Please refer to spec page 1775 – In reference to Item 690.11450029 – Bridge Control System, Basis of Payment, last paragraph: please confirm that the last sentence should read, “An additional five-percent of this bid item will be retained until final approval of the operation and maintenance manuals...”

Response: See revised Page 001775R of Book 3 of 3

195. **Question:** Reference is made to Contract No. HBM1147 – Rehabilitation of Broadway Bridge Over the Harlem River. Please refer to Spec Page 1885. In reference to Item 690.11470029 – Droop Cables and Droop Cable Cabinets, spec page 1885, Basis of Payment, last paragraph: please confirm that the third sentence should read, “A minimum of ten-percent of this bid item will be retained by the NYCDOT until final acceptance...”

Response: See revised Page 001885R of Book 3 of 3.

196. **Question:** In regards to the 3 Generators for this project - Can you tell me what type of Load banks are required for each Generator either Radiator mounted or free standing...seems to be a few discrepancies between the drawings and specs.

Response: South side generator load bank shall be free standing unless generator supplied requires radiator mounted load bank to be code compliant. The two north side generator load banks shall be radiator mounted due to space limitations.

197. **Question:** In regards to the 3 Generators for this project - Can you tell me what type and size circuit breakers are required for each Generator.

Response: Size and type of circuit breakers shall be determined by the generator manufacturer.

198. **Question:** We have reviewed the Index of Drawings for this project. The NOTES direct us to reference the Asbestos Abatement Drawings for the abatement scope. There are NONE included in the Drawings file. The only reference to the Asbestos Abatement or any Hazardous Material Removals, is the Estimate of Quantities on Drawing G-8, Sheet No. 8 of the Drawings File. Please advise as to where we can locate the Hazardous Materials Drawings; (to include any and all Asbestos / Lead Based Paint / Universal Waste locations).

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Response: Appendix H – Hazardous Material Survey Report in Book 2 of 3 defines locations, quantities for abatement requirements.

199. **Question:** Reference drawing S-22, sheet number 68, removal of the existing median rail and post to be paid under 587.01 which does not exist.

Response: See response to question 3 in Addendum No. 2.

200. **Question:** Reference drawing C-2 sheet 29, where is the removal of the existing composite pavement paid for, if Unclassified Excavation item 203.02 there is not enough quantity.

Response: See Dwg. No. C-5R (Sheet No. 32R). Item 203.02 has been indicated and the quantity has been adjusted.

201. **Question:** Can DOT please provide a schedule for the droop cables required? These cables are very expensive and labor intensive.

Response: Dwg. Nos. E-7, E-8, E-19 to E-23, E-47 to E-51, E-107, E-114 and specification for Item 690.11470029 contain all information for droop cables.

202. **Question:** 690.11470029 “Droop Cables and Droop Cable Cabinets” page 7 (I-706) calls for (3) 24 strand fiber cables. Are these cables shown on the plans? What are these cables for? The conduit and cable schedule calls for a 72 strand fiber. Are the (3) 24 strand fiber in addition to the 72 strand shown on the plans?

Response: The 72 strands fiber optic cable shown on conduit schedule shall be made up with (3) 24 strand fiber cables as described in specifications.

203. **Question:** 690.11470029 “Droop Cables and Droop Cable Cabinets” page 8 (I-707) calls for (10) #10 conductors. What are these cables for? Are these in addition to the cable shown on the plans?

Response: 10#10 conductors are spares and are part of 32#10 shown in C118 on Dwg. No. E-114 (Sheet No. 322). However, if the 32#10 do not allow 10#10 spares, additional #10s will need to be added.

204. **Question:** Is the fiber cable shown for the droop cable on E-19 for the Intercomm system part of the 72 strand fiber or is this in addition to the 72 strand fiber included in the conduit and cable schedule?

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Response: Yes, fiber for intercom system is part of 72 strand fiber.

205. **Question:** Please clarify the droop cable required for the fire alarm system shown on E-20.

Response: No fiber required for fire alarm system.

206. **Question:** Is the fiber cable shown for the droop cable on E-21 for the CCTV system part of the 72 strand fiber or is this in addition to the 72 strand fiber included in the conduit and cable schedule?

Response: Yes, fiber for CCTV system is part of 72 strand fiber.

207. **Question:** Please clarify the droop cable required for the security system shown on E-22.

Response: No fiber required for security system.

208. **Question:** Is the fiber cable shown for the droop cable on E-23 for the PLC network part of the 72 strand fiber or is this in addition to the 72 strand fiber included in the conduit and cable schedule?

Response: Yes, fiber for PLC network is part of 72 strand fiber.

209. **Question:** We are requesting a (2) week bid extension. This project is very complex and requires multiple vendors. The extension will allow the time necessary to provide the most complete and cost effective proposal possible.

Response: See Addendum No. 1 for revised bid opening date.

210. **Question:** Please provide the Asbestos Abatement Drawings referenced on dwgs A-14 & A-22.

Response: See Appendix H – Hazardous Material Report in Book 2 of 3 for details and drawings.

211. **Question:** Reference is made to drawing A-23, Note 2 calls for Anti-Graffiti Coating to be applied to exterior walls as per Finish Schedule. We see no reference to Anti-Graffiti coating on the Finish Schedule please clarify the extent of Anti- Graffiti coatings required.

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Response: Full height of the exterior façade on all four sides.

212. **Question:** Reference is made to Drawing A-18, there are no notes defining the scope for items called out on the plans. Please provide notes to define the applicable scopes of work.

Response: See revised Dwg. No. A-18R (Sheet No. 162R). The descriptions have been added.

213. **Question:** Reference is made to Specification ITEM 690.11250029-Gateman's House Description of work; A sentence in the scope description states "Demolition work includes...exterior metal wall paneling..." Further down in the paragraph it also states "... New elements to be provided include...exterior corrugated metal wall paneling..." Please clarify the scope associated with these statements? We find no indication of exterior metal wall paneling being removed or replaced on the drawings or the Scope of work list included on Drawing A-1, but, as indicated in our previous question, the scope notes are missing from the demolition on Drawing A-18. Drawing A-19, which is the exterior elevations (new work), also does not indicate any new metal paneling. Please clarify where, if at all, metal paneling is required to be removed and replaced at the Gateman's House.

Response: Exterior Wall is existing to remain.

214. **Question:** Reference is made to Finish Schedule on A-30 and Specification ITEM 690.11250029-Gateman's House H. Treatment of Plaster. The Gateman's House ceiling called out as both "Cemesto" to be replaced with mold and moisture resistant Gypsum Board and areas of plaster to remain. Please indicate what percentage of the ceiling is currently plaster and will require patching and repair and what portion of the ceiling will require new Gypsum board and finishing. The reflected ceiling plans make no reference to any plaster repairs, nor do they differentiate areas that are currently plaster vs "Cemesto".

Response: Cemesto board is asbestos containing material (ACM) needs to be abated. Replace ceiling finish with mold and moisture resistant gypsum board as per Dwg. No. A-20 (Sheet No. 163).

215. **Question:** Reference is made to Drawing A-23 North/South Gateman's Shelters windows on the elevations provided are tagged GH-A, B, C, D, E, F, and GH-G. The window Schedule on Drawing A-27 does not include these same letter designations in the tag list, it only includes GH-A. Please clarify what is required.

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Response: GH-A is the same window as GH-B, GH-C, GH-D, GH-F and GH-G double hung windows.

216. **Question:** Reference is made to Drawing A-27 window details. There are no details provided of the heads sills and jambs at the Gateman’s shelter buildings North and South. Please provide applicable details.

Response: Refer to details for the Gateman’s House.

217. **Question:** Reference is made to drawing A-27 Window Details: Please confirm that safety glazing is not required at any of the new windows to be provided under this contract. There is a note under glazing types identifying Type #2 glazing as ¼” laminated Safety Glass but the Window Schedule does not tag any of the listed windows as Type 2, only Type 1 is called out. All references to glazing in the window details call for Low E glazing, which is Type 1.

Response: Type 2 glazing “1/4” Safety glass is for Door Type D1 vision glass.

218. **Question:** Reference is made to Drawing A-8 – Door Schedule and Details. Please confirm what type of glazing is required at Type D3 doors. Type D1 is tagged as Security Glass but there is no tag for the glass at the Type D3 door.

Response: Provide Security Glass for door type D3.

219. **Question:** Please clarify the requirements for fire rated doors on this project. The specification for the Control House and the Machinery Rooms include requirements for Fire Rated doors, the Gateman’s House and Gateman’s Shelters do not, yet, fire rated doors are indicated on the Door Schedule found on Drawing A-28 at both the Gateman’s House and the North and South Gateman’s Shelters..

Response: Refer to revised Dwg. No. A-28R (Sheet No. 171R). The Door Schedule has been corrected.

220. **Question:** Please clarify what the required material is for the entry door at the Gateman’s House. The specification includes information for a Hollow Metal door but the Door Schedule indicates a Stainless Steel door.

Response: Provide a stainless steel door frame.

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221. **Question:** Please clarify the scope of Architectural work associated with this contract. There are discrepancies between the scope indicated in the Special Provisions S Pages, and the contract Drawings provided.

a. Control House:

- i. The Architectural Scope listed in the Special Provisions (S-Pages) Specification Volume 2 includes cleaning repair and repainting of the entire exterior metal wall system at the Control House while the control House drawings do not include reference to this scope of work.

Response: Not required.

- ii. The Architectural Scope in Special Provisions (S-Pages) Volume 2 includes removal of the existing roof system, flashing and roof drains from the Control House building. The drawings and notes on the Architectural drawings for the Control House call for the existing steel roof plate to remain removing and replace all roof drains and leaders. There is no indication that the existing roof is being removed and replaced. Please clarify the scope of work required and indicate what type of roof is being removed and replaced if applicable.

Response: Control House steel roof is existing to remain. Remove and replace all roof drains and leaders.

b. North and South Gateman's Shelter's:

- i. Please confirm if asbestos abatement is required at the North and South Gateman's shelters. It is listed as "NIC" on Drawing A-22 and in Demolition Key Note 2, but included in the scope in for the Gateman's Shelters in the Special Provisions Specification Volume 2 of 3, page S-8.

Response: Per Appendix H- Hazardous Material Survey Report, abatement is required in North and South Gateman's Shelters.

- ii. The Finish Schedule on A-30 indicates the existing "Cemesto" panels are to be removed and replaced with gypsum board. The Scope in the Special Conditions Scope, items 5 and 10 indicate the existing plaster and replacing it with gypsum board and support system throughout at both walls and ceilings or are we patching and painting the existing plaster ceilings and walls?

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Response: Replace ceiling in its entirety with mold and moisture resistant gypsum board.

c. Gateman's House:

- i. The Demolition notes on Drawing A-18 are not provided so we cannot compare the scopes indicated. The new work indicated on Drawing A-19 however does not indicate a new exterior corrugated metal wall panel system. Is this required?

Response: Not required.

- ii. The Special Conditions states "the walls and ceiling shall be built out with metal studs and high impact moisture resistant gypsum wall board as necessary for proposed use" The Notes on Drawing A-20 indicate Reflected Ceiling panel state "Install new GWB ceiling on existing support where "cemesto" panels are removed." The Finish Schedule on A-30 states "Areas of plaster ceiling to remain, clean patch and paint." The wall elevations at A-21 call for new Gypsum Board at all wall surfaces. Please confirm if GWB is required at the ceiling throughout and whether the support for the system is new or existing.

Response: Provide GWB and new support system at ceiling.

d. Machine Houses (North and South):

- i. Special Conditions Scope indicates that "the exteriors of the houses shall be cleaned and painted as part of the structure painting" Please clarify what is required by this statement? What is meant by "Structure Repainting"? What structure is being referred to here? Is the entire bridge structure to be repainted? The Architectural drawings included in the Bid documents do not indicate that the exterior of these machine rooms are to be cleaned and painted, they actually call out in a note on A-15 that the existing exterior wall system is to remain, no additional scope is indicated for the wall system.

Response: Not required.

222. **Question:** Please refer to DWG S-36 (sheet 82). This drawings shows, "remove rivets and install HS bolts – paid under 586.05. Some drawings call for rivet replacement, but do not include this note. Are all rivet replacements paid under 586.05 or only where

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noted?

Response: All rivet replacements are paid for under Item 586.05

223. **Question:** Please refer to Spec Page 1302. In reference to Item 680.00100129 – Traffic Control Equipment, Basis of Payment, last paragraph: please confirm that the third sentence should read, “A minimum of ten-percent of this bid item will be retained by NYCDOT until final acceptance...”

Response: See revised page 001302 of Book 3 of 3 showing BASIS OF PAYMENT.

224. **Question:** Please refer to DWG S-3 (sheet 49):
- a. Please provide the connection detail for “Remove existing sidewalk grating (ITEM 202.120001)

Response: Supplemental drawings have been provided showing details.

- b. Please provide the connection detail for “REPLACE WITH PROPOSED SIDEWALK GRATING (ITEM 596.12010129)

Response: See Note 4 on Dwg. No. S-58 (Sheet No. 104)

- c. Please provide the connection detail for “STEEL PLATE (ITEM 564.98270129)

Response: Assume fillet welds at the transverse joints, but the Contractor will have the option to propose alternative attachment details.

225. **Question:** Please reference drawings WZTC-7 and WZTC-8. Please confirm that the temporary stringer installed in Stage 1 beneath the Northbound traffic lanes needs to remain through the entirety of stage 3.

Response: The Temporary Stringers beneath the Northbound lanes have to remain throughout the entirety of Stage 3.

226. **Question:** Please refer to drawing WZTC-7. Stage 2 shows 5 temporary stringers in place during this stage. This adds a considerable amount of weight to the lift span. Assuming the temporary stringers are similar to the permanent stringers, 5 stringers the length of the bridge weighing 68lb/lf is approximately 104,000 lbs added to the lift span. The weight of additional stiffeners, clip angles, fill plates, diaphragms, etc attributed to temporary stringers can be approximated as 20,000 lbs. Temporary stringers add

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~125,000 lbs to the lift span. Concrete barriers add ~400,000 lbs to the lift span in stage 2. The no drop shield, depending on the limits of the shield required and the final design of the shield will add at least another 150,000 lbs to the lift span. The combination of the barriers, temp stringers, and shield will add at least 675,000 lbs to the lift span. The contractor will also have tools staged on the bridge, weight TBD. Any equipment can be easily removed from the lift span to perform a bridge opening. Does the bridge and operating machinery have the capacity to add a corresponding amount of weight to the counterweights? Is the contractor expected to add this amount of weight to the counterweights? Where will this very large amount of weight be placed on/in the counterweights?

Response: See response to question 161 above. Contractor to consider the reduction in weight of the lift span from the Stage 1 replacement of the median, stringers and grid deck sections. The Contractor may consider to stage the demolition work and temporary stringer installations (i.e. at the sidewalk) to minimize the additional weight to the lift span. The additional weight to the lift span will gradually decrease once Stage 2 work, including roadway deck and sidewalk replacement, commences. Space is available in the counterweight pockets and on top of the counterweight (properly secured) for temporary weights such as steel and/or lead.

227. **Question:** Please reference the special specifications for Span Operation and Span Maintenance. Please confirm the Contractor will be paid under the Span Operation Bid Item for the monthly test openings required by NYCDOT and applicable USCG regulations.

Response: Span Operation Bid Item is for the passage of normal marine traffic and for monthly span opening.

228. **Question:** Please reference drawing A-5, note 29 and drawing A-6 note 6. From field observation there does not appear to be a floor access hatch. We are assuming there is no existing access hatch to remove and no new one to install. Please confirm.

Response: Floor hatch is present in the control house by the elevator landing as shown on the drawings.

229. **Question:** Please provide as-built drawings for the bridge and bridge machinery, including weights of each piece and manufacturers catalog cuts. Also details of the CW box and connections of the CW ropes on each end.

Response: Supplemental drawings have been provided. Complete drawings will be provided after bid award.

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230. **Question:** Please provide an additional site visit for viewing the machinery rooms.

Response: No additional site visit will be provided.

231. **Question:** Item 690.11370029 – Maintaining Balance & 690.11380029 – Balance Blocks, - states that the Contractor shall balance the Span

- a. Prior to the beginning of work
- b. Maintain the balance of the lift span in during construction
- c. And maintain final balance

It appears payment “B” maintaining construction balance is under item 690.11370029, and is determined by the Contractors construction scheme and schedule. Payment for “C” is under 690.11380029 by the amount of pounds of balance blocks required, determined from stain gage tests. Please confirm. Please clarify payment for “A”, and how it is measured. At this time, we are unable to responsibly price this work unless we know the existing imbalance of the bridge.

Response: All work to pertaining to maintaining balance, including removal and/or addition of blocks, are to be included under 690.11370029 – Maintaining Balance. Only new “permanent” counterweight blocks (see Dwg. No. M-26R (Sheet 199R) in Addendum No. 2 furnished for the project are to be paid under Item 690.11380029 – Balance Blocks.

232. **Question:** Regarding 6.7 (see question 231) above, please provide the most recent balance reports, details of the Counterweight box, including any compartments for balance blocks, and inventory of compartments. And inventory and location of any additional balance blocks.

Response: This material, if available, will be provided after award.

233. **Question:** Please refer to the Protective Shield special specification. Assuming the area of the bridge where it spans the river is a ‘No Drop Area’. What is the minimum vertical clearance from MHW elevation to the lowest point on the protective shield? Based on the WZTC staging we are assuming the shield will be continuous across the river width. Please confirm.

Response: See response to question 156 above.

234. **Question:** Please reference Part F – Bid Schedule which identifies items to be submitted at the Bid Opening. Please confirm the ‘Bidder’s Minimum Qualification Requirements

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Form' and 'Bidder's Project Manager's Qualification Requirements Form', along with the minimum qualification criteria contained in 'Part C – Minimum Qualifications' is to be submitted within 5 days of the Bid Opening.

Response: Table of Contents in Book 1 of 3 (Page 000003) indicates that Attachment 1f Minimum Qualifications Form(s) need to be completed and submitted within five (5) Days of Bid Open. C.2 on Page 000008 of Book 1 of 3 states Part C – Minimum Qualifications is to be completed and submitted within five (5) Days of Bid Opening.

235. **Question:** The WZTC drawings do not make provisions for performing the roadway and sidewalk work at the north and south approaches to the bridge. (Particularly Stages 2 and 3) The Contractor staging drawings, C-6 through 8 generally do not contemplate the roadway and sidewalk work at the north and south approaches to the bridge. Please provide supplemental WZTC drawings that address the roadway and sidewalk work at the approaches to the bridge.

Response: The same traffic configuration for the bridge staging can extend into the roadway areas north and south of the bridge. Apart from the sidewalk ramps, there is no sidewalk reconstruction off the bridge.

236. **Question:** Please reference drawing S-30. The "Concrete Median Barrier Jointless Bridge Details". We are assuming the concrete median and median curbs are not being replaced at the approach slabs, and there is no joint material in the vertical joint between the approach slab and the relief joint. Please confirm. (This drawing does not show the relief joint)

Response: The median adjacent to the approach slabs is to remain – see Dwg. No. S-54 (Sheet No. 100). There is a joint material in the vertical joint between the approach slab and the relief joint – see Dwg. No. S-30 (Sheet 76), Detail 1

237. **Question:** Please reference drawing S-30. Please provide a reference where Detail 1 is to be applied.

Response: See response to question 236 above.

238. **Question:** Please reference drawing S-38. Please provide a reference where "Joint at Barrier – Partial Plan" (with elastomeric concrete header) is to be applied.

Response: This applies at the median between the approach roadway and the tower spans. See revised Dwg. No. S-38R (Sheet 84R). The reference to the elastomeric concrete header in plan view has been deleted.

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239. **Question:** Please reference drawing S-46. Note 9 calls out bid item 567.61000116 for the installation of the joint seal. This bid item is not included in the Bid Sheet. Please provide.

Response: See revised Dwg. No. S-46R (Sheet No. 92R). Item 567.640000001 has been indicated and has been added to the bid form.

240. **Question:** Please reference drawing C-2. We are assuming the pedestrian ramp on the northeast corner of 9th Avenue is paid as bid item 680.01050009. Please confirm.

Response: The pedestrian curb ramp on the northeast corner of 9th Avenue is paid for under Item 608.01050009.

241. **Question:** Please reference drawing C-2 and the US Customary Standard Sheets for Sidewalk and Curb Details. Please confirm the pedestrian ramp is a Type 9.

Response: Reference NYSDOT Std. Sheet 60801 – 2 of 9, Option 1.

242. **Question:** Please reference drawing C-2. Based on the notes on the drawing we are assuming the median and curb at the north and south roadways and approach slabs to the bridge are not being replaced. Please confirm.

Response: Confirmed.

243. **Question:** Please reference drawing C-5, S-46, S-52 and S-54. Bid Item 580.04 is the removal of concrete approach slab by the sf. From the site visit an existing concrete approach slab is not visible, nor do we know how thick it is. Please provide drawings of the existing approach slabs.

Response: For bid purposes, assume that the existing approach slabs are 12 inches thick.

244. **Question:** Please reference drawing C-5, S-46, S-52 and S-54. Bid Item 580.04 is the removal of concrete approach slab by the sf. From the site visit an existing concrete approach slab is not visible, nor do we know how thick it is. Drawing S-54 shows the backwall 2ft-8in thick, which does not match the apparent north backwall thickness shown on drawing S-52 and the thickness of the south backwall is not provide on drawing S-46. Please provide drawings of the existing abutment backwalls.

Response: The 2'-8" width is sufficient to cover for all removals and repairs to the

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backwall. There are no available drawings to show the width of backwalls.

245. **Question:** Please reference drawing UT-1, UT-2 and C-2. There are several inlets and several manholes within the limits of approach roadway replacement. It is unclear whether these structures will need to be adjusted. Please provide adjustment pay items for these structures; if adjustment of these structures becomes necessary.

Response: The intent is to replace existing pavement in kind and adjustments should not be necessary.

246. **Question:** With reference to specification page 1584, "Construction Method," Note 4 a, this note requires the contractor to support the main counterweights from the tower when replacing counterweight ropes. No details are given for this complex and costly procedure. Is it the intent of the NYCDOT to require the counterweight be supported from the tower during wire rope replacement? If yes, please provide temporary support and jacking details including tower attachment points and expected load requirements.

Response: The procedure is provided as a suggestion only and is subject to Contractor's means and methods. Contractor has the option to replace the counterweight ropes one assembly at a time. See response to question 247 for additional information.

247. **Question:** With reference to the Wire Rope Replacement, how many counterweight ropes can be removed simultaneously without the counterweight being supported from the tower?

Response: One (1) counterweight rope can be removed without the counterweight being supported from the tower.

248. **Question:** In regards to bid item 634.20010111, Primary Protective Shields:
- a. What is the existing vertical clearance over the Metro North tracks beneath the North Tower Span?
 - b. What is the existing minimum clearance we are required to maintain over the Metro North tracks beneath the North Tower Span?
 - c. What is the existing minimum clearance we are required to maintain over the Harlem River beneath the Lift Span?

Response:

- a. **Existing vertical clearance over Metro-north tracks is shown on Dwg. No. TS-5 (Sheet No. 21).**
- b. **See Note B under Special Notes for Railroads on Dwg. No. G-14 (Sheet No. 14).**

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c. See response to question 156 above.

249. **Question:** Please confirm that 2 Con Ed services are required, 1 for North and 1 for South, in addition to droop power cable running from North to South (on bridge) plus their corresponding 1 Main and 2 Auxiliary generators.

Response: Two services are required. The north is existing and being upgraded and the south is a new service. Droop cables only provide minor power across the channel in support of the auxiliary Generator. Note there are 2 main generator (one north side and one south side) and 1 auxiliary generator (north side).

250. **Question:** Please re-issue Drawing A-18 with missing demolition notes.

Response: See revised Dwg. No. 18R (Sheet No. 161R). the descriptions have been added.

251. **Question:** Drawing A-30 shows the manufacturer and model for the rubber flooring however the manufacturer has stated that the specified product has been discontinued. Please indicate which product to use.

Response: See response to question 149 above.

252. **Question:** Drawing A-5 Note 19 states to remove all paint from exposed steel and concrete surfaces at the Control House. Please confirm if this note applies only for steel and concrete surfaces exposed to view after installation of final interior finishes.

Response: Confirmed. Only for steel and concrete surfaces.

253. **Question:** Item 690.11240029 – Control House page 1 of 81 (I-138) states that new work includes metal plate roofing however Drawing A-8 shows the existing metal plate roof to remain. Please confirm if a new metal roof is required or not.

Response: Existing metal plate roof is to remain

254. **Question:** Item 690.11240029 – Control House page 1 of 81 (I-138) states that new work includes repaint of exterior metal wall system however the architectural drawings do not call for this. Please confirm if we are required to pain the exterior of the Control House.

Response: Repainting of the exterior metal wall system is not required.

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255. **Question:** Item 690.11250029 – Gateman’s House page 1 of 35 (I-219) states to remove existing exterior metal wall panel and install new exterior metal wall panel however the Drawing A-19 does not show this work. Please confirm if we are required to replace the existing metal wall panel at the Gateman’s House.

Response: Not required.

256. **Question:** Please refer the DWG S-95 (sheet 141) note at each tower stating S.S. EXP. METAL COVERS AT HAND HOLE AND GUSSET OPENINGS AT TRUSS/BRACING MEMBERS and DWG S-96 (sheet 142) detail labeled STAINLESS STEEL CLIPS which shows a hand hole opening. Please provide locations and sizes of Hand Hole and Gusset openings for ITEM 690.11510029 BIRD CONTROL SYSTEMS.

Response: See revised Dwg. No. S-95R (Sheet 141R) for additional notes and details. The locations and sizes of handholes, manholes, and gusset openings varies and shall be determined by the Contractor during field investigation under Item 690.11510029 - BIRD CONTROL SYSTEMS. The amount of clips and panels to be installed shall be determined by the Contractor that includes, but not limited to, the Contractor’s proposed bird control methods to be implemented at various areas.

257. **Question:** Please refer to DWG S-95 (sheet 141) note 4 – ALL EXPOSED HORIZONTAL PIPING AND CONDUITS THAT SERVES AS ROOSTING/LANDING AREAS SHALL BE INSTALLED WITH NEEDLE STRIPS. The drawings do not adequately indicate how many linear feet of stainless steel spike strips are to be installed. Would you please provide clarification on how many linear feet of horizontal piping and conduits receive spike strips.

Response: The amount of spike strips to be installed on horizontal piping and conduits shall be determined by the Contractor which includes, but not limited to, the Contractor’s proposed new piping and conduit routing on the structure and in conjunction with other bird control methods such as netting to be implemented at various areas. See revised Dwg. No. S-95R (Sheet 141R) for additional notes.

258. **Question:** Please refer to DWG C-9 (sheet 36) and DWG M-5 (sheet 178). On sheet 178, “Operating Machinery Support Demolition” shows the limits and notes for the concrete floor slab removal. On sheet 36, “Suggested Construction Schedule”, under Mechanical Work, row 4 states to Install New Machinery Supports and Machinery Room Floor. There is no construction plan drawings that show new floor slab details or notes for the Machinery Rooms. Please confirm no new floor slab concrete is required.

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Response: See Dwg. No. M-8R (Sheet No. 181R) in Addendum No. 2. New floor slab concrete is not required as the new machinery supports are directly mounted to existing and new structural steel members with insulated steel closer plates to be provided at gaps between the concrete cutout and new machinery supports.

259. **Question:** Please refer to Spec Pages 001621 to 001634 and DWG M-35(sheet 208). Which parts of the elevamasttor system are subjected to the “Buy America” provisions of the contract?

Response: The project as a whole is subject to the Buy America requirements. Any iron/steel products have to be considered.

260. **Question:** The following question is from B&B Roadway Security Solutions: Please refer to Item 690.00100129 – Traffic Control Equipment, Spec Page 001297, Energy Absorption Capacity, last sentence, “Energy absorption capacity calculations and available test data shall be submitted with the gate shop drawings for review by Engineer.” The spec references our Model HR-7. This Gate has not been tested so we cannot provide any available test data. This type of testing can run into hundreds of thousands of dollars, depending on requested requirements. We request that this testing requirement be removed from the specifications.

Response: If test data is not available at time of submission of shop drawings, that has to be indicated as part of the submittal with the calculations.

261. **Question:** Refer to spec page.000868 section 1-81(g) 125c. The authority states that the bridge is an active bridge and must remain operable at all times to allow NYCT trains to pass through. The machinery and electrical equipment in the bridge south and north tower machine rooms must remain operational and therefore should not be shut down and locked out. General note on drawing E-1 states that contractor is responsible for coordinating all temporary and proposed utility service and staging cutovers to the bridge? Please provide existing control block diagrams and existing overall one line diagrams to accomplish this task.

Response: Drawing C-9R (Sheet No. 36) is a suggested Construction Schedule that includes a 3 month shutdown to marine traffic to allow changeout of the mechanical system as well as utility service. This will not impede NYCT trains as their power and control are separate from the bridge.

262. **Question:** Refer to drawings E11 and E12. Additional information require. Please provide more details on the Flex vector drive:
- a. Are both the load and line reactor for the Flex vector drive contained within this

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enclosure?

- b. Is there a maximum/minimum size for this enclosure?
- c. Does this enclosure need to be NEMA 4X 316SS or will NEMA 12 painted steel meet the requirement?

Response:

- a. Yes. See page 001846 of Book 3 of 3 for additional details of line and load reactors.**
- b. As indicated on 001845 of Book 3 of 3, FVD enclosure shall not exceed dimensions shown on plans. If departure from contractor drawings is required, contractor shall submit proposed size/dimensions and installation details for approval in the form of shop drawings.**
- c. As indicated on pages 001845 and 001846 of Book 3 of 3, enclosure shall be NEMA 12 and FVD aux cabinet shall be NEMA 4X SS 316.**

263. **Question:** Refer to control system requirements. Over speed switches provided by electro-sensors typically come with either a target disc or wrap in the assembly. Does this need a target disc or wrap? If so, can you please provide the details required to meet the specs (Ex: model, material, number of magnets, etc.)

Response: Part number for reference has been provided in specifications. The Contractor has the option to submit a different manufacturer as an approved equal, see page 001748 of Book 3 of 3.

264. **Question:** Basis of Payment for the following bid items allows the contractor to get paid only 45% of the pay item after shop fabrication, shop inspection, shop testing, field installation and acceptance by NYCDOT.

690.11290029 OPERATING MACHINERY
690.11300029 SPAN LOCK MACHINERY
690.11310029 WIRE ROPE REPLACEMENT
690.11320029 STABILIZING COMPONENT REHABILITATION
690.11330029 HYDRAULIC BUFFERS
690.11340029 ELEVATOR
690.11390029 HVAC
690.11400029 PLUMBING

Please note that at the time of installation and acceptance by NYCDOT, more than 80% of the direct cost of these bid items would have been incurred by the subcontractor and/or contractor. Also, please note that Operating and Maintenance Manuals (690.11490029) and

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Training (690.11500029) have their own separate bid items. Please consider changing these payment terms with the ones similar to the Basis of payment of items described under the following bid items:

690.11450029 BRIDGE CONTROL SYSTEM

690.11460029 BRIDGE ELECTRICAL EQUIPMENT

Response: Payment will remain as is.

265. **Question:** Drawing S-19 refers to bid item 587.01 for the removal of existing median, which is not included in the bid item list.

Response: See response to question 3 in Addendum No. 2.

266. **Question:** Please provide details for type 7 steel repairs that would be paid under bid item 564.0507.

Response: See response to question 50 in Addendum No. 2

267. **Question:** Drawing G-12, Coast Guard Note 6 and note 7 on G-13 requires sounding elevations of waterway bottom before commencement of work and upon completion of the project. Please advise which pay item will be used for payment of this work.

Response: No separate pay item is included for this effort. Cost shall be reflected in bid prices.

268. **Question:** Bid Item 634.20010111 – Primary Protective Shields provide a quantity of 59,205 sf. Please identify the locations of primary protective shields on the contract plans and provide limits of measurement.

Response: See response to question 6 in Addendum No. 2.

269. **Question:** It appears that USCG issued a letter to facilitate NYCDOT planning and preparations with most common stipulations for this type of work, but it is not a permit. Has the Authority received USCG permit? Will it be available to contractors prior to bid.

Response: Contractor is responsible to obtain permit to perform the work.

270. **Question:** Is the authority in the process of getting Metro North Railroad permit specific to this project? Will it be made available to contractors prior to bid. Current general

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stipulations allow access to single tracks at nights between 2:30am to 5am, which does not allow enough time to erect primary shielding.

Response: Contractor is responsible to obtain Right of Entry Permit. See Appendix J in Book 2 of 3.

271. **Question:** Please provide necessary notes on sheet 161 (drawing A-18)

Response: See response to question 250 above.

272. **Question:** In regards to the elevator – Can you provide a detail showing the mast tie-in connection?

Response: See response to question 37 above.

273. **Question:** In regards to the elevator – Can you provide a detail showing the landing doors?

Response: See response to question 37 above.

274. **Question:** In regards to the elevator – Can you provide a detail showing the elevator pit and its supports?

Response: See response to question 37 above.

275. **Question:** In regards to the elevator – Can you provide a detail showing the top overhead clearance?

Response: See response to question 37 above.

276. **Question:** The specifications require railroad protective insurance be obtained. Can this be a single policy naming Metro North and NYCT as named insureds, or are two separate policies required?

Response: Two policies are required.

277. **Question:** Reference is made to Stainless Steel Specifications which call for .078 thick materials. According to our door manufacturers this thickness is not available, gauges will have to be 14 (.067 Thick) or 12 (.093 thick) Please advise.

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Response: 14 gauge (0.078") is what was specified. The contractor can submit ASTM certification that the thickness cited is within tolerance.

278. **Question:** Please provide specific track usage and outages for MNRR track 1 (closest to abutment), track 2 (middle track) and track 4 (adjacent to the river).

Response: Contractor to assume period of closure is the same for all tracks.

279. **Question:** Related to MNRR, what are the clearances on each track? Are there any reliefs on them?

Response: See response to question 248 above.

280. **Question:** What activities can be performed over MNRR when the shield is up during regular hours?

Response: Contractor activities over MNR are restricted to the period stated in Appendix of Book 2 of 3.

281. **Question:** Appendix J article 10 on p. 1129 states that the Contractors work hours will be from 1am to 4:45am, is this over all three MNRR tracks?

Response: Yes. Requirement of track closures will be coordinated with MNR.

282. **Question:** S-38 contains a Section A-A detail however, there is no call out for section A-A in the plan provided. Please clarify where section A-A comes from.

Response: See Note 1 on Dwg. No. S-30 (Sheet No. 76) for reference to Section A-A.

283. **Question:** The following questions pertain to the use of hi-rail equipment on MNRR tracks and ROW property:

- a. What are the requirements and/or procedures essential for the use of hi-rail equipment by the Contractor?
- b. If the Contractor is permitted the use of hi-rail equipment, where is the MNRR access and staging location to mobilize hi-rail equipment and materials for this project?
- c. What days and times is the Contractor permitted to load and off-load materials at the MNRR access/staging location?
- d. At the beginning of each work shift, at what time is the hi-rail equipment permitted to leave the MNRR staging area to be at the Broadway bridge work

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site?

- e. Towards the end of each work shift, at what time is the hi-rail equipment required to leave the Broadway Bridge so that its back at the MNRN staging area in order to clear the track prior to increased morning train traffic?

Response: Use of any contractor equipment on Metro-North property will have to follow requirements in Appendix J of Book 2 of 3. Use of Hi-rail equipment must have written approval prior to use as stated on page 001136 in Appendix J of Book 2 of 3.

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OVER THE HARLEM RIVER**

000021R 3

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Bid Item Number	Bid Item Description	Estimated Quantity	Unit	Unit Price for Bid Item	Sub-Totals (Column 3 x Column 5)
202.02100163	CONTAMINATED AND HAZARDOUS MATERIAL DISPOSAL (SOLIDS < 500 LBS)	499	POUND		
202.02200263	CONTAMINATED AND HAZARDOUS MATERIAL DISPOSAL (LIQUIDS 101-500 GALLONS)	275	GALLON		
202.120001	REMOVING EXISTING SUPERSTRUCTURES	1	LUMP SUM		
202.2301	REMOVAL OF STEEL SUPPORTED STRUCTURAL SLABS (WITHOUT SHEAR CONNECTORS) - TYPE A	175	SQUARE FOOT		
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	927 3	CUBIC YARD		
203.21	SELECT STRUCTURAL FILL	35	CUBIC YARD		

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OVER THE HARLEM RIVER**

000031R 3

3

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Bid Item Number	Bid Item Description	Estimated Quantity	Unit	Unit Price for Bid Item	Sub-Totals (Column 3 x Column 5)
567.64000001	REPLACING COMPRESSION SEAL FOR EXISTING BRIDGE JOINTS	72	LINEAR FOOT		
570.96750129	BLAST CLEANING AND ZINC/ALUMINUM THERMAL SPRAYING OF EXISTING STRUCTURAL STEEL – (FIELD APPLICATION)	972	SQUARE FOOT		
572.00020101	METALIZING, TYPE 1	1	LUMP SUM		
575.00310129	FIBER REINFORCED POLYMER BRIDGE DECKING	5200	SQUARE FOOT		
575.00320129	EPOXY GRIT SURFACE	11450	SQUARE FOOT		
580.01	REMOVAL OF STRUCTURAL CONCRETE	280	CUBIC YARD		
580.04	REMOVAL OF CONCRETE APPROACH SLAB	3800	SQUARE FOOT		

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F-11R

Contract No. HBM1147
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OVER THE HARLEM RIVER**

000036R 3

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Bid Item Number	Bid Item Description	Estimated Quantity	Unit	Unit Price for Bid Item	Sub-Totals (Column 3 x Column 5)
619.1802	TEMPORARY IMPACT ATTENUATOR - REDIRECTIVE (TEST LEVEL 2)	3 8	EACH		
619.22970011	TRAFFIC ENFORCEMENT AGENTS	1	FIXED PRICE LUMP SUM	\$3,884,000.00	\$3,884,000.00
619.24	NIGHTTIME OPERATIONS	1	LUMP SUM		
619.90020001	TOW TRUCK SERVICE	520	CALENDAR DAY		
623.11	CRUSHED GRAVEL (IN-PLACE MEASURE)	6	CUBIC YARD		
623.12	CRUSHED STONE (IN-PLACE MEASURE)	8	CUBIC YARD		

3
F-16R

- 15) Miscellaneous Steel Repairs: rivet replacement, railings, anchor bolts, platforms, laterals, walkways, ladders, hangers, etc.
- 16) Bird deterrent, intrusion and shielding methods shall be installed throughout the bridge including machinery areas.
- 17) New custom steel median shall be installed.
- 18) Pier access hatches shall be replaced.
- 19) Pedestrian fencing shall be replaced.
- 20) Structural supports for resistance gates shall be installed.
- 21) Seismic retrofit of the portal frame.
- 22) Select members shall be seismic strengthened.
- 23) A new walkway shall be installed from the gateman's house to facilitate access to the south lifting girder.
- 24) New counterweight rope inspection platforms shall be installed under each counterweight sheave on the counterweight side.
- 25) The pier cap beam and columns shall be repaired.
- 26) The stone facing at the piers shall be repointed.
- 27) The steel bearings shall be retrofitted at the abutments and piers.
- 28) The stem, backwall and pedestals shall be repaired at the abutments.
- 29) The wingwall stem shall be repaired at the abutments.
- 30) The approach roadway and embankment shall be reconstructed at the south abutment.
- 31) The impact damage on the bottom flange of the north lifting girder shall be repaired.
- 32) East sidewalk bracket at the end floorbeam of span 1 to be replaced.
- 33) Repair southwest lift span expansion shoe strike plate and replace shoe pin.



Architectural Scope of Work:

Control House – (1) located above roadway

- 1) Asbestos abatement shall be performed.
- 2) The entire exterior metal wall system shall be cleaned, repaired and repainted.
- 3) Existing roof system, flashing and roof drains shall be removed and replaced.
- 4) The interior glazed ceramic tile walls shall be cleaned and repaired as necessary.
- 5) All windows shall be replaced with high performance, thermal break, aluminum frame units with low emissive glazing. Screens shall be provided with each window unit.
- 6) New window without intermediate mullions at control desk area shall be installed to ensure maximum visibility. Laminated window glazing shall be provided for safety.

If the proposed lane closures as specified in (a) and (b) above are not as shown in the Contract Documents and therefore require separate approval by the Office of Construction Mitigation and Coordination (OCMC), the Contractor shall give the Engineer at least four weeks advance notification of the intended lane closure.

The above mentioned procedure shall be strictly followed so that the public receives prior notification of all Bridge roadway closures, and has an opportunity to plan alternate travel routes or anticipate delays.

68. **STANDARD SPECIFICATIONS SECTION 831 - SPECIFICATION FOR PAINTING**

NYCDOT's Specifications for Painting, Section 831, included as Appendix E at the end of the S pages is part of this Contract.

All painting work performed under the Section 831 items in this Contract shall conform to these specifications except the following:

The Inorganic Zinc Primer (IOZ) used in shop painting applications under systems A and A' shall be replaced with Organic Zinc Primer. 3

All faying surfaces of slip critical bolted connections including connection angles, gusset plates, stiffeners, shims, filler plates, etc. shall receive one coat of an Organic Zinc-Rich Primer that has been tested and qualified as a Class B Slip Coefficient material with acceptance by NEPCOAT (North East Protective Coating Committee). The primer shall be selected from the NYSDOT approved materials list. Intermediate and top coats shall not be applied to the faying surfaces.

The plies of the slip critical connections shall not be masked or assembled before the primer coating has cured for the minimum time that was in used in the qualifying slip resistance test for that product. The values for Dry Film Thickness and amount of thinner used shall also comply with the values set forth in the slip resistance test. If there are any deficiencies found at a faying surface regarding these parameters, the coating shall be completely removed and reapplied at no additional cost to the City.

In slip critical connections that involve mating existing steel with new steel, the faying surfaces of the existing steel shall be prepared in the field in the same manner and with the same primer as the shop prepared faying surfaces. The method of surface preparation for field operations shall be submitted by the Contractor and approved by the Engineer prior to starting the work.

After cleaning and priming is completed, faying surfaces shall be kept free of surface contaminants that may compromise the Class B slip coefficient such as oil, grease, dirt, fluid and other foreign matter.

69. **SECTION 832 - SPECIFICATION FOR LEAD PAINT REMOVAL, WORKER/ ENVIRONMENTAL PROTECTION AND WASTE HANDLING**

NYCDOT's Specification for Lead Paint Removal, Worker/Environmental Protection and Waste Handling, Section 832, included as Appendix F at the end of the S-pages, is a part of this Contract.

All Lead Paint Removal Work, Worker/Environmental Protection and Waste Handling performed under the Section 832 items in this Contract shall conform to these specifications.

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520.05000010	Saw Cutting Portland Cement Concrete and Composite Pavements	I-23
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690.11280029	Movable Bridge Project Coordinator	I-340
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ITEM 567.64000001 - REPLACING COMPRESSION SEAL FOR EXISTING BRIDGE JOINTS**DESCRIPTION**

The Contractor shall furnish and install Preformed Closed Cell Foam, Type 1 joint seals of the size and at the locations indicated on the plans or as directed by the Engineer.

MATERIALS

The requirements of Section 705-08 shall apply.

CONSTRUCTION DETAILS

1. Contractor shall remove the existing sealer. Surfaces which are to be coated with adhesive shall be cleaned in accordance with the sealant manufacturer's printed instructions.
2. Sealant Application.
 - a. Two copies of the sealant manufacturer's printed instructions shall be delivered to the Engineer at least two weeks prior to the start of work.
 - b. Prior to the application of sealant, all surfaces which will come in contact with sealant shall be completely dried and cleaned. Sealant shall be applied in accordance with the manufacturer's printed instructions.
3. Installation of the joint sealer to be done in accordance with the manufacturer's written instructions.
4. Watertight Integrity Test. After the compression seal is permanently installed, a watertight integrity test shall be performed. The test shall be done in accordance with the requirements of § 567-3.01H.

METHOD OF MEASUREMENT

Measurement will be made as the number of linear feet of compression seal completely installed, measured horizontally and vertically along the centerline of joint system between the outer limits as indicated on the contract plans.

The word "completely installed" shall be interpreted to mean the compression seal in its proper position and the watertight integrity tests completed.

BASIS OF PAYMENT

The unit price bid per linear foot shall include all labor, materials and equipment necessary to complete the work.

DESCRIPTION

This work shall consist of furnishing all materials and equipment necessary and to apply metalizing in accordance with the contract documents and as directed by the DCES.

Qualification of Metalizing Contractor

The metalizing contractor performing the work shall document previous experience in providing surface preparation for metalizing and metalizing application services in the shop and field, with a minimum history of three (3) successfully completed projects of similar complexity. The contractor shall be certified per the requirements of SSPC-QP 3.

The contractor shall submit experience and qualification records of all personnel performing the work.

Qualification of Thermal Spray Technicians and Personnel

The thermal spray technicians shall be qualified in accordance with ANSI/AWS C2.16 with a minimum passing adhesion of 700 psi, and must hold a certificate of satisfactory completion of training from the equipment manufacturer. The equipment used for qualification shall be equivalent to that used in production.

Each metalizing shift shall have at least one metalizing supervisor, meeting the thermal spray technician requirements, and who will additionally have a minimum of three years documented satisfactory metalizing experience on similar projects.

An SSPC certified Quality Control Supervisor shall be on the thermal spray company's staff and shall provide a Quality Control Plan to the DCES prior to the onset of work. The Quality Control Supervisor shall meet the requirements of Thermal Spray Supervisor as per SSPC-QP 6. Additionally, the Quality Control Supervisor shall have a minimum of five (5) years experience with satisfactory performance in abrasive blast cleaning of steel surfaces according to SSPC-SP 10 and shall have performed similar duties on two successful metalizing projects.

Codes and Standards

The provisions set forth in the latest issue of the following codes and standards shall apply unless otherwise indicated in the contract documents:

- ASTM B 833, Standard Specification for Zinc Wire for Thermal Spraying (Metalizing).
- ASTM C 633, Test Method for Adhesive/Cohesive Strength of Flame Sprayed Coatings.
- ASTM D 4285, Method for Indicating Oil or Water in Compressed Air.
- ASTM D 4417, Test Method for Field Measurement of Surface Profile of Blasted Steel.
- NACE Standard RP0287, Field Measurement of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using a Replica Tape.
- ASTM D 4541, Test Method for Pull-Off Strength of Coating Using Portable Adhesion Testers.

ASTM E1920, Standard Guide for Metallographic Preparation of Thermal Sprayed Coatings.
 ASTM E2109, Standard Test Methods for Determining Area Percentage Porosity in Thermal Sprayed Coatings.
 ANSI/AWS C2.16, Guide for Thermal-Spray Operator Qualification
 ANSI/AWS C2.18, Guide for the Protection of Steel with Thermal Spray Coatings of Aluminum, Zinc, and Their Alloys and Composites.
 SSPC-CS 23.00/AWS C2.23M/NACE No. 12, Specification for the Application of Thermal Spray Coatings (Metalizing) of Aluminum, Zinc, and their Alloys and Composites for the Corrosion Protection of Steel.
 SSPC Publication, The Inspection of Coatings and Linings: A Handbook of Basic Practice for Inspectors, Owners, and Specifiers.
 SSPC-AB 1, Mineral and Slag Abrasives.
 SSPC-AB 2, Specification for Cleanliness of Recycled Ferrous Metallic Abrasives.
 SSPC-AB 3, Ferrous Metallic Abrasives.
 SSPC-PA 1, Shop, Field, and Maintenance Painting of Steel.
 SSPC-PA 2, Measurement of Dry Coating Thickness with Magnetic Gages.
 SSPC-QP 3, Standard Procedure for Evaluating Qualifications of Shop Painting Applicators
 SSPC-QP 6, Standard Procedure for Evaluating the Qualifications of Contractors Who Apply Thermal Spray (Metalizing) for Corrosion Protection of Steel and Concrete Structures
 SSPC-SP 1, Solvent Cleaning
 SSPC-SP 10/NACE No. 2, Near-White Blast Cleaning.
 SSPC-SP 11, Power Tool Cleaning to Bare Metal
 SSPC-VIS 1, Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning.

Quality Control Plan

Prior to the start of work, the Contractor's QC Supervisor shall provide a written quality control plan and submit it to the DCES for approval. The plan shall include the procedure to be followed and equipment to be used for all processes outlined herein, including surface preparation and metalizing and seal coat application. The plan shall include a method of adhesion testing, thickness measuring, bend test protocol, testing frequency, and MSD sheets for material utilized on the project. The plan shall outline the quality assurance procedures and any safety precautions that must be followed by workers and inspectors. No work shall commence until the DCES has approved the plan.

Job Reference Standard (JRS)

A job site pass/fail Job Reference Standard, representative of the work to be performed, shall be prepared by the metalizing applicator. The JRS will be used to evaluate the suitability of the application process. The JRS shall be made on a steel plate approximately 18 in. x 18 in. x 0.25 in. and shall be made with the actual equipment and process parameters and procedures (surface preparation, metalizing, sealing, and testing) that shall be used for the contracted work. The JRS shall be made in similar environmental conditions as the work to be performed. Thickness measurements and adhesion tests shall be performed on the JRS per this specification. The JRS

will be deemed unsatisfactory if any of the measurements or test results is less than the values indicated herein.

Metallographic testing shall be performed, in accordance with ASTM E1920 and ASTM E2109, on a JRS meeting the requirements of this section. Porosity of the metalized coating shall be less than 10% with less than 5% air inclusions in the film, and shall be fully bonded to the substrate with no air pockets between the coating and substrate. There shall be no interconnected porosity to the substrate for the contract specified thickness, intended technique of application, number of passes, and thickness applied per pass.

For steel assemblies exhibiting acute angles between structural members to be metalized in the shop after assembly, a similarly scaled steel, blasted mockup must be put together emulating the angles encountered. This mockup shall be metalized by the coating applicator, disassembled and adhesion testing shall be performed on the metalizing in the acute angle, per these specifications. If the mockup fails the adhesion test, the applicator shall change the application technique and/or adjust equipment to obtain proper adhesion results, thickness measurements and appearance requirements in acute angles.

Job Control Record (JCR)

The Contractor shall keep a Job Control Record, detailing the essential job information and the in-process quality control checkpoints required by this standard. The JCR shall include information on safety precautions, and the equipment, parameters, and procedures for surface preparation, thermal spraying, and sealing. Failure to perform production work in a manner consistent with the JCR guidelines will be cause for rejection.

MATERIALS

A. METALIZING

Certified alloy wire is required, and shall be composed of 85% zinc and 15% aluminum by weight. Wire shall meet the requirements of ASTM B-833 Standard Specification for Zinc and Zinc Alloy Wire for Thermal Spraying (Metalizing) for the Corrosion Protection of Steel. The Contractor shall submit a certificate with results of testing for chemical analysis to the DCES, for each lot of wire used on the job. The Contractor shall obtain written certification from the manufacturer of the alloy and will provide the certifications for each lot of wire a minimum of five business days prior to commencement of metalizing.

The metalizing 85/15 alloy shall have a minimum tensile bond of 700 psi.

B. ABRASIVE FOR BLAST CLEANING

Blast media shall be angular steel grit, angular aluminum oxide, or angular crushed slag, evaluated per SSPC-AB 3 for new abrasive material, and shall be capable of producing an angular anchor tooth profile. If abrasive material is to be recycled, the abrasive material shall be

evaluated prior to each reuse per the requirements of SSPC-AB 2. Use of silica sand, steel shot, or any other abrasives that result in a round surface profile is prohibited.

C. SEALER

Sealer shall UV resistant and be a urethane or epoxy polyamide penetrating sealer, type as recommended by the supplier for use on metalized surfaces. The sealer shall be VOC compliant for use in New York State. Sealer shall be of such viscosity to penetrate pores in metalized coating.

D. SUBMITTALS

The metalizing applicator shall submit the detailed procedures for surface preparation, metalizing application, and application of sealer coat, conforming to these specifications. The procedures shall detail the equipment, application process, in-process quality control, and Job Control Record to be used for the contract work. The information shall include:

1. Detailed procedures for surface preparation, thermal spraying, seal coating, and the in-process quality control checkpoints.
2. Equipment (surface preparation, thermal spraying, seal coating, and the in-process quality control) to be used and for which the detailed procedures apply.
3. Product Data and MSDS sheets for sealer.
4. Blasting media, thermal spray feedstock materials, and seal coat product.
5. Job Reference Standard.
6. Job Reference Standard test results report.
7. Job Control Record.
8. Repair of defective coatings per ANSI/AWS C2.18.
9. Certification of Class B slip coefficient and creep resistance. The certification shall include the written test results, including the thickness range required to meet the certification. Certification of Class B slip and creep resistance is not required for metalized to metalized faying surfaces meeting the requirements of this specification.

This information shall be submitted at least 10 work days prior to the schedule start of the Job Reference Standard (JRS).

CONSTRUCTION DETAILS

A. SURFACE PREPARATION

Prior to blast cleaning, steel surfaces shall be Solvent Cleaned in accordance with SSPC-SP 1, Solvent Cleaning, to remove all visible oil, grease, dirt, salt, and other contaminants. Then, all surfaces to be metalized shall be cleaned to SSPC-SP 10, Near-White Blast Cleaning, standards. All cleaning and coating shall be performed at the same facility. Surface finish and cleanliness shall be confirmed according to SSPC-VIS 1 standards. In the event of a dispute, the written SSPC SP-10 standard will take precedence.

Unacceptably hard surfaces, as defined by section 602 of the NYSDOT Steel Construction Manual, shall be removed by grinding, machining, or approved heat treating procedures, prior to abrasive blasting.

The substrate shall have an angular anchor tooth profile of 3 to 5 mils. Surface Profile measurements shall be made using X-course profile tape and a micrometer, as outlined in ASTM D4417. "Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel/NACE Standard RP0287, Field Measurement of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using a Replica Tape." Spot measurements shall be made approximately every 2000 ft² for automated blasting or 200 ft² for manual blasting. Take three measurements for each spot in an area approximately 1.5 in². Average the measurements and record in the Job Control Record.

Compressed air shall be free of oil and water and shall meet ASTM D4285, method for Indicating Oil or Water in Compressed Air. Utilize a compressed air system capable of delivery at the nozzle of 125 cfm at 120 psi. To minimize any contamination, use an oil/water separator on the airline. 120 psi of compressed air maintains the proper atomization of the molten wire producing the optimum spray pattern.

B. SYSTEM REQUIREMENTS

Only certified spooled metalizing wire, which is properly drawn, spooled and packaged, shall be used.

The metalizing equipment shall be set up, calibrated, and operated according to the manufacturer's instructions and technical manuals or the metalizing applicator's refinement thereto and as validated by the Job Reference Standard.

Spray parameters shall be set for spraying the specified thermal spray material and, at a minimum, be validated with the bend test. A bend test shall be satisfactorily performed at the beginning of crew and shift change.

A copy of the spray parameters used shall be attached to the Job Control Record.

C. SUBSTRATE CONDITION

The steel surface temperature shall be at least 5°F above the dew-point.

For flame spraying, preheat the initial starting area to a minimum of 250° F to prevent condensation of moisture in the flame onto the substrate. Validate preheating and non-preheating requirements with a tensile bond measurement and a bend test.

Time between the completion of the final anchor-tooth blasting (or final brush blasting) and the completion of the thermal spraying shall be no greater than six hours for steel substrates. In high-humidity and damp environments, shorter holding periods shall be used. If rust bloom or a

degraded coating appears at any time within the six -hour window, the procedure outlined in Section F, Surface or Coating Degradation shall be followed.

Extension of Time of Application

In low-humidity environments or in enclosed spaces using industrial dehumidification equipment, it will be possible to retard the oxidation of the steel and hold the surface finish for more than six hours. The metalizing applicator, with the approval of the DCES, can validate a holding period greater than six hours by determining the acceptable temperature-humidity envelope for the work enclosure by spraying and analyzing bend coupons and tensile -bond coupons.

A 1-mil to 2-mil flash coat of the metalizing may be applied within six hours of completing surface preparation to extend the holding period for up to four further hours beyond the complete application of the flash coat. The final metalizing thickness, however, shall be applied within four hours of the completion of the application of the flash coat provided the metalizing can be maintained free of contamination.

Validate the use of the flash TSC holding period with a tensile -bond measurement and a bend test.

- Clean and abrasive blast a representative job area and three bend-test coupons.
- Apply a flash metalizing to the representative job area and the three bend coupons.
- Wait the delay period in representative environmental conditions and apply the final metalizing thickness.
- Perform adhesion test and bend test on coupons.
- Flash metalizing and holding period are acceptable if the tensile bond and the bend test are satisfactory.

D. METALIZING

The applied 85/15 alloy metalizing thickness shall be a minimum of 12 mils, with a tolerance of -0 and + 4 mils. For each coated component, the applied thickness shall be measured using a SSPC PA2 type 2 fixed probe gauge properly calibrated per certified coating thickness calibration standards, and measurements shall be recorded in the Job Control Report (JCR). Use a measurement line to measure the peaks and valleys of the metalizing, taking the average value of five readings along a line at 1.0 in. intervals. For complex geometries and geometric transitions, use a measurement spot approximately 1.5 square inches, and do not measure the peaks and valleys of the metalized coating. Record all measurements in the JCR. If upon inspection, and prior to sealer application, the metalizing thickness is less than the above stated requirements, the applicator shall apply additional metalizing to meet the thickness requirements.

No coating shall be applied unless the following conditions are met:

- The receiving surface shall be clean and absolutely dry.
- The surface temperature and ambient air temperature are as recommended by the coating equipment's manufacturer, except in no case shall coating work be performed when surface and ambient air temperatures are less than 40°F.

- The receiving surface temperature shall be at least 5°F above the dew point.
- The relative humidity shall not exceed 85%.

All coating applied in violation of these conditions shall be completely removed, and the affected surface cleaned and recoated in accordance with the stated requirements at no additional cost to the State.

Any staining that does occur shall be removed in a manner that does not cause damage to the seal or metalized coatings, at no cost to the State.

Surface Roughness: Surface roughness of the metalized coating shall be less than 4 mils in order to avoid unfilled valleys and low areas in the film.

E. SEALER

Sealer shall be applied and cured according to the paint manufacturer's instructions for use with metalizing, or as directed by the Engineer.

The seal coat shall be thin enough to penetrate into the body of the metalizing and seal the interconnected surface porosity. Typically the seal coat is applied at a spreading rate resulting in a theoretical 1.5 mil dry-film thickness.

Sealer shall be applied as soon as possible after thermal spraying, but shall be applied within eight hours after application of metalizing. If a sealer cannot be applied within eight hours, it shall be verified that the metalizing (a) has not been contaminated by visual inspection (10x), and (b) is dust-free (10x) using the clear cellophane tape test per ISO 8502-3 before applying the sealer.

If moisture is present or suspected in the pores of the metalizing, the steel shall be heated to 250 °F to remove the moisture prior to seal coat application. When possible, the steel shall be heated from the reverse side of the metalizing to minimize oxidation and contamination of the metalizing prior to sealing.

During application of the seal coat, it shall be visually validated that there was complete coverage of all intended areas. Companion steel coupons positioned near the metalizing shall receive a seal coat as well. The wet and dry film thicknesses of the seal coat on these companion coupons shall be used to verify that the correct thickness of seal coat is being applied to the metalizing. Measurements shall be recorded in the JCR.

The sealer shall not be applied to faying surfaces prior to assembly. Faying surfaces of all bolted connections shall be masked prior to application of the seal coat. Touch-up field sealant shall be applied after assembly of the connection.

F. SURFACE OR COATING DEGRADATION

If rust bloom, blistering or a degraded coating appears at any time during the application of the metalizing, the following procedure applies:

1. Stop spraying.
2. Mark off the satisfactorily sprayed area.
3. Call the Thermal Spray Inspector/Foreman to observe and evaluate the error.
4. Report the deficiency to the purchaser and record the deficiency.
5. Repair the unsatisfactory area by removing the degraded metalizing, re-blast to a minimum near-white metal finish (SSPC-SP 10 standard), and returning to the specified anchor tooth profile depth.
6. Recoat the blasted area as per this specification.
7. Record the actions taken to resume the job in the JCR.

G. FIELD REPAIRS

The only field work allowed to be done under this item is touch-up work after all steel erection and all concrete placement has been completed. All areas requiring field repairs shall be clearly marked. All the requirements of this specification shall apply to field coating material with the following modifications:

1. All dirt, grease and other foreign matter shall be removed in accordance with SSPC-SP 1, Solvent Cleaning. Clean the damaged area of all loose and cracked coating by power tool to bare metal in accordance with SSPC-SP 11, Power Tool Cleaning to Bare Metal.
2. Roughen the damaged area and the surrounding 2 inches to produce a suitable anchor for the coating. All repaired areas shall be tested for proper anchor tooth profile in accordance with ASTM D4417 and as per this specification.
3. All damage to the coating system shall be corrected by the contractor in accordance with the requirements of this specification and to the satisfaction of the Engineer at no additional cost to the State.
4. The overlap of thermal spray edges shall be tested for proper adhesion at each repair location in accordance with this specification.

H. ADHESION TEST

Random adhesion testing shall be performed for each coated component, utilizing self-aligning portable pull-off adhesion testing equipment, in accordance with ASTM D 4541 standards. The minimum tensile bond value shall be 700 psi.

Use adhesive recommended by the instrument manufacturer, or equivalent. Attach adhesive manufacturer's instructions to the job control record.

One portable tensile-bond measurement shall be made every 500 ft². If the tensile bond is less than the contract specification, additional tensile bond measurements shall be made to identify the limits or boundaries of the degraded metalizing. The degree of added testing that is necessitated by coating deficiencies will be solely determined by the State, and shall be performed at no added cost to the State. Any degraded metalizing shall be removed and reapplied as per Section F, Surface or Coating Degradation. The tensile force shall be measured

to 700 psi. The tensile force shall then be reduced and the tensile fixture removed without damaging the metalizing.

I. BEND TEST

Conduct a bend test at the beginning of each work shift or crew change:

1. Use carbon steel coupons of approximate dimensions 2 in. x 4 in. to 8 in. x 0.050 in.
2. Surface preparation according to contract specification.
3. Spray 12-mil to 15-mil thick metalizing in crossing passes, laying down approximately 3 to 4 mils for each pass.
4. Bend coupons 180° around a 0.5-in. diameter mandrel.
 - a. Bend test passes if there is no cracking or only minor cracks with no spalling or lifting (by a knife blade) from the substrate.
 - b. Bend test fails if the coating cracks with lifting (by a knife blade) from the substrate.

Bend test shall be performed on coupons without sealant coats.

J. WEATHER CONSIDERATIONS:

Thermal spraying in low-temperature environments (below freezing):

Substrate shall meet the surface temperature and holding period specified in Section C, Substrate Condition. No moisture or condensation is permissible on the surface during surface preparation and thermal spraying.

Qualify metalizing period with a tensile -bond measurement and a bend test. Meet the tensile bond and metallographic requirements specified herein.

METHOD OF MEASUREMENT

This work will be measured on a lump sum basis.

BASIS OF PAYMENT

The lump sum price bid shall include the cost of furnishing all labor, materials, and equipment necessary to satisfactorily complete the work.

Note: "nn" denotes a serialized pay item.

572.00020101	Metalizing, Type 1
572.00020201	Metalizing, Type 2
572.00020301	Metalizing, Type 3
572.00020401	Metalizing, Type 4
572.00020501	Metalizing, Type 5
572.00020601	Metalizing, Type 6

ITEM 596.12020129 – OPEN ROADWAY GRID DECK**DESCRIPTION**

Under this item, the Contractor shall furnish and install a galvanized steel roadway grid deck on the lift-span as shown on the Contract Plans and described in these specifications. The grid deck shall be complete, including connection plates, trim and edge bars, shim plates, attached galvanized steel form pans, supplementary welds, and cleaning and galvanization.

MATERIALS

The grid deck panels shall be completely shop fabricated in accordance with the New York State Steel Construction Manual.

Grid Deck:

The galvanized grid deck shall have main bars 5-3/16" deep with serrated tops spaced at 7 1/2" on center and 1"x 1/4" supplemental bars at 7 1/2" on center parallel to and spaced midway between the main bars. The grid deck shall have 2 1/2"x1/4" cross flat bars at 4" on center. The cross flat bars shall intersect and interlock with the main bars at right angles. The grid deck shall also have 1"x 1/4" diagonal flat bars. The diagonal flat bars shall alternately connect at the intersection of the main bars. The minimum section properties shall be 4.04 in³ (top) and 4.32 in³ (bottom) per foot of width of grid deck. Supplementary welds, in addition to those normally supplied with the grid deck, shall be as shown on the Contract Plans. The grid deck shall be (5-inch) 4-way (Modified Open grid) by L. B. Foster Company, Inc., Interlocking Deck Systems International, L.L.C., U.S. Bridge, D.S. Brown Co. or approved equal.

The panels shall conform to ASTM A572 Steel (High-Strength Low Alloy Columbian-Vanadium Structural Steel), Grade 50.

Fasteners:

Welding shall be in conformance with the New York State Steel Construction Manual, including the use of a Gas Metal Arc Welding (MIG) process.

All bolts shall be ASTM A325.

Form Pans / Metal Bulkheads:

The grid deck shall be equipped with 0.036" (20 gauge) Sheet Steel galvanized steel pans and bulkheads to be used at stringers and floor-beams where concrete fill will be placed. The sheet steel shall be Hot-Dipped Galvanized and this coating shall conform to ASTM A653 (Sheet Steel, Zinc-Coated by the Hot-Dip process).

All metal forms shall be protected during shipment and site storage to retain their shape until deck panel installation.

ITEM 596.12020129 – OPEN ROADWAY GRID DECKGalvanization:

The grid deck panels shall be Hot-Dipped Galvanized. This coating shall conform to ASTM A123 ZINC (Hot-Dip Galvanized Coating on Iron and Steel Products). Any defects in the galvanizing shall be repaired as specified in §719-01 of the Standard Specifications.

CONSTRUCTION DETAILSSubmittals:

Complete shop drawings detailing all panel sizes, connection plates, trim bars, bolt spacing, form pans, bulkhead connections and materials shall be prepared according to the latest NYCDOT Specifications for the Preparation of Record Drawings and Electronic Media and submitted to the Engineer for approval.

Steel Grating:

The steel grating shall be fabricated to the dimensions and properties as shown on the plans, shop drawings, and in accordance with §564 of the NYSDOT Standard Specifications and the NYS Steel Construction Manual.

The fabricator shall develop the grid panel layout and detail it on the shop drawings. The main bars shall be perpendicular to the existing roadway stringers. The contractor shall field verify all dimensions in order to make any necessary changes prior to fabrication.

The panels shall be fabricated to meet the following dimensional tolerances as per the drawings. The panel length shall be within 1/4" The panel width shall be within (1/8"). The squareness of panel, measured along the diagonals, shall be within 1/2" of each other. The longitudinal camber, in the direction of the T-Grid or I-Beam, shall be within 0.003 times the panel length. The transverse camber shall be within 0.005 times the panel width. The side bow (a.k.a. sweep) shall be 0.025" times the panel length in feet.

After the attachment of the edge bars, and other components as described in the plans and specifications, the grating shall be galvanized.

Galvanized sheet metal forms shall be installed in such a manner as to minimize leakage.

Field Installation:

Panels will be delivered to the job site free from any defects and bearing the proper identifying marks.

The Contractor shall commence work in a neat and workmanlike manner. The panels shall be placed on the structure with careful consideration given to the alignment of each adjacent panel.

The grating will be attached to the superstructure as detailed on the Contract Plans.

After the grating has been installed, the Contractor shall clean the top surface of all flanges before any concrete is placed.

ITEM 680.00100129 – TRAFFIC CONTROL EQUIPMENT

BASIS OF PAYMENT

The lump sum bid for Item “Traffic Control Equipment” shall include the cost of furnishing all labor, materials, plant, testing, adjusting, and equipment required, including all necessary incidentals for the work herein described and as shown on the Plans, for a complete installation. The work shall also include adjustment of all apparatus and overload devices to provide proper functioning of the equipment.

The item includes work to remove existing traffic control equipment and disposal of the removed equipment.

New control equipment, conduit, and wiring for warning and barrier gates shall be installed under section “Bridge Electrical Equipment” and “Bridge Control Equipment”.

The platforms and brackets for mounting the traffic control equipment are included under separate pay items as shown on the Contract Plans.

The Contractor shall submit to the Engineer a detailed breakdown of his costs under this item within 30 days of award of the contract. This breakdown shall be evaluated by the Engineer and be utilized as the basis for monthly progress payments for work satisfactorily completed. Ten-percent of the bid price for this item will be retained by the NYCDOT until final acceptance of the bridge electrical system, and the Contractor has completed all items on their punch lists, and all aspects of bridge operation, operator and maintenance personnel testing, training, and control are complete. Electrical component installation may not proceed until all electrical components are on site.

Payment will be made under:

<u>Item No.</u>	<u>Item Description</u>	<u>Pay Unit</u>
680.00100129	Traffic Control Equipment	Lump Sum

ITEM 690.11410029 – TEMPORARY OPERATING SYSTEM

- 2) Upon completion of the installation of the Temporary Bridge Operating System and Inspection by a representative of the NYCDOT during Stage I Construction, the Contractor will be paid 25% of the bid price for the item. 3
- 3) Upon completion and final acceptance by the NYCDOT of the Temporary Bridge Operating System, Inspection and Field Testing, the Contractor will be paid 25% of the bid price for the item.
- 4) Upon completion of the removal of the Temporary Bridge Operating System, inspection by a representative of the NYCDOT that it is in working condition, and delivering the system to NYCDOT anywhere in the five (5) Boroughs of New York City, the Contractor will be paid the remaining 25% of the bid price for the item after submitting a signed receipt from the representative of NYCDOT to the Engineer for review and approval of the payment.

Payment will be made under:

<u>Item No.</u>	<u>Item Description</u>	<u>Pay Unit</u>
690.11410029	Temporary Operating System	Lump Sum

ITEM 690.11420029 – BRIDGE ELECTRICAL TESTING

METHOD OF MEASUREMENT

This work will not be measured for payment but will be paid for at the Contract lump sum price.

BASIS OF PAYMENT

The lump sum bid for Item “Bridge Electrical Testing” shall include the cost of all labor, materials, and equipment necessary to complete the bridge electrical testing.

The Contractor shall submit to the Engineer a detailed breakdown of his costs under this item within 30 days of award of the contract. This breakdown shall be evaluated by the Engineer and be utilized as the basis for monthly progress payments for work satisfactorily completed. Ten-percent of the bid price for this item will be retained by the NYCDOT until final acceptance of the bridge electrical system, the Contractor and Control System Vendor have completed all items on their punch lists, the final O & M manuals have been approved and accepted by the Engineer, and all aspects of bridge operation and control are complete.

Payment will be made under:

<u>Item No.</u>	<u>Item Description</u>	<u>Pay Unit</u>
690.11420029	Bridge Electrical Testing	Lump Sum

ITEM 690.11450029 – BRIDGE CONTROL SYSTEM

or codes and necessary for installing the Bridge Control System shall be furnished by the Contractor just as if specifically mentioned in these Specifications and without extra cost.

Included in this work are the removal, relocation, storage, and/or disposal of the above existing materials.

All apparatus required to extend the necessary circuits from the control house to the span controlling equipment, such as all conduits, boxes, wiring, cables, and other equipment shall be furnished and installed under item 690.11460029 “Bridge Electrical Equipment”.

Warning gates, barrier gates, and gongs shall be included under Traffic Control Equipment.

Traffic signals shall be included under Traffic Signals.

Drawbridge signs shall be included under 645.5102.

Related platforms and brackets are included under separate pay items as shown on the Contract Plans.

All conduits, boxes, wiring, cables, and other equipment required to extend the necessary circuits from the control house to the traffic signals, and gates are included under Item Bridge Electrical Equipment.

The alignment and fastening of electrical equipment to be incorporated into the bridge machinery, such as motors, brakes, rotary limit switches, and position indicators, shall be done under the appropriate mechanical item numbers (see mechanical specifications).

The Contractor shall pay all fees and expenses for testing, licenses, and any other cost he may incur in constructing the movable span control system. The cost of all miscellaneous components shall be included in the price bid for the bridge control system.

The Contractor shall submit to the Engineer a detailed breakdown of his costs under this item within 30 days of award of the contract. This breakdown shall be evaluated by the Engineer and be utilized as the basis for the monthly progress payments for work satisfactorily completed. Ten-percent of the bid price for this item will be retained by the NYCDOT until final acceptance of the bridge electrical system, the Contractor and Control System Vendor have completed all items on their punch-lists, and all aspects of bridge operation, operator and maintenance personnel testing, training, and control are complete. An additional five-percent of the bid price for this item will be retained until final approval of the operation and maintenance manuals is granted by the Engineer.

Electrical component installation may not proceed until all electrical components are on site.

Payment will be made under:

<u>Item No.</u>	<u>Item Description</u>	<u>Pay Unit</u>
690.11450029	Bridge Control System	Lump Sum

ITEM 690.11470029 – DROOP CABLES AND DROOP CABLE CABINETS

BASIS OF PAYMENT

The lump sum bid for Item “Droop Cable and Droop Cable Cabinets” shall include the cost of furnishing all labor, materials, plant, testing, adjusting, and equipment required, including all necessary incidentals for the work herein described and as shown on the Plans, for a complete installation. Conduits, conductors, junction boxes on the movable span shall be included and paid for under item 690.11460029 “Bridge Electrical Equipment”. Cost for droop cable plans to be included elsewhere. Cost for installation of all droop cable components shall be paid for under Item 690.11480029.

The Contractor shall submit to the Engineer a detailed breakdown of his costs under this item within 30 days of award of the contract. This breakdown shall be evaluated by the Engineer and be utilized as the basis for monthly progress payments for work satisfactorily completed. Ten-percent of the bid price for this item will be retained by the NYCDOT until final acceptance of the bridge electrical system.

Payment will be made under:

<u>Item No.</u>	<u>Item Description</u>	<u>Pay Unit</u>
690.11470029	Droop Cable and Droop Cable Cabinets	Lump Sum