ADDENDUM NO. 3

DATED: January 12, 2018

NIAGARA FALLS BRIDGE COMMISSION

RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL RAPIDS AND LEWISTON-QUEENSTON BRIDGES

PROJECT #2016-02-2B

The attention of all Tenderers is directed to the following changes to the Contract Documents:

This addendum forms a part of the Contract Documents and modifies the Request For Proposal with amendment and addition noted below.

Acknowledge receipt of this Addendum in the space provided in the Tender Proposal Form. Failure to do so may disqualify the Tenderer.

Prepared By: WSP USA Inc.

Summary of Addendum Items:

1.0 General Notes
2.0 Requests for Information (RFI's)
3.0 Front-end Revisions/Clarifications
4.0 Drawing Revisions/Clarifications
5.0 Specifications Revision/Clarifications
6.0 Addendum No. 3 Bid Forms
    - See attached
7.0 Addendum No. 3 Drawings
    - See attached
8.0 Addendum No. 3 Specifications
    - See attached

1.0 General Notes

1.1 This addendum includes the following revisions to the Request for Proposals:
- 1.1.1 Minor Front-end revisions
- 1.1.2 Minor drawing revisions,
- 1.1.3 Minor specification revisions

1.2 The Niagara Falls Bridge Commission does not anticipate issuing another addendum – bid the project based on the drawings, sketches and all other edits per Addendum #3.

1.3 No work shall be performed on the US or Canadian Rainbow Bridge with any lane restrictions on **June 23, 2018.** All inspection and toll lanes must be open.

1.4 All Bids are due **Friday, January 19, 2018 @ 3:00pm**.

1.5 Tenders shall acknowledge receipt of this Addendum on Exhibit C – Tender Form.

2.0 Requests for Information (RFI's)

2.1 Is water containment necessary for power washing floor beams?
- 2.1.1 Yes, to catch paint debris which may contain trace amounts of lead. However, See Section 5.0, *Specification Revisions and Clarifications*, Specification 099102 attached for alternate surface preparation for Termarust. The spec. details power tool cleaning, and application of Chlor-Rid.

2.2 How will the contractor end the temporary barriers?
- 2.2.1 Sand barrels per NYSDOT 619 for posted speed limit can be used in lieu of a steel crash attenuator. See revised MPT (Maintenance and Protection of Traffic) plans RB-111, RB-112, RB-113

2.3 Will crack injection on the road and deck surface be gravity feed or pressure injection?
- 2.3.1 Gravity feed per manufacturer's recommendations. Power wash and neatly chase cracks.

2.4 Do lane closures need to be removed before Holidays noted in Exhibit D?
- 2.4.1 Not on Rainbow Bridge during Phases 1 thru 3. Once Phase 1 MPT is up, it will remain until Phase 2, and so on. However, for other items traffic shall not be impacted by the work during holidays as noted in Exhibit D.

2.5 Can work begin before May 30
- 2.5.1 Some items of work not affecting traffic may be permitted to begin prior to May 30, if approved by NFBC.

2.6 Can shotcrete be used in lieu of overhead patch material?

2.6.1 Yes, if the Contractor can demonstrate a good track record of successful comparable installations, and if it is done per NYSDOT 583.02, finished neatly, and with no mess. Installation per NYSDOT 583.02 involves, but is not limited to: removal of unsound concrete, blast cleaning existing bars and entire patch surface. Galvanized wire fabric shall be tied to existing reinforcement. Maximum ¾" layers.

2.7 Should 1.8 be a SF quantity? It is listed in the bid forms as CY

2.7.1 Item 1.8 should be per SF. See Section 6.0, *Addendum No. 3 Bid Forms* for revised Bid Forms

2.8 Is Item 1.15 (New Pavement Markings on Bridge) paint or epoxy?

2.8.1 Epoxy, overcoat existing

2.9 Can underside deck work be completed during the summer months if traffic is not impeded (top flange painting, spall repairs)?

2.9.1 Yes.

2.10 Can power tool cleaning of floor beams be done in lieu of power washing?

2.10.1 Yes- See Section 5.0, *Specification Revisions and Clarifications*, Specification 099102 attached for alternate surface preparation for Termarust. The spec. details power tool cleaning, and application of Chlor-Rid.

2.11 Will access be required to complete the work on the abutment backwall?

2.11.1 No- the work is at eye level, without falling risk. Workers will be standing on top of the concrete pier seat, sandwiched between the end diaphragm beams and the backwall. It is in a confined space, roughly 14" wide, but permit is NOT required for entry.

2.12 What will be used to recoat the conduit box?

2.12.1 Waterproofing material specified for the box.

2.13 The coating specifications state that the contractors are to possess current SSPC QP1 and SSPC QP2 certifications to perform the work on this project… Will this remain a requirement?

2.13.1 Yes

2.14 Is the cleaning specification on page 099102-1 required?

2.14.1 See Section 5.0, *Specification Revisions and Clarifications*, Specification 099102 attached for alternate surface preparation for Termarust. The spec. details power tool cleaning, and application of Chlor-Rid.

2.15 Is Slip-not coating for plates a final coating?

2.15.1 No, sidewalk plates (detail 5/RB503) and utility hand hole diamond plate covers (detail 1/RB502) both get anti-slip coating (Slip-not, Galvagrit, or approved equal) and then hot dip galvanizing.

2.16 There was discussion about the use of candlesticks on the bridge instead of temporary pavement markings- is that permissible?

2.16.1 Yes. See revised MPT (Maintenance and Protection of Traffic) plans RB-111, RB-112, RB-113

2.17 What is rebar spacing on UHPC link slabs?

2.17.1 Match existing- assume 9" O.C.

2.18 Item 1.13 includes removing a grout patch. Does this include replacement?

2.18.1 Yes replace the approx. 2"-3" grout patch with MGKrete per manufacturer's recommendations.

2.19 Please clarify if top flange re-coating will occur at the joints 13W,3W, 3E, and 13E

2.19.1 Top flange re-coating will NOT be done at joints 13W,3W, 3E, and 13E.

3.0 FRONT-END REVISIONS/CLARIFICATIONS

3.1 US Side Project #2016-02-2A:

a. Agreement – Section F – Dates of Substantial and Final Completion and Liquidated Damages:

i. Remove and replace with the following:

1. 'The Project is multi-phased; the Contractor agrees that it will achieve Substantial Completion of the various phases of the Project on or before the dates established on Drawing G-002 and Final Completion of the various phases of the Project on or before the dates that are sixty (60) days following the actual dates of Substantial Completion, subject to such extensions of those dates as may be granted under the Contract Documents as a result of delays, extra work, or other circumstances outside of the Contractor's control. The Contractor agrees that in the event it does not achieve Substantial Completion of the various phases of the Project on or before the dates established on Drawing G-002 or Final Completion on or before the dates that are sixty (60) days following the actual dates of Substantial Completion, or on or before extended dates of Substantial or Final Completion granted under the Contract Documents, it is subject to daily liquidated damages for each day beyond the scheduled or extended dates of Substantial or Final Completion until the actual dates of Substantial or Final Completion are achieved, as provided in the Late Completion/Liquidated Damages provisions of Section 17 of the General Terms and Conditions.

b. General Terms and Conditions – Section 17 – Late Completion/Liquidated Damages:

i. Remove and replace with the following:

17.1. For each calendar day that any Work is incomplete after the date specified for Substantial Completion of the Work, $3,000.00 USD/CAN will be deducted from any money due the Contractor, not as a penalty but as liquidated damages; provided, however, that due account will be taken of any adjustment of the Progress Schedule for completion of the Work as determined by the Engineer and Commission, including but not limited to effects of Force Majeure. The assessing of liquidated damages will be in addition to actual engineering, inspection, back charges and other expenses incurred by the

Commission for services by its consultants, inspection agencies and other contractors/entities from the scheduled Substantial Completion date to the actual Substantial Completion date, which will be charged to the Contractor. When assessed, the liquidated damages and additional charges will be deducted from any moneys due the Contractor, or, if the assessed amount exceeds the amount of any moneys due the Contractor, the Contractor will reimburse the Commission for that excess.

17.2. For each calendar day that any Work is incomplete after the date specified for Final Completion of the Work, $3,000.00 USD/CAN will be deducted from any money due the Contractor, not as a penalty but as liquidated damages; provided, however, that due account will be taken of any adjustment of the Progress Schedule for completion of the Work as determined by the Engineer and Commission, including but not limited to effects of Force Majeure. The assessing of liquidated damages will be in addition to actual engineering, inspection, back charges and other expenses incurred by the Commission for services by its consultants, inspection agencies and other contractors/entities from the scheduled Final Completion date to the actual Final Completion date, which will be charged to the Contractor. When assessed, the liquidated damages and additional charges will be deducted from any moneys due the Contractor, or, if the assessed amount exceeds the amount of any moneys due the Contractor, the Contractor will reimburse the Commission for that excess.

17.3. Permitting the Contractor to continue and finish the Work or any part of it after the time fixed for Substantial or Final Completion, or after the dates to which the time for Substantial or Final Completion may have been extended, will in no way impair, limit, or operate as a waiver on the part of the Commission of any of its rights or remedies under the Contract, including, without limitation, liquidated damages, or, if applicable, the Contractor's Performance Bond.

c. General Terms and Conditions

i. Add section 42. Coordination

42. All work listed on the drawings as 'Not in Contract' may be awarded by the Commission to another contractor; the Contractor shall coordinate with any other contractors engaged by the Commission to ensure adherence to all requirements of the Contract Documents. The Contractor shall not negatively impact the work of other contractors engaged by the Commission.

4.0 DRAWING REVISIONS/CLARIFICATIONS

4.1 Drawing – G-000 TITLE SHEET, Sheet 1
REPLACE *drawing in its entirety with revised drawing* ***G-000, Sheet 1.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.2 Drawing – G-001 GENERAL NOTES (1 OF 2), Sheet 2.A2
REPLACE *drawing in its entirety with revised drawing* ***G-001, Sheet 2.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.3 Drawing – G-002 GENERAL NOTES (2 OF 2), Sheet 3.A2
REPLACE *drawing in its entirety with revised drawing* ***G-002, Sheet 3.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.4 Drawing – RB-103 PLAN REPAIRS AREA 1, Sheet 06
REPLACE *drawing in its entirety with revised drawing* ***RB-103, Sheet 06.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.5 Drawing – RB-104 PLAN REPAIRS AREA 2, Sheet 07
REPLACE *drawing in its entirety with revised drawing* ***RB-104, Sheet 07.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.6 Drawing – RB-105 PLAN REPAIRS AREA 3, Sheet 08
REPLACE *drawing in its entirety with revised drawing* ***RB-105, Sheet 08.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.7 Drawing – RB-106 PLAN REPAIRS AREA 4 Sheet 09
REPLACE *drawing in its entirety with revised drawing* ***RB-106, Sheet 09.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.8 Drawing – RB-107 PLAN REPAIRS AREA 5, Sheet 10
REPLACE *drawing in its entirety with revised drawing* ***RB-107, Sheet 10.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.9 Drawing – RB-111 MAINTENANCE AND PROTECTION OF TRAFFIC, STAGE 1, Sheet 12.A2
REPLACE *drawing in its entirety with revised drawing* ***RB-111, Sheet 12.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.10 Drawing – RB-112 MAINTENANCE AND PROTECTION OF TRAFFIC, STAGE 2, Sheet 13.A2
REPLACE *drawing in its entirety with revised drawing* ***RB-112, Sheet 13.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.11 Drawing – RB-113 MAINTENANCE AND PROTECTION OF TRAFFIC, STAGE 3, Sheet 14.A2

REPLACE *drawing in its entirety with revised drawing* ***RB-113, Sheet 14.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.12 Drawing – RB-501 DETAILS (1 OF 6), Sheet 15.A1

REPLACE *drawing in its entirety with revised drawing* ***RB-501, Sheet 15.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.13 Drawing – RB-502 DETAILS (2 OF 6), Sheet 16

REPLACE *drawing in its entirety with revised drawing* ***RB-502, Sheet 16.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.14 Drawing – RB-503 DETAILS (3 OF 6), Sheet 17.A2

REPLACE *drawing in its entirety with revised drawing* ***RB-503, Sheet 17.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.15 Drawing – LQ-101 GENERAL PLAN - CANADA, Sheet 25

REPLACE *drawing in its entirety with revised drawing* ***LQ-101, Sheet 25.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.16 Drawing – LQ-102A PLAN REPAIRS AREA 2

ADD *drawing* ***LQ-102A, Sheet 27.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

4.17 Drawing – AD-101 PAVEMENT REPAIRS

ADD *drawing* ***AD-101, Sheet 29.A3*** *issue date* ***12 January 2018****, included in Addendum Drawings Section 5.0.*

5.0 SPECIFICATIONS REVISIONS/CLARIFICATIONS

5.1 SPECIFICATION #099101 – SPOT RE-COATING OF STEEL

REPLACE *in its entirety with revised* **SPECIFICATION 099101 – SPOT RE-COATING OF STEEL.**

Surface preparation for the sidewalk edge that is to be re-coated can be prepared using vacuum shrouded needle gun or roto-peen scalers with HEPA filters. Achieve SSPC SP3 cleanliness on top edge and SSPC SP2 in the joint. Apply Sherwin Williams Macropoxy 920 Pre-prime, Macropoxy 646, and Acrolon 218 top coat per Sherwin Williams recommendations, including adhesion tests for overcoat areas.

5.2 SPECIFICATION #099102 – RE-COATING OF STEEL FLOOR BEAM TOP FLANGES

REPLACE *in its entirety with revised* **SPECIFICATION #099102 – RE-COATING OF STEEL FLOOR BEAM TOP FLANGES.** *Changes include the addition of alternate surface preparation by power tool cleaning to SSPC SP3 and SSPC SP11 or SP15 in spot areas of black oxide scale. In this case, Chlor-Rid shall also be applied.*

SECTION 6.0
Addendum No. 3 BID FORMS

NIAGARA FALLS BRIDGE COMMISSION

Exhibit C

NIAGARA FALLS BRIDGE COMMISSION

Rainbow Bridge Deck Repairs and Misc. Repairs at the Whirlpool Rapids and Lewiston-Queenston Bridges
CONTRACT #2016-02-2B (Addendum 3 - January 12, 2018)
CANADA Work: Area 2 (Rainbow Bridge), Area 4 (Whirlpool Bridge), Area 6 (Lewiston-Queenston Bridge), and Other

CANADA WORK: AREA 2, AREA 4, AREA 6, AND OTHER			CONTRACTOR BID			
			BASE BID		ALTERNATE: AS PART OF COMBINED BID*	
ITEM NUMBER	ESTIMATED QUANTITY	ITEMS WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT BID PRICE	AMOUNT OF BID	UNIT BID PRICE	AMOUNT OF BID
2.1	29	REPAIR BREATHER JOINTS IN DECK WITH UHPC LINK SLABS For: Per CY				
2.2	2	REPAIR BRIDGE CURBS AND REPLACE CURBS OVER LINK SLABS For: Per CY				
2.3	2	SURFACE PATCHING CONCRETE DECK REPAIRS IN ROADWAY OVERLAY For: Per SF				
2.4	132	CRACK REPAIRS ON CONCRETE DECK IN ROADWAY OVERLAY For: Per LF				
2.5	25	SURFACE PATCHING CONCRETE DECK REPAIRS IN SIDEWALK For: Per SF				
2.6	180	CRACK REPAIRS IN CONCRETE SIDEWALK For: Per LF				

* As part of a combined bid for Project 2016-02-2A and 2016-02-2B

CANADA WORK: AREA 2, AREA 4, AREA 6, AND OTHER			CONTRACTOR BID			
			BASE BID		ALTERNATE: AS PART OF COMBINED BID*	
ITEM NUMBER	ESTIMATED QUANTITY	ITEMS WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT BID PRICE	AMOUNT OF BID	UNIT BID PRICE	AMOUNT OF BID
2.7	30	CONCRETE SURFACE PATCH REPAIRS TO MEDIAN For: Per SF				
2.8	26,923	SEAL BRIDGE DECK, MEDIAN, AND SIDEWALK For: Per SF				
2.9	1,144	JOINT RESEALING IN BRIDGE CONCRETE MEDIAN AND SIDEWALK For: Per LF				
2.10	85	MISC. CONCRETE SPALL REPAIRS TO UNDERSIDE OF DECK AND MEDIAN For: Per SF				
2.11	LS	CLEAN AND RECOAT TOP FLANGES OF FLOOR BEAMS For: Per LS				
2.12	4,390	SANBLAST AND RECOAT STEEL BARRIER AND SIDEWALK EDGE For: Per SF				
2.13	1	REPLACE SIDEWALK PLATE For: Per EA				
2.14	1	REHABILITATION OF UTILITY HAND HOLES IN SIDEWALK For: Per EA				

* As part of a combined bid for Project 2016-02-2A and 2016-02-2B

CANADA WORK: AREA 2, AREA 4, AREA 6, AND OTHER			CONTRACTOR BID			
			BASE BID		ALTERNATE: AS PART OF COMBINED BID*	
ITEM NUMBER	ESTIMATED QUANTITY	ITEMS WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT BID PRICE	AMOUNT OF BID	UNIT BID PRICE	AMOUNT OF BID
2.15	2,216	NEW PAVEMENT MARKINGS ON BRIDGE For: Per LF				
2.16	LS	JOINT REPAIR AND NEW DRAIN TROUGH For: Per LS				
2.17	LS	FIBER OPTIC CABLE INSTALLATION For: Per LS				
2.18	LS	FIBER OPTIC CABLE TERMINATION AND TESTING For: Per LS				
2.19	24	REPAIRS AT DECK INVESTIGATION LOCATIONS For: Per SF				
2.20	LS	REPAIRS AT NW CORNER OF PLAZA (AE DRAWINGS) For: Per LS				
2.21	60	CONCRETE PATCH REPAIRS IN TUNNELS For: Per SF				
2.22	100	HYDROPHILIC POLYURETHANE INJECTION TO TUNNEL CEILING For: Per LF				

* As part of a combined bid for Project 2016-02-2A and 2016-02-2B

CANADA WORK: AREA 2, AREA 4, AREA 6, AND OTHER			CONTRACTOR BID			
			BASE BID		ALTERNATE: AS PART OF COMBINED BID*	
ITEM NUMBER	ESTIMATED QUANTITY	ITEMS WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT BID PRICE	AMOUNT OF BID	UNIT BID PRICE	AMOUNT OF BID
2.23	LS	REPAIRS AROUND SCUPPER DRAIN IN OLD ARCHIVE ROOM For: Per LS				
2.24	LS	MAINTENANCE AND PROTECTION OF TRAFFIC (MPT) For: Per LS				
2.25	LS	MOBILIZATION For: Per LS				
		Work Area 2: SUBTOTAL BID IN NUMBERS	$		$	
4.1	LS	MODIFY SIDEWALK SECURITY GATES For: Per LS				
		Work Area 4: SUBTOTAL BID IN NUMBERS	$		$	
6.1	11,012	MILL/PAVE AREA 13B For: Per SF				
6.2	350	MILL/PAVE AREA 3 For: Per SF				

* As part of a combined bid for Project 2016-02-2A and 2016-02-2B

CANADA WORK: AREA 2, AREA 4, AREA 6, AND OTHER			CONTRACTOR BID			
			BASE BID		ALTERNATE: AS PART OF COMBINED BID*	
ITEM NUMBER	ESTIMATED QUANTITY	ITEMS WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT BID PRICE	AMOUNT OF BID	UNIT BID PRICE	AMOUNT OF BID
6.3	150	MISC. CONCRETE PAVEMENT PATCHES For: Per SF				
6.4	3710	CONCRETE JOINT SEALING For: Per LF				
6.5	500	CONCRETE CRACK SEALING For: Per LF				
6.6	LS	DRAIN TROUGH MODIFICATIONS UNDER FINGER JOINT For: Per LS				
6.7	LS	MAINTENANCE AND PROTECTION OF TRAFFIC (MPT) For: Per LS				
6.8	LS	MOBILIZATION For: Per LS				
		Work Area 6: SUBTOTAL BID IN NUMBERS	$		$	
8.1	LS	ENGINEER'S LAPTOP COMPUTER For: Per LS				

* As part of a combined bid for Project 2016-02-2A and 2016-02-2B

CANADA WORK: AREA 2, AREA 4, AREA 6, AND OTHER			CONTRACTOR BID			
			BASE BID		ALTERNATE: AS PART OF COMBINED BID*	
ITEM NUMBER	ESTIMATED QUANTITY	ITEMS WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT BID PRICE	AMOUNT OF BID	UNIT BID PRICE	AMOUNT OF BID
8.2	LS	CONTINGENCY ALLOWANCE For: One hundred ninety three thousand and no/100 dollars Per LS	ALLOWANCE $193,000	ALLOWANCE $193,000	ALLOWANCE $193,000	ALLOWANCE $193,000
		Other - CANADA Side: SUBTOTAL BID IN NUMBERS	$		$	

PLEASE BE SURE A BID IS ENTERED FOR EACH ITEM

TOTAL SUM WRITTEN IN WORDS	TOTAL BASE BID IN NUMBERS	TOTAL ALTERNATE BID IN NUMBERS
BASE BID:	$	
ALTERNATE: AS PART OF A COMBINED BID FOR PROJECT 2016-02-2A AND PROJECT 2016-02-2B		$

* As part of a combined bid for Project 2016-02-2A and 2016-02-2B

ALTERNATE ITEMS: CANADA			CONTRACTOR BID			
			BASE BID		ALTERNATE: AS PART OF COMBINED BID*	
ITEM NUMBER	ESTIMATED QUANTITY	ITEMS WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT BID PRICE	AMOUNT OF BID	UNIT BID PRICE	AMOUNT OF BID
ALTERNATE 1						
8.3A1	4,790	(LQ) CONCRETE JOINT SEALING For: Per LF				
8.4A1	150	(LQ) MISC. CONCRETE PAVEMENT PATCHES For: Per SF				
		ALTERNATE 1: TOTAL IN NUMBERS	$		$	

PLEASE BE SURE A BID IS ENTERED FOR EACH ITEM

NOTES:

1. Where a T&M (Time and Materials) rate per hour bid price is requested for an item of work, the responsive bidder is required to submit a price to perform the work per hour. To be a responsive bid, the T&M hourly rate bid shall be accompanied by a breakdown of the rate detailing the crew/laborers proposed for the work with associated rates per person per hour, the equipment proposed for the work with associated costs per hour, and materials proposed for the work with associated costs per hour. This information must accompany this bid form in a neat and orderly fashion to be accepted.
    a. Compensation will be at the T&M rate per hour bid by the successful bidder for that item. The work will be completed at NFBC discretion which may or may not reach the total compensation allowance indicated for that item.
2. Please ensure a bid is entered for each item
3. In the event that there is a discrepancy within the bid schedule, the written words will be the accepted value.
4. Fill in the name of the Corporation and sign and date the bid below.

Acknowledgement of Addenda

The following Addenda have been received. All requirements are incorporated into the Tender.

Addenda Number	Date

Acknowledgement of Pre-Tender Questions and Answers

The following Pre-Tender Questions and Answers have been received. All requirements are incorporated into the Tender.

Pre-Question(s) & Answers Number	Date

_____
Legal Name of Individual, Partnership, or Corporation

By: _____
Authorized Signature and Title Date

_____
Printed Name

SECTION 7.0
Addendum No. 3 DRAWINGS

NIAGARA FALLS BRIDGE COMMISSION

OWNER CONTACT:
NIAGARA FALLS BRIDGE COMMISSION
ROBERT R. KOERT
CONSTRUCTION MANAGER
ADMINISTRATION BUILDING
5365 MILITARY ROAD
LEWISTON, NY 14092

NIAGARA FALLS
BRIDGE COMMISSION
5365 Military Road, Lewiston, NY 14092
P. (716) 285-6322 ▪ F. (716) 282-3292

WSP USA INC. (WSP Contract 187774)

SHEET LIST - TOTAL NUMBER OF SHEETS 29 (3)

RAINBOW BRIDGE			
1	G000	TITLE SHEET	
2	G-001	GENERAL NOTES (1 OF 2)	
3	G-002	GENERAL NOTES (2 OF 2)	
4	RB-101	RAINBOW BRIDGE REPAIRS - GENERAL PLAN (1 OF 2)	
~~5~~	~~RB-102~~	~~RAINBOW BRIDGE REPAIRS - GENERAL PLAN (2 OF 2)~~	N.I.C.
6	RB-103	RAINBOW BRIDGE REPAIRS - PLAN REPAIRS AREA 1	
7	RB-104	RAINBOW BRIDGE REPAIRS - PLAN REPAIRS AREA 2	
8	RB-105	RAINBOW BRIDGE REPAIRS - PLAN REPAIRS AREA 3	
~~9~~	~~RB-106~~	~~RAINBOW BRIDGE REPAIRS - PLAN REPAIRS AREA 4~~	N.I.C.
~~10~~	~~RB-107~~	~~RAINBOW BRIDGE REPAIRS - PLAN REPAIRS AREA 5~~	N.I.C.
11	RB-108	RAINBOW BRIDGE REPAIRS - PLAN REPAIRS AREA 6 AND AREA 7	
12	RB-111	RAINBOW BRIDGE REPAIRS - MAINTENANCE & PROTECTION OF TRAFFIC - STAGE 1	
13	RB-112	RAINBOW BRIDGE REPAIRS - MAINTENANCE & PROTECTION OF TRAFFIC - STAGE 2	
14	RB-113	RAINBOW BRIDGE REPAIRS - MAINTENANCE & PROTECTION OF TRAFFIC - STAGE 3	
15	RB-501	RAINBOW BRIDGE REPAIRS - DETAILS (1 OF 6)	
16	RB-502	RAINBOW BRIDGE REPAIRS - DETAILS (2 OF 6)	
17	RB-503	RAINBOW BRIDGE REPAIRS - DETAILS (3 OF 6)	
18	RB-504	RAINBOW BRIDGE REPAIRS - DETAILS (4 OF 6)	
~~19~~	~~RB-505~~	~~RAINBOW BRIDGE REPAIRS - DETAILS (5 OF 6)~~	N.I.C.
~~20~~	~~RB-506~~	~~RAINBOW BRIDGE REPAIRS - DETAILS (6 OF 6)~~	N.I.C.
21	RB-901	RAINBOW BRIDGE REPAIRS - FIBER OPTIC CABLE INSTALLATION	
WHIRLPOOL RAPIDS BRIDGE			
22	WP-101	WHIRLPOOL BRIDGE REPAIRS - GENERAL PLAN	
~~23~~	~~WP-102~~	~~WHIRLPOOL BRIDGE REPAIRS - PLAN REPAIRS AREA 1~~	N.I.C.
24	WP-501	WHIRLPOOL BRIDGE REPAIRS - DETAILS	
LEWISTON-QUEENSTON BRIDGE			
25	LQ-101	LEWISTON QUEENSTON BRIDGE REPAIRS - GENERAL PLAN (CANADA)	
~~26~~	~~LQ-102~~	~~LEWISTON QUEENSTON BRIDGE REPAIRS - PLAN REPAIRS AREA 1 (USA)~~	N.I.C.
~~27~~	~~LQ-102A~~	~~LEWISTON QUEENSTON BRIDGE REPAIRS - PLAN REPAIRS AREA 2 (USA)~~	N.I.C.
28	LQ-103	LEWISTON QUEENSTON BRIDGE REPAIRS - PLAN REPAIR AREAS AND MISC. DETAILS	
OTHER - NFBC ADMINISTRATION BUILDING			
~~29~~	~~AD-101~~	~~NFBC ADMININSTRATION BUILDING - PAVEMENT REPAIRS~~	N.I.C.

(3)

ASSOCIATED ENGINEERING

SHEET LIST - TOTAL NUMBER OF SHEETS 2

RAINBOW BRIDGE		
1	S-301	RAINBOW BRIDGE - JOINT REPAIR GENERAL LAYOUT
2	S-302	RAINBOW BRIDGE - JOINT REPAIR DETAILS AND SPECIFICATIONS

ALL WORK COMPLETED UNDER THIS CONTRACT TO BE COVERED AND IN CONFORMITY WITH THE NYSDOT STANDARD SPECIFICATIONS OF MAY 1, 2008 WITH REVISIONS THROUGH MAY 1, 2017, EXCEPT AS MODIFIED OR SUPPLEMENTED ON THESE PLANS AND IN THE BID ITEM DOCUMENTATION.

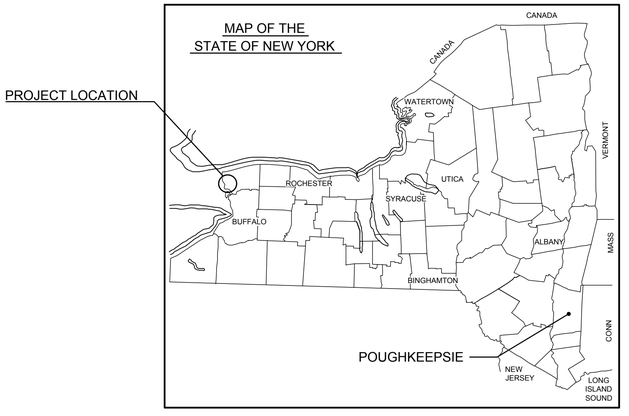
THE LATEST REVISIONS OF THE STANDARD SHEETS MAINTAINED BY NYSDOT, WHICH ARE CURRENT ON THE DATE OF ADVERTISEMENT FOR BIDS, SHALL BE CONSIDERED TO BE IN EFFECT.

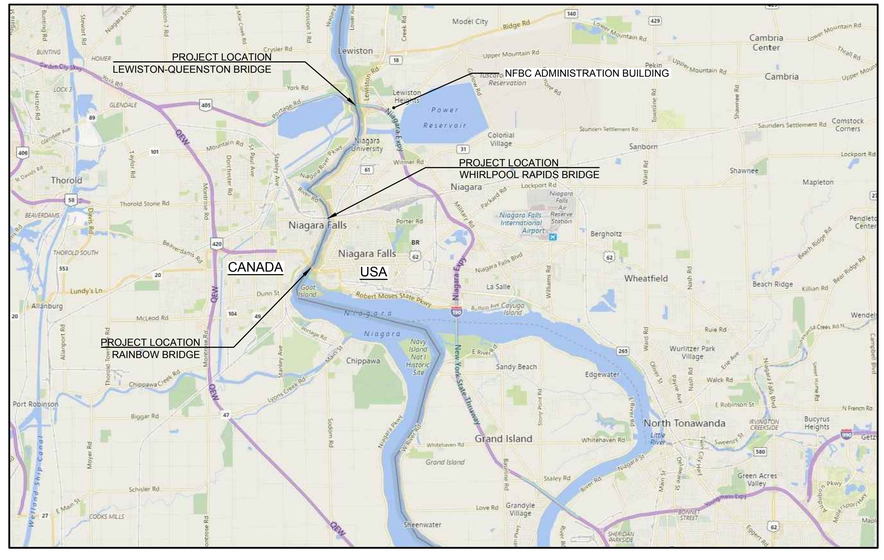
RAINBOW BRIDGE DECK REPAIR AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL RAPIDS AND LEWISTON-QUEENSTON BRIDGES - CANADIAN SIDE

NFBC Project #2016-02-2B

JANUARY 12, 2018 - ADDENDUM 3 (3)

BID DOCUMENTS - FOR CANADIAN CONTRACTOR





PROJECT LOCATION

J:\187774 - nfcb ronbow - wshirlpool-rb bridge repair\02-ronbow\c-CAD\G-000 - TITLESHEET.dwg Sat, 13 Jan 2018 - 8:59am frechettwab

GENERAL

1. THE CONTRACTOR SHALL CONDUCT THE WORK IN A MANNER THAT WILL ENSURE, AS FAR AS PRACTICABLE, THE LEAST OBSTRUCTION TO TRAFFIC AND SHALL PROVIDE FOR THE CONVENIENCE AND SAFETY OF THE GENERAL PUBLIC AND VISITORS, ALONG AND ADJACENT TO THE CONSTRUCTION AREA, IN AN ADEQUATE AND SATISFACTORY MANNER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, PROVINCIAL AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK (3)
3. ALL REFERENCES TO OWNER IN THESE DOCUMENTS REFER TO THE NIAGARA FALLS BRIDGE COMMISSION (NFBC)
4. ALL MATERIALS, FABRICATION AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MAY 1, 2017 VERSION OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AS SUPPLEMENTED BY THE TECHNICAL PROVISIONS OF THE CONTRACT DOCUMENTS.
5. REFERENCES TO THE NYSDOT STANDARDS SHALL MEAN THE MAY 1, 2017 VERSION OF THE "STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, OFFICE OF ENGINEERING, NEW YORK STATE DEPARTMENT OF TRANSPORTATION."
6. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE ~~STATE OF NEW YORK (USA)~~ PROVINCE OF ONTARIO (CANADA). (3)
7. THE CONTRACTOR SHALL VISIT THE SITE BEFORE BIDDING TO BECOME FAMILIAR WITH THE PRESENT FIELD CONDITIONS AND TO JUDGE THE EXTENT AND NATURE OF THE WORK TO BE DONE UNDER THIS CONTRACT. NO EXTRA COMPENSATION WILL BE CONSIDERED BECAUSE OF FAILURE TO INCLUDE IN THE BID ALL ITEMS AND MATERIALS WHICH ARE REQUIRED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
8. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION, OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATION. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK.
9. THE NIAGARA FALLS BRIDGE COMMISSION RETAINS THE ABILITY TO REMOVE BID ITEMS FROM THE PROJECT AFTER CONTRACT HAS BEEN AWARDED TO THE CONTRACTOR PRIOR TO THE CONTRACTOR COMMENCING WORK ON THE SUBJECT BID ITEM.
10. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE ENGINEER WILL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES. THE NFBC MAY CONDUCT SAFETY INSPECTIONS AT THEIR DISCRETION WITHOUT PRIOR NOTICE. THE CONTRACTOR SHALL CONFORM TO SITE SAFETY REQUIREMENTS AND TO ANY DIRECTION FROM THE NFBC RESULTING FROM A SAFETY INSPECTION. THE CONTRACTOR SHALL PROVIDE A COMPETENT PERSON THAT WILL BE RESPONSIBLE FOR SAFETY.
11. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION.
12. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH NFBC FOR APPROVAL
13. PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID THE CONTRACTOR. CONTRACTOR SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS
14. REFER TO BID PACKAGE FOR INFORMATION REGARDING WARRANTY OF ALL MATERIALS AND WORKMANSHIP.
15. THE CONTRACTOR SHALL CALL "DIG SAFE" (CALL 811) AT LEAST SEVEN (7) FULL WORKING DAYS PRIOR TO THE START OF ANY WORK. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ANY AND ALL UTILITY COMPANIES THAT ARE NOT A MEMBER OF THE "DIG SAFE" PROGRAM. THE CONTRACTOR SHALL PAY FOR THE REPAIR OR REPLACEMENT OF ANY DAMAGED UTILITY LINES OR LOSS OF SERVICE RESULTING FROM FAILURE TO LOCATE THE UTILITY.
16. THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR THAT ARE TO REMAIN THE PROPERTY OF THE COMMISSION, WILL NOT BE DAMAGED. ANY DAMAGED SURFACES/MATERIALS SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.
17. ALL AREAS OUTSIDE THE LIMITS OF WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
18. THE CONTRACTOR SHALL RESTORE ANY DISRUPTED PAVEMENT SURFACE AREAS AND LANDSCAPING TO THEIR ORIGINAL STATE. COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE BID PRICE.
19. THE COST OF FURNISHING, INSTALLING, MAINTAINING. REMOVING, AND DISPOSING OF ALL PLATFORMS, NETS, SCREENS. OR OTHER PROTECTIVE DEVICES SHALL BE INCLUDED IN THE UNIT BID PRICE OF THE APPROPRIATE ITEMS OF WORK.
20. NYSDOT SUBSTITUTION MATERIALS OR RECYCLED MATERIAL ALTERNATIVES SHALL NOT BE PERMITTED FOR USE WITHOUT THE WRITTEN APPROVAL OF THE NIAGARA FALLS BRIDGE COMMISSION.
21. ALL MATERIALS INSTALLED AS PART OF THIS WORK SHALL BE INSTALLED WITH NEW HARDWARE.
22. ALL ASPHALT REPAIR AREAS TO BE SAWCUT AND TACK COATED IN ACCORDANCE WITH NYSDOT SPECIFICATIONS.
23. NYSDOT ITEM 304.12 SHALL BE COMPACTED TO 95% PER STANDARD PROCTOR IN ALL INSTALLATIONS.
24. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING NEW CONCRETE AND ASPHALT PAVEMENT TO MATCH GRADE OF EXISTING PAVEMENT SECTIONS UNLESS OTHERWISE NOTED IN PLANS AND DETAILS. CONTRACTOR SHALL ENSURE THAT EXISTING DRAINAGE PATTERNS ARE MAINTAINED TO PREVENT PONDING OF WATER ON PROPOSED PAVEMENT SURFACES. IN THE EVENT THAT EXISTING DRAINAGE PATTERNS ARE NOT CONDUCIVE TO DRAINAGE, THE CONTRACTOR SHALL NOTIFY THE NIAGARA FALLS BRIDGE COMMISSION TO PROPOSE CORRECTIVE CHANGES.
25. CONTRACTOR IS RESPONSIBLE FOR MATCHING ADJACENT COATING SYSTEMS AND COLORS FOR ANY STEEL REHABILITATION AND FOR MATCHING ADJACENT FINISHES AND COLORS FOR ANY CONCRETE REHABILITATION, UNLESS DIRECTED OTHERWISE.
26. CATCH BASINS LOCATED DOWN GRADE OF WORK AREAS SHALL BE PROTECTED FROM SEDIMENT LADEN RUNOFF WHEN REQUIRED BY CONSTRUCTION OPERATIONS IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROLS.
27. DEWATERING AND FLOW DIVERSION WILL BE PERFORMED AT THE EXPENSE OF THE CONTRACTOR WHEN REQUIRED BY CONSTRUCTION OPERATIONS.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING AND PROTECTION OF EXCAVATIONS TO BE IN COMPLIANCE WITH OSHA REGULATIONS.
29. CONTRACTOR SHALL PROVIDE THE NIAGARA FALLS BRIDGE COMMISSION EXISTING GROUND ELEVATION SURVEY OF CONCRETE AND ASPHALT PAVEMENT REPLACEMENT AREAS PRIOR TO COMMENCING WORK AND UTILIZE SURVEY TO REPLACE PAVEMENT COURSES IN KIND, NOT APPLICABLE TO CONCRETE PATCHES OR AREAS SMALLER THAN 200 SF.
30. ALL REPAIR LOCATIONS THAT ARE NOT SPECIFICALLY LOCATED ON THE PLANS MAY BE FIELD LOCATED BY THE NIAGARA FALLS BRIDGE COMMISSION OR THE ENGINEER WITH QUANTITIES AS STATED ON THE DRAWINGS OR BID FORM.
31. CONTRACTOR IS RESPONSIBLE FOR PROVIDING FENCING AND GATE MATERIALS AS REQUIRED TO SECURE STAGING AREAS.
32. REFER TO THE BID PACKAGE FOR OTHER WORK RESTRICTIONS.
33. WHERE PRODUCTS ARE NAMED FOR USE WITHIN THE CONTRACT DOCUMENTS A REQUEST FOR SUBSTITUTION CAN BE MADE. UNLESS EXPLICITLY STATED OTHERWISE, EQUAL SUBSTITUTIONS WILL BE CONSIDERED AND ARE SUBJECT TO APPROVAL. (2)
34. CONSTRUCTION EQUIPMENT TO BE USED ON THE RAINBOW BRIDGE DECK, SIDEWALKS, AND APPROACHES IS SUBJECT TO APPROVAL BY THE NFBC DUE TO LOAD RESTRICTIONS ON THE BRIDGE. CONTRACTOR IS RESPONSIBLE FOR GAINING APPROVAL PRIOR TO BEGINNING WORK.

EXCAVATION, DEMOLITION AND DISPOSAL

1. THE CONTRACTOR IS RESPONSIBLE FOR THE SAFE REMOVAL AND DISPOSAL OF ALL DEBRIS FROM THE SITE IN A TIMELY MANNER AND WHERE APPLICABLE PER ~~NYSDOT ITEM 203.02~~/OPSS 510. (3)
2. CONCRETE REMOVAL OPERATIONS SHALL BE PER ASSOCIATED NYSDOT ITEM/OPSS 928.
3. PRIOR TO DEMOLITION AND REMOVAL ACTIVITIES THE CONTRACTOR SHALL PROVIDE ALL FALSEWORK AND TRAFFIC CONTROL REQUIRED IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS AND PER APPROVED CONTRACTOR PLANS.
4. DURING REMOVAL OPERATIONS, THE CONTRACTOR SHALL NOT ALLOW DEBRIS TO BECOME AIRBORNE OR DROP ONTO THE GROUND, OR INTO THE RIVER BELOW. IF THE FIELD INSPECTOR DETERMINES THAT ADEQUATE PROTECTIVE DEVICES ARE NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED. (3)
5. THE CONTRACTOR SHALL TAKE MEASURES TO PROVIDE DUST CONTROL AND KEEP ADJACENT AREAS FREE OF DEBRIS FROM THE CONSTRUCTION SITE.
6. THE CONTRACTOR SHALL NOTIFY THE NIAGARA FALLS BRIDGE COMMISSION IF THEY ENCOUNTER CONTAMINATED SOIL OR MATERIALS ON SITE.
7. WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED OF, THE COST OF TRANSPORTATION TO THE DISPOSAL AREAS AND DISPOSAL FEES SHALL BE INCLUDED IN THE BID PRICE FOR THOSE ITEMS. FOR MATERIALS DISPOSED OF OUTSIDE THE PROJECT LIMITS, THE CONTRACTOR MUST NOTIFY THE NIAGARA FALLS BRIDGE COMMISSION IN WRITING OF THE PROPOSED DISPOSAL SITE AND THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY THE GOVERNING BODY OF THE DISPOSAL AREA.

ASPHALT PAVEMENT REPAIRS:

1. USA - ASPHALT REPAIR WORK SHALL MEET NYSDOT SPECIFICATIONS FOR MATERIALS AND INSTALLATION AS INDICATED IN THE DETAILS.
2. CANADA - ASPHALT REPAIR WORK SHALL MEET OPSS SPECIFICATIONS FOR MATERIALS AND INSTALLATION AS INDICATED IN THE DETAILS. HMA MIXES SHALL MEET OPSS 1150, WHILE INSTALLATION SHALL MEET OPSS 310.
3. TACK COATS SHALL BE APPLIED PER ~~NYSDOT ITEM 407.01~~/OPSS SPECS. TO ALL CONCRETE AND ASPHALT CONTACT SURFACES PRIOR TO PAVING. (3)
4. BETWEEN STAGES, AN ASPHALT ADHESIVE IS REQUIRED TO BOND THE BUTTED ENDS OF ASPHALT. (3)

CONCRETE AND REINFORCING STEEL:

1. ABRASIVE BLAST CLEANING OF REBAR AND/OR CONCRETE OR CONCRETE JOINT SURFACES SHALL BE PER ASSOCIATED NYSDOT ITEM 582/ OPSS 929
2. CONCRETE - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 5,000 PSI/35 MPa UNLESS OTHERWISE NOTED OR SPECIFIED BY APPLICABLE ITEM.
3. BAR REINFORCEMENT AND DOWELS SHALL BE GALVANIZED AND SHALL BE ASTM A615 GRADE 60/400, AND SHALL BE INSTALLED PER NYSDOT ITEM 556.0203/OPSS 905.
4. DRILLING AND GROUTING BAR REINFORCEMENT AND DOWELS SHALL BE PER NYSDOT ITEM 586.02
5. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TIES, CHAIRS, SPACERS AND ALL OTHER RELATED APPURTENANCES FOR THE CORRECT PLACEMENT OF REINFORCEMENT.
6. CONTRACTOR SHALL FOLLOW COLD WEATHER CONCRETE PAVING REQUIREMENTS STATED IN NYSDOT SPECIFICATIONS SECTION 500 DURING COLD WEATHER CONDITIONS.
7. CONTRACTOR SHALL SEAL NEW CONCRETE WITH PENETRATING SEALER PER NYSDOT ITEM 559.16960118, UNLESS OTHERWISE NOTED.

STRUCTURAL STEEL NOTES

(3)

1. ALL CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER BOLTS UNLESS OTHERWISE NOTED. HIGH-STRENGTH BOLTS SHALL CONFORM TO ASTM A325, TYPE 1. HIGH-STRENGTH BOLTS SHALL BE PROVIDED WITH ONE HARDENED WASHER UNDER THE HEAD AND ONE HARDENED WASHER UNDER THE NUT. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153.

SECURITY AND GUIDELINES

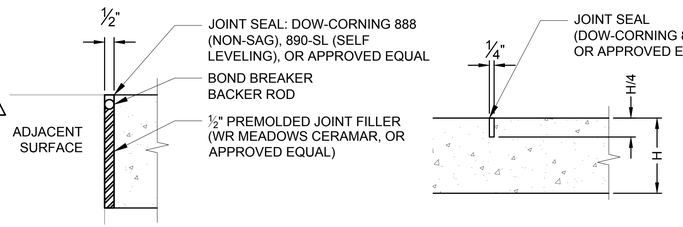
1. CONTRACTOR SHALL COOPERATE IN ALL RESPECTS WITH UNITED STATES CUSTOMS AND BORDER PROTECTION, CANADA BORDER SERVICES AGENCY, NEW YORK STATE OFFICE OF THE PARKS, AND NIAGARA FALLS BRIDGE COMMISSION OFFICIALS AND PERSONNEL SO THAT BORDER SECURITY AND TRAFFIC ARE MAINTAINED
2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING BADGES FOR ALL EMPLOYEES, SUBS, SUPPLIERS AND ANY OTHER VISITORS THAT WILL BE ON SITE ON THE CONTRACTOR'S BEHALF. VETTING OF PARTIES SHALL BE COORDINATED WITH THE NIAGARA FALLS BRIDGE COMMISSION.
3. THE CONTRACTOR SHALL ENSURE THAT ALL SECURITY CLEARANCES ARE OBTAINED IF REQUIRED AND THAT ALL CUSTOMS AND BORDER PATROL GUIDELINES AND REQUIREMENTS ARE MET. THE CONTRACTOR SHALL OBTAIN APPROVALS, BADGES, AND ESCORTS PRIOR TO COMMENCEMENT OF ANY WORK, IF NECESSARY, WITHIN THE INTERNATIONAL BRIDGE CROSSING AREA.

COORDINATION WITH OTHER ONGOING PROJECTS

1. THE CONTRACTOR SHALL BE FAMILIAR WITH ANY ONGOING PROJECT WHICH MAY IMPACT THIS PROJECT AND SHALL BE RESPONSIBLE FOR COORDINATION OF ALL OPERATIONS WHICH MAY BE IMPACTED.

ACCEPTANCE TESTING AND INSPECTION

1. THE CONTRACTOR SHALL FURNISH AND INSTALL ITEMS AND MATERIALS SPECIFIED IN THE CONTRACT DOCUMENTS PER THE CONTRACT DOCUMENTS AND SPECIFICATIONS. ANY PRODUCTS OR INSTALLATION FOUND TO BE UNACCEPTABLE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND WILL BE SUBJECT TO SUBSEQUENT ACCEPTANCE TESTING AND INSPECTION.
2. THE CONTRACTOR SHALL PROVIDE SAFE ACCESS FOR INSPECTION AND TESTING OF ALL WORK AS REQUIRED BY THE ENGINEER AND NFBC.



1 - 1/2" EXPANSION JOINT - TYPICAL
3" = 1'-0"

2 - CRACK CONTROL JOINT - TYPICAL
3" = 1'-0"

ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT
AOBE	AS ORDERED BY ENGINEER
APPROX.	APPROXIMATE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BOT.	BOTTOM
BM	BENCHMARK
CEC	CANADIAN ELECTRICAL CODE
CECA	CANADIAN ELECTRICAL CONTRACTORS ASSOCIATION
CEIS	CANADIAN ELECTRICAL INSTALLATIONS STANDARDS
CSA	CANADIAN STANDARDS ASSOCIATION
CY	CUBIC YARD
CONC.	CONCRETE
EIC	ENGINEER IN CHARGE
ELEV	ELEVATION
EW	EACH WAY
GALV	GALVANIZED
HDG	HOT DIPPED GALVANIZED
HES	HIGH EARLY STRENGTH
HMA	HOT MIX ASPHALT
LF	LINEAR FEET
MANU.	MANUFACTURER
MAX.	MAXIMUM
MECH.	MECHANICAL
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MPT	MAINTENANCE AND PROTECTION OF TRAFFIC
NFBC	NIAGARA FALLS BRIDGE COMMISSION
NIC	NOT IN CONTRACT
NYSMUTCD	NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
NTS	NOT TO SCALE
NYSDOT	NEW YORK STATE DEPARTMENT OF TRANSPORTATION
O.C.	ON CENTER
O.D.	OUTER DIAMETER
(2) OPSS	ONTARIO PROVINCIAL STANDARD SPECIFICATION
OTDR	OPTICAL TIME DOMAIN REFLECTOMETER
PCC	PORTLAND CEMENT CONCRETE
(2) PSI	POUNDS PER SQUARE INCH
PREP.	PREPARATION
R	RADIUS
REINF	REINFORCED
SS	STAINLESS STEEL
SF	SQUARE FEET
T&B	TOP AND BOTTOM
TOS	TOP OF STEEL
TYP.	TYPICAL
UHPC	ULTRA HIGH PERFORMANCE CONCRETE
VIF	VERIFY IN FIELD

NOT FOR CONSTRUCTION.
FOR BIDDING PURPOSES ONLY.

ENGINEER'S STAMP | ENGINEER'S STAMP

NIAGARA FALLS BRIDGE COMMISSION
6365 Military Road, Lewiston, NY 14092
P: (716) 285-6322 • F: (716) 282-3292

MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3 - NOTES	1/12/18	SC
2	ADDENDUM 2 - NOTE 34	12/29/17	SC

DISCLAIMER
IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ENGINEER OR ARCHITECT, TO ALTER THIS ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DESIGNED BY: CONCAVE
DRAWN BY: W.F.
CHKD BY: K.H.
SUBMITTED BY: WSP USA INC.
CONTRACT NO.: 187774
DATE: 1/5/2018
SOLICITATION NO.:
FILE NAME: 5-001 - GENERAL NOTES_RB.dwg
SIZE: ANSI D
PLOTTED BY: ROCHELLE LESSER
PLOT DATE: 1/11/2018

NIAGARA FALLS BRIDGE COMMISSION
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Jersey City, NJ 14202
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NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

GENERAL NOTES (1 OF 2)

SHEET REFERENCE NUMBER
G-001
SHEET 02 A3 OF 29

J:\187774 - nfcb rainbow - whirlpool-lq bridge - report\02-rainbow\~CAD\C-001 - GENERAL NOTES_RB.dwg Sat, 13 Jan 2018 - 8:59pm rochellelweb

NOT IN CONTRACT

WORK AREA 1: RAINBOW BRIDGE AND PLAZA - USA SIDE

ITEM	DESCRIPTION	UNIT	QUANT.	SCHED.
1.1	REPAIR BREATHER JOINTS IN DECK WITH UHPC LINK SLABS	CY	29	PH.1-2
1.2	REPAIR BRIDGE CURBS AND REPLACE CURBS OVER LINK SLABS	CY	4	PH.1-2
1.3	SURFACE PATCHING CONCRETE DECK REPAIRS IN ROADWAY OVERLAY	SF	10	PH.1-2
1.4	CRACK REPAIRS ON CONCRETE DECK IN ROADWAY OVERLAY	LF	331	PH.1-2
1.5	SURFACE PATCHING CONCRETE REPAIRS IN SIDEWALK	SF	220	PH.3
1.6	CRACK REPAIRS IN CONCRETE SIDEWALK	LF	2060	PH.3
1.7	CONCRETE SURFACE PATCH REPAIRS TO MEDIAN	SF	170	PH.1-2
1.8	SEAL BRIDGE DECK, MEDIAN, AND SIDEWALK	SF	27161	PH.1-3
1.9	JOINT RESEALING IN BRIDGE CONCRETE MEDIAN AND SIDEWALK	LF	1157	PH.1-3
1.10	MISC. CONCRETE SPALL REPAIRS TO UNDERSIDE OF DECK & MEDIAN	SF	165	-
1.11	CLEAN AND RECOAT TOP FLANGES OF FLOOR BEAMS	LS	1	-
1.12	SANDBLAST AND RECOAT STEEL BARRIER AND SIDEWALK EDGE	SF	4451	PH.3
1.13	STEEL SIDEWALK PLATE	EA	1	PH.3
1.14	REHABILITATION OF UTILITY HAND HOLES IN SIDEWALK	EA	2	PH.3*
1.15	NEW PAVEMENT MARKINGS ON BRIDGE	LF	2216	PH.1-2
1.16	REPAIR DOWN SPOUT	EA	1	-
1.17	CONCRETE PATCH REPAIRS TO SIDEWALK BARRIER	EA	2	-
1.18	SEAL MANHOLE COVERS	LS	1	SPR.
1.19	MILL AND PAVE PLAZA ASPHALT	SF	33000	SPR.
1.20	INSTALL (1) NEW SPEED CONTROL DEVICES (HUMPS)	EA	1	SPR.
1.21	PAVEMENT MARKING IN PLAZA	LS	1	SPR.
1.22	SEALING NARROW (<1.5") ASPHALT CRACKS IN PLAZA	LF	2500	SPR.
1.23	SEALING WIDE (>1.5") ASPHALT CRACKS IN PLAZA	LF	500	SPR.
1.24	MISC. ASPHALT PAVEMENT MILL AND PAVE REPAIRS	T/M ALLOW	$50,000	SPR.
1.25	MAINTENANCE AND PROTECTION OF TRAFFIC	LS	1	-
1.26	MOBILIZATION	LS	1	-

WORK AREA 3: WHIRLPOOL RAPIDS BRIDGE PLAZA - USA SIDE

ITEM	DESCRIPTION	UNIT	QUANT.	SCHED.
3.1	REPLACE CONCRETE PAVEMENT AROUND TRENCH DRAIN	CY	10	-
3.2	ASPHALT PAVEMENT PATCH	SF	34	-
3.3	MILL AND PAVE ASPHALT	SF	1650	-
3.4	MAINTENANCE AND PROTECTION OF TRAFFIC	LS	1	-
3.5	MOBILIZATION	LS	1	-

WORK AREA 5: LEWISTON-QUEENSTON BRIDGE AND PLAZA - USA SIDE

ITEM	DESCRIPTION	UNIT	QUANT.	SCHED.
5.1	ASPHALT PAVEMENT REPAIRS (FULL DEPTH)	SF	1400	-
5.2	MAINTENANCE AND PROTECTION OF TRAFFIC	LS	1	-
5.3	MOBILIZATION	LS	1	-

OTHER - USA SIDE

ITEM	DESCRIPTION	UNIT	QUANT.	SCHED.
7.1	ENGINEER'S LAPTOP COMPUTER	LS	1	SPR.
7.2	CONTINGENCY	LS	SEE BID FORMS	-
7.3A1	(ADMIN. BLDG) MILL/PAVE PARKING LOT W/ REINF. GRID	SF	34,700	ALT. 1
7.3A2	(ADMIN. BLDG) MILL/PAVE PARKING LOT W/ REINF. GRID	SF	34,700	ALT. 2
7.4A1	(ADMIN. BLDG) NEW PAVEMENT MARKINGS	LF	750	ALT. 1
7.4A2	(ADMIN. BLDG) NEW PAVEMENT MARKINGS	LF	750	ALT. 2
7.5A1	(ADMIN. BLDG) TRENCH DRAIN	LS	1	ALT. 1
7.5A2	(ADMIN. BLDG) TRENCH DRAIN	LS	1	ALT. 2
7.6A3	(LQ) SECURITY FENCE	LF	512	-

WORK AREA 2: RAINBOW BRIDGE AND PLAZA - CANADA SIDE

ITEM	DESCRIPTION	UNIT	QUANT.	SCHED.
2.1	REPAIR BREATHER JOINTS IN DECK WITH UHPC LINK SLABS	CY	29	PH.1-2
2.2	REPAIR BRIDGE CURBS AND REPLACE CURBS OVER LINK SLABS	CY	2	PH.1-2
2.3	SURFACE PATCHING CONCRETE DECK REPAIRS IN ROADWAY OVERLAY	SF	2	PH.1-2
2.4	CRACK REPAIRS ON CONCRETE DECK IN ROADWAY OVERLAY	LF	132	PH.1-2
2.5	SURFACE PATCHING CONCRETE REPAIRS IN SIDEWALK	SF	25	PH.3
2.6	CRACK REPAIRS IN CONCRETE SIDEWALK	LF	180	PH.3
2.7	CONCRETE SURFACE PATCH REPAIRS TO MEDIAN	SF	30	PH.1-2
2.8	SEAL BRIDGE DECK, MEDIAN, AND SIDEWALK	SF	26923	PH.1-3
2.9	JOINT RESEALING IN BRIDGE CONCRETE MEDIAN AND SIDEWALK	LF	1144	PH.1-3
2.10	MISC. CONCRETE SPALL REPAIRS TO UNDERSIDE OF DECK & MEDIAN	SF	85	-
2.11	CLEAN AND RECOAT TOP FLANGES OF FLOOR BEAMS	LS	1	-
2.12	SANDBLAST AND RECOAT STEEL BARRIER AND SIDEWALK EDGE	SF	4390	PH.3
2.13	STEEL SIDEWALK PLATE	EA	1	PH.3
2.14	REHABILITATION OF UTILITY HAND HOLES IN SIDEWALK	EA	1	PH.3*
2.15	NEW PAVEMENT MARKINGS ON BRIDGE	LF	2216	PH.1-2
2.16	JOINT REPAIR AND NEW DRAIN TROUGH	LS	1	-
2.17	FIBER OPTIC CABLE INSTALLATION	LS	1	-
2.18	FIBER OPTIC CABLE TERMINATION AND TESTING	LS	1	-
2.19	REPAIRS AT DECK INVESTIGATION LOCATIONS	SF	24	SPR.
2.20	REPAIRS IN NW CORNER OF PLAZA (AE DRAWINGS)	LS	1	SPR.
2.21	CONCRETE PATCH REPAIRS IN TUNNELS	SF	60	-
2.22	HYDROPHILIC POLYURETHANE INJECTION TO TUNNEL CEILING	LF	100	-
2.23	REPAIRS AROUND SCUPPER DRAIN IN OLD ARCHIVE ROOM	LS	1	-
2.24	MAINTENANCE AND PROTECTION OF TRAFFIC	LS	1	-
2.25	MOBILIZATION	LS	1	-

WORK AREA 4: WHIRLPOOL RAPIDS BRIDGE - CANADA SIDE

ITEM	DESCRIPTION	UNIT	QUANT.	SCHED.
4.1	MODIFY SIDEWALK SECURITY GATES	LS	1	-

WORK AREA 6: LEWISTON-QUEENSTON BRIDGE - CANADA SIDE

ITEM	DESCRIPTION	UNIT	QUANT.	SCHED.
6.1	MILL/PAVE AREA 13B	SF	11012	-
6.2	MILL/PAVE AREA 3	SF	350	-
6.3	MISC. CONCRETE PAVEMENT PATCHES	SF	150	-
6.4	CONCRETE JOINT SEALING	LF	3710	-
6.5	CONCRETE CRACK SEALING	LF	500	-
6.6	DRAIN TROUGH MODIFICATIONS UNDER FINGER JOINT	LS	1	-
6.7	MAINTENANCE AND PROTECTION OF TRAFFIC	LS	1	-
6.8	MOBILIZATION	LS	1	-

OTHER - CANADA SIDE

ITEM	DESCRIPTION	UNIT	QUANT.	SCHED.
8.1	ENGINEER'S LAPTOP COMPUTER	LS	1	SPR.
8.2	CONTINGENCY	LS	SEE BID FORMS	-
8.3A1	(LQ) CONCRETE JOINT SEALING	LF	4790	-
8.4A1	(LQ) MISC. CONCRETE PAVEMENT PATCHES	SF	150	

SCHEDULE

1. ALL COMPLETION DATES ARE DATES OF SUBSTANTIAL COMPLETION. ALL WORK WITHOUT A COMPLETION DATE SPECIFICALLY IDENTIFIED ON THIS DRAWINGS SHALL BE SUBSTANTIALLY COMPLETE BY NOVEMBER 16, 2018:
2. THE CONTRACTOR SHALL NOTE THAT THE RAINBOW BRIDGE IS AN INTERNATIONAL BRIDGE; THE THROUGHPUT OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC ACROSS THE BRIDGE IS OF PARAMOUNT IMPORTANCE TO THE NFBC AND THE GOVERNMENTS OF BOTH THE UNITED STATES AND CANADA.
3. THE NFBC MAY ENGAGE OTHER CONTRACTORS TO PERFORM WORK ASSOCIATED WITH THE PROJECT, THE CONTRACTOR SHALL COORDINATE ITS WORK WITH THE NFBC'S OTHER CONTRACTORS TO AVOID ANY NEGATIVE IMPACTS ON THEIR WORK. THE WORK ON THE RAINBOW BRIDGE REQUIRES DETAILED COORDINATION BETWEEN THE CONTRACTOR AND THE NFBC'S OTHER CONTRACTORS AS THE CONTRACTOR WILL BE WORKING ON ONE HALF OF THE STRUCTURE WHILE THE COMMISSION MAY ENGAGE OTHER CONTRACTORS TO PERFORM WORK ON THE OTHER HALF OF THE STRUCTURE AT THE SAME TIME.
4. REFERENCE SECTION 17 - LATE COMPLETION/LIQUIDATED DAMAGES - OF THE GENERAL TERMS AND CONDITIONS; THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES AND BE RESPONSIBLE FOR ALL COSTS INCURRED BY THE NFBC ASSOCIATED WITH DELAYS TO THE SCHEDULE CAUSED BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL WORK EXTENDED OR ADDITIONAL WORK SHIFTS AS REQUIRED TO MEET THE PROJECT SCHEDULE.
   - 5.1. SHOULD THE CONTRACTOR DETERMINE THAT EXTENDED OR ADDITIONAL WORK SHIFTS ARE REQUIRED TO MEET THE PROJECT SCHEDULE A NIGHT OPERATIONS WORK PLAN SHALL BE SUBMITTED AND APPROVED BY THE NFBC PRIOR TO THE START OF EXTENDED OR ADDITIONAL SHIFTS. THE PLAN SHALL ADDRESS ITEMS SUCH AS LIGHTING/NOISE MITIGATION, SAFETY, LOGISTICS AND OTHER PERTINENT ISSUES; THE NFBC RESERVES THE RIGHT TO ISSUE A STOP WORK ORDER AT ANY TIME AND REQUIRE CHANGES TO THE PLAN.
   - 5.2. THE CONTRACTOR WILL NOT BE ENTITLED TO ADDITIONAL COMPENSATION FOR ANY MEASURES NECESSARY TO MEET THE PROJECT SCHEDULE.

MAINTENANCE AND PROTECTION OF TRAFFIC

1. THE CONTRACTOR SHALL PROTECT AND MAINTAIN VEHICULAR TRAFFIC WITHIN THE PROJECT AREA. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE BID PRICE.
2. ALL MAINTENANCE AND PROTECTION OF TRAFFIC WORK SHALL CONFORM TO THE NYSMUTCD AND NYS STANDARD SPECIFICATION 619 INCLUDING CURRENT ADDENDA. TRAFFIC CONTROL SCHEMES SHOWN ON THE PLANS OR IN THE NYSMUTCD ARE TO BE CONSIDERED MINIMUM REQUIREMENTS. THE ENGINEER MAY ORDER ADDITIONAL SIGNS, FLAGGERS, CONES, REFLECTORIZATION, ETC. IF THE ENGINEER DEEMS IT NECESSARY, AT NO ADDITIONAL COST TO THE NFBC. PAYMENT FOR ALL SUCH WORK SHALL BE INCLUDED IN BID ITEM.
3. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE AND PROTECTION OF TRAFFIC PLAN TO THE NIAGARA FALLS BRIDGE COMMISSION FOR REVIEW AND APPROVAL AT LEAST SEVEN (7) DAYS PRIOR TO COMMENCING WORK. APPROVAL OF THE MPT PLAN IS ALSO SUBJECT TO APPROVAL BY AND COORDINATION WITH USA AND CANADIAN CUSTOMS AND BORDER PROTECTION. SUBSEQUENT MAINTENANCE AND PROTECTION OF TRAFFIC PLANS FOR ADDITIONAL AREAS OR MODIFIED PLANS SHALL BE SUBMITTED SEVEN (7) DAYS PRIOR TO COMMENCING ADDITIONAL WORK.
4. THE CONTRACTOR SHALL COORDINATE ANY AND ALL TRAFFIC DISRUPTIONS FOR CONSTRUCTION (INCLUDING DELIVERIES) WITH THE NIAGARA FALLS BRIDGE COMMISSION AND USA AND CANADIAN CUSTOMS AND BORDER PROTECTION. THIS INCLUDES, BUT MAY NOT BE LIMITED TO THE PROVISION OF ESCORTS AND MPT MEASURES (TO BE PROVIDED BY THE CONTRACTOR) FOR OVERSIZE VEHICLES TO AND FROM THE SITE, AND THE PLANNING OF LANE CLOSURES TO COMPLETE THE WORK. ALTERATIONS TO APPROVED LANE CLOSURES WILL BE AT THE DISCRETION OF THE NIAGARA FALLS BRIDGE COMMISSION.
5. UNLESS OTHERWISE NOTED, ALL WORK ZONE SIGNS USED SHALL BE THE LARGEST SIZE AVAILABLE IN ACCORDANCE WITH THE NYSMUTCD. WHERE THERE IS INADEQUATE CLEARANCE FOR THE LARGEST AVAILABLE SIZE SIGN, THE ENGINEER MAY APPROVE A SMALLER SIGN.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL ALL SIGNS, BARRIERS, SAND BARRELS, CONES AND PAVEMENT STRIPES NECESSARY TO MAINTAIN TRAFFIC DURING CONSTRUCTION, AND TO PROVIDE DAILY PATROLS TO ENSURE THAT THE PROPER SIGNS, STRIPES, AND OTHER EQUIPMENT ARE IN GOOD CONDITION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING MPT AND CLOSURES IN AREAS THAT ARE NOT READY TO BE OPENED TO TRAFFIC. THIS INCLUDES, BUT IS NOT LIMITED TO CURING CONCRETE AND ASPHALT PAVEMENT.
8. WHERE REQUIRED, ROAD PLATES MUST BE RATED FOR HS-25 AXLE LOADING.
9. THE NIAGARA FALLS BRIDGE COMMISSION SHALL BE NOTIFIED A MINIMUM OF FORTY EIGHT (48) HOURS IN ADVANCE OF ANTICIPATED LANE CLOSURES.
10. NO LANE CLOSURES WILL BE ALLOWED ON THE BRIDGE ON THE DATES SHOWN IN EXHIBIT D OF THE BID DOCUMENTS. IF AT ANY TIME THE ENGINEER DETERMINES THAT LANE CLOSURES ARE CREATING EXCESSIVE DELAYS TO TRAFFIC OR ARE CREATING A SAFETY CONCERN, THE CLOSURES SHALL BE REMOVED AND THE ROADWAY OPENED TO TRAFFIC.
11. CHANNELIZING DEVICES USED IN TAPERS AND IN THE TANGENT SECTION OF LANE CLOSURES SHALL BE UNIFORM.

SCHEDULE ABBREVIATIONS :

- \- INDICATES AN ITEM THAT CAN BE EXECUTED ANY TIME DURING CONSTRUCTION PERIOD. EXECUTION OF THESE ITEMS SHALL NOT IMPACT RAINBOW BRIDGE TRAFFIC
- SPR. INDICATES WORK TO BE COMPLETED IN THE SPRING: MAY 30, 2018 - JUNE 29, 2018
- PH. 1 INDICATES PHASE 1 WORK: SEPT. 5, 2018 TO SEPT. 25, 2018
- PH. 2 INDICATES PHASE 2 WORK: SEPT. 26, 2018 TO OCT. 16, 2018
- PH. 3 INDICATES PHASE 3 WORK: OCT. 17, 2018 TO NOV. 2, 2018
- ALT. 1 INDICATES WORK TO BE EXECUTED BETWEEN MAY 1, 2018 TO OCT. 1, 2018
- ALT. 2 INDICATES WORK TO BE EXECUTED BETWEEN MAY 1, 2019 TO OCT. 1, 2019
- * RIVET REPLACEMENT CAN BE COMPLETED PRIOR TO PHASE 3, AS LONG AS IT DOES NOT DISRUPT PEDESTRIAN TRAFFIC ON THE SIDEWALK

NOT FOR CONSTRUCTION.
FOR BIDDING PURPOSES ONLY.

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DISCLAIMER

MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3 - SCHEDULE NOTES	1/12/18	SC
2	ADDENDUM 2 - 3.3. SCHEDULE NOTES	12/29/17	SC

DESIGNED BY: NIAGARA FALLS
DRAWN BY: W.F.
CHKD BY: K.H.
SUBMITTED BY: WSP USA INC.
DATE: 1/8/2018
SOLICITATION NO.:
CONTRACT NO.: 187774
FILE NAME: G-001 - GENERAL NOTES_RB.dwg
SIZE: ANSI D
PLOTTED BY: ROSETTE LESSER
PLOT DATE: 1/11/2018

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NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02.2B

GENERAL NOTES (2 OF 2)

SHEET REFERENCE NUMBER
G-002
SHEET 09 A3 OF 29

J:\187774 - NFCB Rainbow - Whirlpool-LQ Bridge Repair\02-Rainbow\~CAD\G-001 - GENERAL NOTES_RB.dwg Sat, 13 Jan 2018 - 10:11am frechettewb

13W 12W 11W 10W 9W 8W

MATCHLINE A-A
DWG. RB-104

CANADA

CONCRETE PAVEMENT

INCLUDE IN BID ITEMS 2.4
CHASE EXISTING CRACK
WITH SIKADUR 55SLV EPOXY
IN STRICT ACCORDANCE
WITH MANUFACTURER'S
RECOMMENDATIONS (TYP.)

INCLUDE IN BID ITEM 2.3
REPAIR SPALLED CONCRETE,
TINED FINISH PER DETAIL 11/RB503.

BID ITEM 2.8
SEAL ENTIRE BRIDGE DECK,
MEDIAN, AND SIDEWALK
SURFACE WITH SIKAGARD
705L, INCLUDING PREP. BY
MECH. MEANS PER MANU.
RECOMMENDATIONS.

STEEL RAILING
EDGE OF CONCRETE CURB

MICROSILICA
OVERLAY OVER
CONCRETE DECK

INCLUDE IN BID ITEM 2.11
CLEAN AND RECOAT TOP
FLANGE OF FLOOR BEAMS PER
DETAIL 4/RB503 (TYP.)

INCLUDE IN BID ITEM 2.1
INSTALL LINK SLAB PER DETAILS
ON DRAWING RB-501 (TYP.)

39'-4"±
TYP.

3'-0"
TYP.

INCLUDE IN BID ITEM 2.2
REPLACE CURB OVER LINK SLAB
PER DETAIL 2/RB-503 (TYP.)

INCLUDE IN BID ITEM 2.10
REPAIR SPALLED CONCRETE
(UNDER DECK) PER DETAIL
1/RB504. THIS REPAIR MAY
REQUIRE HANGING
SCAFFOLDING/FALSEWORK.

INCLUDE IN BID ITEM 2.9
REMOVE JOINT SEAL
MATERIAL, SANDBLAST JOINT
AND REPLACE WITH DOW
CORNING 888 SILICONE PER
MANUFACTURER'S
RECOMMENDATIONS. INSTALL
BACKER ROD IF NEEDED (TYP.)

INCLUDE IN BID ITEM 2.7
REPAIR SPALLED
CONCRETE PER DETAIL
1/RB503 (TYP.)

INCLUDE IN BID ITEM 2.2
REPAIR SPALLED
CONCRETE CURB PER
DETAIL 1/RB503

INCLUDE IN BID ITEM 2.10
REPAIR SPALLED
CONCRETE (UNDER DECK)
PER DETAIL 1/RB504.

INCLUDE IN BID ITEM 2.3
REPAIR MICROSILICA
OVERLAY
PER DETAIL 11/RB503

INCLUDE IN BID
ITEM 2.10
REPAIR SPALLED
CONCRETE
(UNDER DECK) PER
DETAIL 1/RB504.

INCLUDE IN BID
ITEM 2.10
REPAIR SPALLED
CONCRETE
(UNDER DECK) PER
DETAIL 1/RB504.

INCLUDE IN BID ITEM 2.10
PERFORM CONCRETE REPAIRS TO
ABUTMENT BACKWALL (UNDER
DECK) PER DETAIL 1/RB504 AND
PHOTO 1/RB504 (ASSUME 50 SF).

FACE OF CURB

INCLUDE IN ITEM 2.12
CLEAN AND RECOAT
STEEL BARRIER PER
DETAIL 3/RB502

CONCRETE SIDEWALK

STEEL RAILING

INCLUDE IN BID ITEM 2.14
REPAIR EXISTING PULLBOX
PER DETAIL 1/RB-502

BID ITEM 2.13
REPLACE EXISTING SIDEWALK PLATE WITH NEW BENT PLATE
WITH NON-SLIP COATING, PER ADA. SEE DETAIL 5/RB-503.

INCLUDE IN BID ITEM 2.12
REMOVE EXISTING ½" EXPANSION JOINT MATERIAL, CLEAN
TOP FACE AND EXPOSED CORNER OF STEEL SIDEWALK
EDGE AND RECOAT. SEE DETAIL 3/RB-502

INCLUDE IN BID ITEM 2.5
REPAIR SPALLED CONCRETE PER
DETAIL 10/RB503. REPLACE
EXPANSION JOINT MATERIAL WITH
CLOSED CELL FILLER (WR MEADOWS
CERAMAR) AND DOW CORNING 888
SILICONE AS NEEDED

ASPHALT PAVEMENT
CONCRETE MEDIAN
ASPHALT PAVEMENT
9½" ± CURB
11'-0" (VIF)

59'-5"
4'-0" MEDIAN
22'-0" 2 LANES
22'-0" 2 LANES
10'-8" SIDEWALK

1'-4"
7'-0"
10'-9"
2'-3"
4'-5"
7'-3"
19'-4"
16'-8"
14'-0"
8'-0"
1'-0"
1'-9"
2'-8"
10"
2'-1"
1'-4"±
1'-0"±
5'-2"
5'-2"
2'-0"
1'-2"
2'-6¼"
10"
7'-5"
1'-9"
1'-3"
1'-8"
5'-0"
8"

2 INCLUDE IN BID ITEM 2.2 REPAIR SPALLED CONCRETE CURB PER DETAIL 1/RB503

3 INCLUDE IN BID ITEM 2.12 CLEAN AND RECOAT STEEL BARRIER PER DETAIL 3/RB502

1 RB502

1 RB101 PLAN REPAIR AREA (1 OF 6)
1/8" = 1'-0"

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DISCLAIMER

MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3	1/12/18	SC
2	ADDENDUM 2 - CURB REPAIR	12/29/17	SC

DATE: 1/8/2018
SOLICITATION NO.:
CONTRACT NO.: 187774
PLOT DATE: 1/11/2018
DESIGNED BY: S. DOLLANIA
DRAWN BY: W.F.
CHKD BY: K.H.
SUBMITTED BY: WSP USA INC.
FILE NAME: RB-S121.dwg
SIZE: ANSI D
PLOTTED BY: REGOETTE.WESLEY.B

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NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

RAINBOW BRIDGE REPAIRS
PLAN REPAIRS AREA 1

SHEET REFERENCE NUMBER
RB-103
SHEET 06 A3 OF 29

J:\187774 - nfcb rainbow - whirlpool-q bridge repair\02-rainbow\-CAD\RB-S121.dwg Sat, 13 Jan 2018 - 9:00am frechettrwb

8W
7W
6W
5W
4W
3W

MATCHLINE A-A
DWG. RB-103

MATCHLINE B-B
DWG. RB-105

BID ITEM 2.8
SEAL ENTIRE BRIDGE DECK, MEDIAN, AND SIDEWALK SURFACE WITH SIKAGARD 705L, INCLUDING PREP. BY MECH. MEANS PER MANU. RECOMMENDATIONS.

39'-4"±
TYP.

3'-0"
TYP.

3 INCLUDE IN BID ITEM 2.10
REPAIR SPALLED CONCRETE (UNDER DECK) PER DETAIL 1/RB504. THIS REPAIR MAY REQUIRE HANGING SCAFFOLDING/FALSEWORK.

INCLUDE IN BID ITEM 2.2
REPLACE CURB OVER LINK SLAB PER DETAIL 2/RB-503 (TYP.)

INCLUDE IN BID ITEM 2.11
CLEAN AND RECOAT TOP FLANGE OF FLOOR BEAMS PER DETAIL 4/RB503 (TYP.)

STEEL RAILING

EDGE OF CONCRETE CURB

INCLUDE IN BID ITEM 2.4
CHASE EXISTING CRACK WITH SIKADUR 55SLV EPOXY IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS (TYP.)

INCLUDE IN BID ITEM 2.7
REPAIR SPALLED CONCRETE PER DETAIL 1/RB-503

OVERHEAD STEEL GANTRY STRUCTURE

PULL FIBER OPTIC CABLE FROM CABINET RBCAB1 TO SERVER ROOM IN CANADIAN MAINT. TUNNEL, TERMINATE, AND TEST. SEE DWG. RB-901.

INCLUDE IN BID ITEM 2.1
INSTALL LINK SLAB PER DETAILS ON DRAWING RB-501 (TYP.)

INCLUDE IN BID ITEM 2.9
CAULK AROUND EXISTING PEDESTAL BASE WITH DOW CORNING 888 SILICONE

NFBC CABINET RBCAB1

MICROSILICA OVERLAY OVER CONCRETE DECK

EDGE OF CONCRETE MEDIAN

3 INCLUDE IN BID ITEM 2.10
REPAIR SPALLED CONCRETE (UNDER DECK) PER DETAIL 1/RB504. THIS REPAIR MAY REQUIRE HANGING SCAFFOLDING/FALSEWORK.

INCLUDE IN BID ITEM 2.7
REPAIR SPALLED CONCRETE PER DETAIL 1/RB-503

1'-4"
7'-9"
12'-10"
17'-10"
4'-0"
3'-0"

CONCRETE MEDIAN

INCLUDE IN BID ITEM 2.9
REMOVE JOINT SEAL MATERIAL, SANDBLAST JOINT AND REPLACE WITH DOW CORNING 888 SILICONE PER MANUFACTURER'S RECOMMENDATIONS. INSTALL BACKER ROD IF NEEDED (TYP.)

INCLUDE IN BID ITEM 2.2
REPAIR SPALLED CONCRETE CURB PER DETAIL 1/RB503

6'-8"

1'-7"
9'-1"

INCLUDE IN BID ITEM 2.2
REPLACE CURB OVER LINK SLAB PER DETAIL 2/RB-503 (TYP.)

MICROSILICA OVERLAY OVER CONCRETE DECK

FACE OF CONCRETE CURB

3 INCLUDE IN BID ITEM 2.12
CLEAN AND RECOAT STEEL BARRIER PER DETAIL 3/RB502

INCLUDE IN BID ITEM 2.10
REPAIR SPALLED CONCRETE (UNDER DECK) PER DETAIL 1/RB504.

STEEL EXPANSION JOINT PLATE

CONCRETE SIDEWALK

5'-8"
10"

8"

4"

STEEL RAILING

INCLUDE IN BID ITEM 2.5
REPAIR SPALLED CONCRETE PER DETAIL 10/RB503. REPLACE EXPANSION JOINT MATERIAL WITH CLOSED CELL FILLER (WR MEADOWS CERAMAR) AND DOW CORNING 888 SILICONE AS NEEDED

INCLUDE IN BID ITEM 2.12
REMOVE EXISTING ½" EXPANSION JOINT MATERIAL, CLEAN TOP FACE AND EXPOSED CORNER OF STEEL SIDEWALK EDGE AND RECOAT. SEE DETAIL 3/RB-502

INCLUDE IN BID ITEM 2.5
REPAIR SPALLED CONCRETE PER DETAIL 10/RB503. REPLACE EXPANSION JOINT MATERIAL WITH CLOSED CELL FILLER (WR MEADOWS CERAMAR) AND DOW CORNING 888 SILICONE AS NEEDED

59'-5"
22'-0" 2 LANES
4'-0" MEDIAN
22'-0" 2 LANES
9½" ± CURB
10'-8" SIDEWALK

2 RB101 PLAN REPAIR AREA (2 OF 6)
1/8" = 1'-0"

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DISCLAIMER

MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3	1/12/18	SC

DESIGNED BY: S. DOULLANA
DRAWN BY: W.F.
CHKD BY: K.H.
SUBMITTED BY: WSP USA INC.
FILE NAME: RB-S121.dwg
SIZE: ANSI D
PLOTTED BY: PROCHETTE, WESLEY B.
DATE: 1/8/2018
SOLICITATION NO.:
CONTRACT NO.: 187774
PLOT DATE: 1/11/2018

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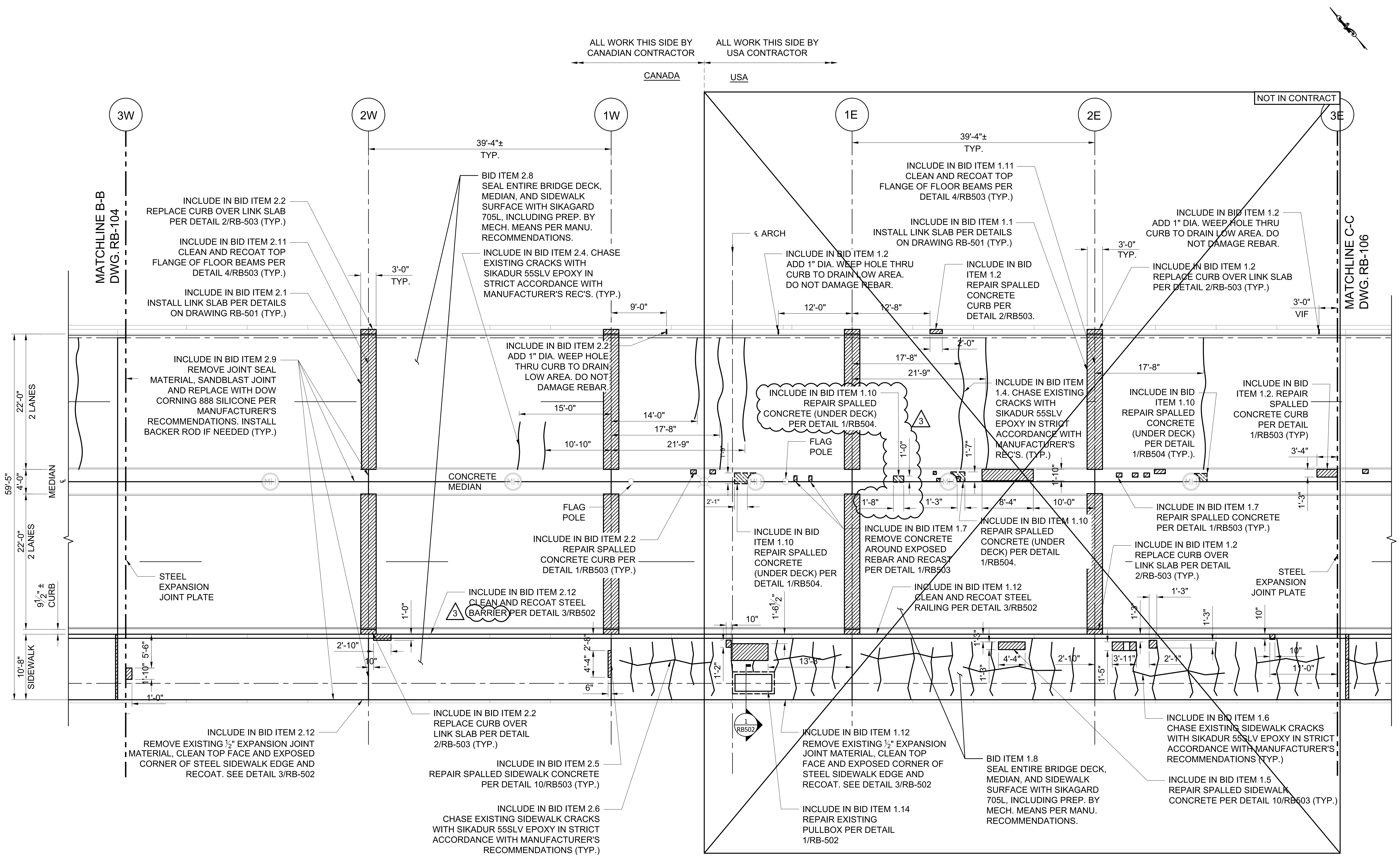
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NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

RAINBOW BRIDGE REPAIRS
PLAN REPAIRS AREA 2

SHEET REFERENCE NUMBER
RB-104
SHEET 07.A3 OF 29

J:\187774 - nfcb rainbow - whirlpool-ls bridge repair\02-rainbow_CAD\RB-S121.dwg Sat, 13 Jan 2018 - 9:00am frechettewb



3 RB101 PLAN REPAIR AREA (3 OF 6)
1/8" = 1'-0"

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DISCLAIMER

MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3 - REPAIR UNDER MEDIAN	1/12/18	SC

DATE: 1/8/2018	SOLICITATION NO.:
CONTRACT NO.: 187774	
DESIGNED BY: S.COLLANA	
DWN BY: W.F.	CKD BY: K.H.
SUBMITTED BY: WSP USA INC.	
FILE NAME: RB-S121.dwg	
SIZE: ANSI D	PLOTTED BY: FRECHETTE, WESLEY B.
PLOT DATE: 1/11/2018	

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NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

RAINBOW BRIDGE REPAIRS
PLAN REPAIRS AREA 3

SHEET REFERENCE NUMBER
RB-105
SHEET 08.A3 OF 29

J:\187774 - nfcb rainbow -whirlpool-lq bridge repair\02-rainbow\-CAD\RB-S121.dwg Sat, 13 Jan 2018 - 9:00am frechettewb

NOT IN CONTRACT

3E

4E

5E

6E

7E

8E

MATCHLINE C-C
DWG. RB-105

MATCHLINE D-D
DWG. RB-107

39'-4"±
TYP.

INCLUDE IN BID ITEM 1.4
CHASE EXISTING CRACK WITH SIKADUR 55SLV
EPOXY IN STRICT ACCORDANCE WITH
MANUFACTURER'S RECOMMENDATIONS (TYP.)

INCLUDE IN ITEM 1.10
REPAIR SPALLED CONCRETE (UNDER DECK) PER DETAIL 1/RB504.
THIS REPAIR MAY REQUIRE HANGING SCAFFOLDING/FALSEWORK.
EXECUTE THIS REPAIR PRIOR TO INSTALLATION OF THE LINK SLAB.

INCLUDE IN BID ITEM 1.2
ADD 1" DIA. WEEP HOLE THRU CURB TO
DRAIN LOW AREA. DO NOT DAMAGE REBAR.

INCLUDE IN BID ITEM 1.2
REPLACE CURB OVER
LINK SLAB PER DETAIL
2/RB-503 (TYP.)

INCLUDE IN BID ITEM 1.11
CLEAN AND RECOAT TOP
FLANGE OF FLOOR BEAMS PER
DETAIL 4/RB503 (TYP.)

BID ITEM 1.16
REPAIR SCUPPER
DOWNSPOUT PER
DETAIL 2/RB-502

STEEL RAILING

EDGE OF CONCRETE CURB

4'-0"

14'-0"

4'-0"

3'-0"
TYP.

4'-0"±

4'-0"±

4'-0"±

4'-0"±

17'-8"

2'-0"

2'-0"

4'-0"

INCLUDE IN BID ITEM 1.7
REPAIR SPALLED CONCRETE
PER DETAIL 1/RB503

INCLUDE IN ITEM 1.10
REPAIR SPALLED
CONCRETE (UNDER
DECK) PER DETAIL
1/RB504.

INCLUDE IN BID ITEM 1.1
INSTALL LINK SLAB PER DETAILS
ON DRAWING RB-501 (TYP.)

21'-7"

21'-9"

21'-9"

59'-5"

22'-0"
2 LANES

4'-0"
MEDIAN
℄

22'-0"
2 LANES

9½" ±
CURB

10'-8"
SIDEWALK

1'-6"

1'-3"

1'-8"

1'-8"

1'-4"

CONCRETE
MEDIAN

1'-1"

1'-3"

1'-1"

1'-4"

1'-4"

INCLUDE IN ITEM 1.10
REPAIR SPALLED
CONCRETE (UNDER
DECK) PER DETAIL
1/RB504.

INCLUDE IN BID ITEM 1.10
REPAIR SPALLED
CONCRETE (UNDER DECK)
PER DETAIL 1/RB504.

INCLUDE IN
BID ITEM 1.2
REPAIR
SPALLED
CONCRETE
CURB PER
DETAIL
1/RB503

INCLUDE IN BID ITEM 1.10
REPAIR SPALLED
CONCRETE (UNDER
DECK) PER DETAIL
1/RB504.

INCLUDE IN BID ITEM 1.9
REMOVE JOINT SEAL
MATERIAL, SANDBLAST JOINT
AND REPLACE WITH DOW
CORNING 888 SILICONE PER
MANUFACTURER'S
RECOMMENDATIONS. INSTALL
BACKER ROD IF NEEDED (TYP.)

STEEL EXPANSION
JOINT PLATE

3 INCLUDE IN BID ITEM 1.12
CLEAN AND RECOAT STEEL
BARRIER PER DETAIL 3/RB502

INCLUDE IN BID ITEM 1.2
REPLACE CURB OVER LINK SLAB
PER DETAIL 2/RB-503 (TYP.)

25'-0"
21'-3"

1'-3"

1'-0"

1'-0"

14'-10"

1'-3"

11"

1'-8"

1'-1"

2'-7"

2'-3"

2'-7"

1'-8"

1'-3"

2'-6"

1'-4"

2'-4"

1'-4"

6"

6'-5"

3'-4"

10'-8"

18'-0"

4'-0"

4'-0"

1'-4"

6"

6'-3"

17'-10"

19'-4"

7'-4"

10'-8"

9"

9'-0"

11"

1'-6"

1'-8"

1'-6"

9'-9"

11'-7"

3'-8"

5'-4"

7'-2"

2'-7"

5"

1'-8"

8'-4"

1'-4"

15'-11"

6"

20'-6"

25'-10"

6"

16'-0"

18'-9"

6"

17'-2"

18'-3"

19'-3"

BID ITEM 1.8
SEAL ENTIRE BRIDGE DECK,
MEDIAN, AND SIDEWALK
SURFACE WITH SIKAGARD
705L, INCLUDING PREP. BY
MECH. MEANS PER MANU.
RECOMMENDATIONS.

STEEL
RAILING

INCLUDE IN BID ITEM 1.5
REPAIR SPALLED
SIDEWALK CONCRETE PER
DETAIL 10/RB503 (TYP.)

INCLUDE IN ITEM 1.6
CHASE EXISTING SIDEWALK CRACKS WITH SIKADUR
55SLV EPOXY IN STRICT ACCORDANCE WITH
MANUFACTURER'S RECOMMENDATIONS (TYP.)

INCLUDE IN BID ITEM 1.12
REMOVE EXISTING ½" EXPANSION JOINT MATERIAL, CLEAN
TOP FACE AND EXPOSED CORNER OF STEEL SIDEWALK
EDGE AND RECOAT. SEE DETAIL 3/RB-502

4 PLAN REPAIR AREA (4 OF 6)
RB101 1/8" = 1'-0"

NOT FOR CONSTRUCTION.
FOR BIDDING PURPOSES ONLY.

ENGINEER'S STAMP

ENGINEER'S STAMP

NIAGARA FALLS BRIDGE COMMISSION
5365 Military Road, Lewiston, NY 14092
P: (716) 285-6322 • F: (716) 282-3292

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER THIS ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION "ALTERED" FOLLOWED BY THEIR NAME, SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3	1/12/18	SC

DISCLAIMER

DESIGNED BY: S. COULAM
DRAWN BY: W.F.
CKD BY: K.H.
SUBMITTED BY: WSP USA INC.
FILE NAME: RB-S121.dwg
SIZE: ANSI D
PLOTTED BY: PRODETTE.WESLER
PLOT DATE: 1/11/2018
DATE: 1/8/2018
SOLICITATION NO.:
CONTRACT NO.: 187774

NIAGARA FALLS BRIDGE COMMISSION
Administration Building
5365 Military Road
Lewiston, NY 14092

WSP USA Inc.
300 Pearl Street, Suite 111, Buffalo, NY 14202
(716) 853-1220

NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

RAINBOW BRIDGE REPAIRS
PLAN REPAIRS AREA 4

SHEET REFERENCE NUMBER
RB-106
SHEET 09 A3 OF 29

J:\187774 - nfcb rainbow - whirlpool-lq bridge repair\02-rainbow_CAD\RB-S121.dwg Sat, 13 Jan 2018 - 9:00am frechettewb

NOT IN CONTRACT

8E 9E 10E 11E 12E 13E

MATCHLINE D-D
DWG. RB-106

UNITED STATES

39'-4"±
TYP.

3'-0"
TYP.

INCLUDE IN BID ITEM 1.4
CHASE EXISTING CRACKS WITH SIKADUR 55SLV EPOXY IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS (TYP.)

INCLUDE IN BID ITEM 1.2
REPAIR SPALLED CONCRETE CURB PER DETAIL 2/RB503.

INCLUDE IN BID ITEM 1.3
REPAIR MICROSILICA OVERLAY PER DETAIL 11/RB503.

INCLUDE IN BID ITEM 1.2
REPLACE CURB OVER LINK SLAB PER DETAIL 2/RB-503 (TYP.)

INCLUDE IN BID ITEM 1.11
CLEAN AND RECOAT TOP FLANGE OF FLOOR BEAMS PER DETAIL 4/RB503 (TYP.)

INCLUDE IN BID ITEM 1.3
REPAIR MICROSILICA OVERLAY PER DETAIL 11/RB503 (TYP.).

STEEL RAILING

EDGE OF CONCRETE CURB

CONCRETE DECK

EDGE OF CONCRETE MEDIAN

CONCRETE PAVEMENT

ASPHALT PAVEMENT

CONCRETE MEDIAN

CONCRETE MEDIAN

59'-5"
22'-0" 2 LANES
4'-0" MEDIAN
22'-0" 2 LANES
9½"± CURB
10'-8" SIDEWALK

21'-8"
23'-8"
17'-8"
11'-0"
15'-0"
17'-9"
21'-10"
13'-6"
7'-4"
6'-8"
7'-10"
1'-8"
1'-6"
1'-0"
21'-9"
25'-6"
21'-6"
17'-6"
3'-6"
10"
2'-0"
1'-4"
1'-5"
14'-9"
2'-7"
1'-4"

INCLUDE IN BID ITEM 1.1
INSTALL LINK SLAB PER DETAILS ON DRAWING RB-501 (TYP.)

INCLUDE IN BID ITEM 1.7
REPAIR SPALLED CONCRETE PER DETAIL 1/RB503 (TYP.)

INCLUDE IN BID ITEM 1.12
CLEAN AND RECOAT STEEL BARRIER) PER DETAIL 3/RB502

3

INCLUDE IN BID ITEM 1.10
REPAIR SPALLED CONCRETE (UNDER DECK) PER DETAIL 1/RB504.

INCLUDE IN BID ITEM 1.2
REPAIR SPALLED CONCRETE CURB PER DETAIL 1/RB503 (TYP.).

INCLUDE IN BID ITEM 1.2
REPLACE CURB OVER LINK SLAB PER DETAIL 2/RB-503 (TYP.)

INCLUDE IN BID ITEM 1.9
REMOVE JOINT SEAL MATERIAL, SANDBLAST JOINT AND REPLACE WITH DOW CORNING 888 SILICONE PER MANUFACTURER'S RECOMMENDATIONS. INSTALL BACKER ROD IF NEEDED (TYP.)

INCLUDE IN BID ITEM 1.10
PERFORM CONCRETE REPAIRS TO ABUTMENT BACKWALL (UNDER DECK) PER DETAIL 1/RB504 AND PHOTO 2/RB504 (ASSUME 50 SF).

CONCRETE PAVEMENT

CONCRETE PAVEMENT

STEEL EXPANSION JOINT PLATE

CONCRETE SIDEWALK

1'-8"
2'-1"
1'-0"
1'-0"
5'-7"
1'-6"
10"

1
RB502

STEEL RAILING

6"

INCLUDE IN BID ITEM 1.12
REMOVE EXISTING ½" EXPANSION JOINT MATERIAL, CLEAN TOP FACE AND EXPOSED CORNER OF STEEL SIDEWALK EDGE AND RECOAT. SEE DETAIL 3/RB-502

INCLUDE IN BID ITEM 1.6
CHASE EXISTING SIDEWALK CRACKS WITH SIKADUR 55SLV EPOXY IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS (TYP.)

INCLUDE IN BID ITEM 1.5
REPAIR SPALLED SIDEWALK CONCRETE PER DETAIL 10/RB503 (TYP.)

INCLUDE IN BID ITEM 1.14
REPAIR EXISTING PULLBOX PER DETAIL 1/RB-502

INCLUDE IN BID ITEM 1.13
REPLACE EXISTING SIDEWALK PLATE WITH NEW BENT PLATE WITH NON-SLIP COATING, PER ADA. SEE DETAIL 5/RB-503.

INCLUDE IN BID ITEM 1.13
REMOVE EXISTING 2" GROUT PATCH AND REPLACE WITH MGKRETE.

3

BID ITEM 1.8
SEAL ENTIRE BRIDGE DECK, MEDIAN, AND SIDEWALK SURFACE WITH SIKAGARD 705L, INCLUDING PREP. BY MECH. MEANS PER MANU. RECOMMENDATIONS.

5 PLAN REPAIR AREA (5 OF 6)
RB101 1/8" = 1'-0"

NOT FOR CONSTRUCTION.
FOR BIDDING PURPOSES ONLY.

ENGINEER'S STAMP | ENGINEER'S STAMP

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5365 Military Road, Lewiston, NY 14092
P: (716) 285-6322 • F: (716) 282-3292

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MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3 - GROUT PATCH	1/12/18	SC

DISCLAIMER

DATE: 1/8/2018
SOLICITATION NO.:

DESIGNED BY: S. CAVALLARO
CKD BY: K.H.
DWN BY: W.F.
CONTRACT NO.: 187774
SUBMITTED BY: WSP USA INC.
FILE NAME: RB-S121.dwg
SIZE: ANSI D
PLOTTED BY: PECPETIL.WSDLPT
PLOT DATE: 1/11/2018

NIAGARA FALLS BRIDGE COMMISSION
Administration Building
5365 Military Road
Lewiston, NY 14092

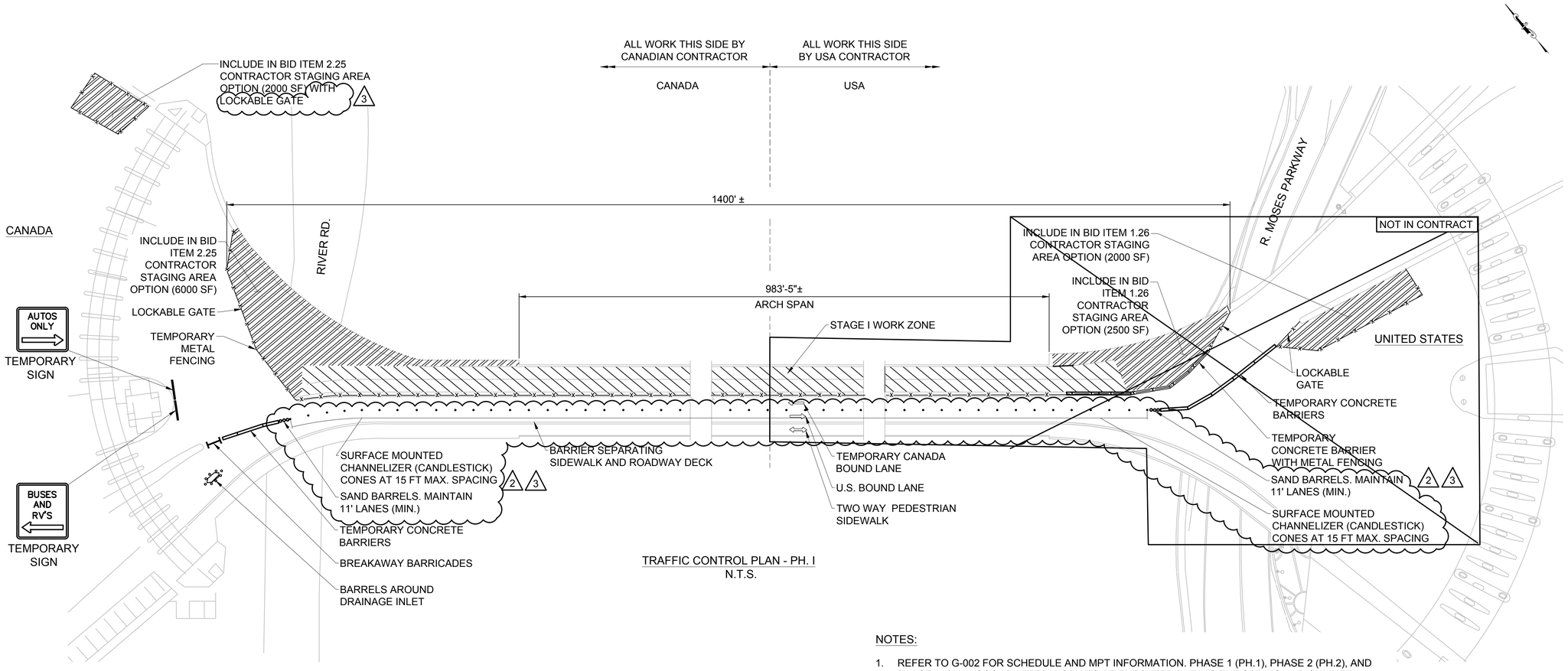
WSP USA Inc.
535 Washington Blvd.
Suite 1111, 14203
(716) 853-1220

NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

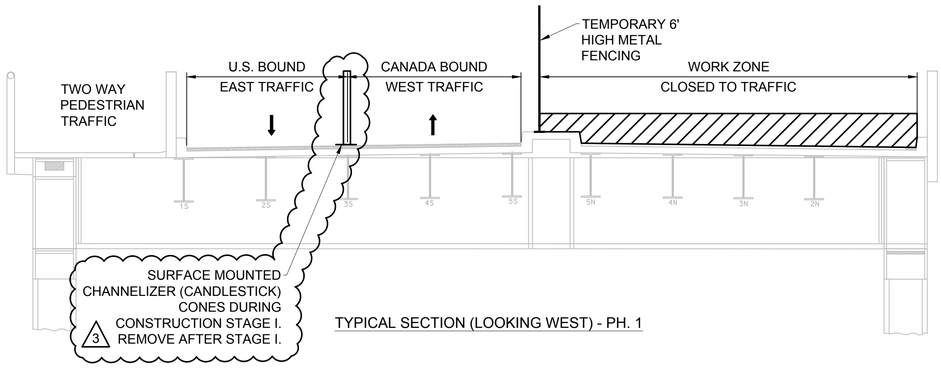
RAINBOW BRIDGE REPAIRS
PLAN REPAIRS AREA 5

SHEET REFERENCE NUMBER
RB-107
SHEET 10 A3 OF 29

J:\187774 - rfdb rainbow - whirlpool-lq bridge repair\02-rainbow\C4D\RB-S121.dwg Sat, 13 Jan 2018 - 9:00am freckelewb



TRAFFIC CONTROL PLAN - PH. I
N.T.S.



TYPICAL SECTION (LOOKING WEST) - PH. 1

NOTES:

1. REFER TO G-002 FOR SCHEDULE AND MPT INFORMATION. PHASE 1 (PH.1), PHASE 2 (PH.2), AND PHASE 3 (PH.3) OCCUR AFTER WORK TO BE EXECUTED DURING THE SPRING AND SUMMER MONTHS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE PLANS, THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (NYSMUTCD), NYSDOT SPECIFICATION 619, AND AS APPROVED OR DIRECTED BY THE ENGINEER. TRAFFIC CONTROL SCHEMES SHOWN ON THE PLANS OR IN THE NYSMUTCD ARE TO BE CONSIDERED MINIMUM REQUIREMENTS. THE ENGINEER MAY ORDER ADDITIONAL SIGNS, FLAGGERS, CONES, REFLECTORIZATION, ETC. IF THE ENGINEER DEEMS IT NECESSARY, AT NO ADDITIONAL COST TO THE NFBC.
3. THE PLAN SHOWN IS SUGGESTED. THE CONTRACTOR IS RESPONSIBLE FOR MEETING SCHEDULE AND MPT REQUIREMENTS AND MAY SUBMIT REVISIONS TO THIS PLAN FOR APPROVAL BY THE NFBC.
4. VARIOUS MAINTENANCE AND CONSTRUCTION SIGNS SPECIFIED IN PART 238 OF THE NYSMUTCD ARE AVAILABLE IN THE STANDARD DIAMOND SHAPE AND AN ALTERNATE RECTANGULAR SHAPE.
5. UNLESS OTHERWISE NOTED, ALL WORK ZONE SIGNS USED SHALL BE THE LARGEST SIZE AVAILABLE IN ACCORDANCE WITH NYSMUTCD. WHERE THERE IS INADEQUATE CLEARANCE FOR THE LARGEST AVAILABLE SIZE SIGN, THE ENGINEER MAY APPROVE A SMALLER SIGN. WORK ZONE WARNING SIGNS MOUNTED ON CONCRETE BARRIER OR BRIDGE PARAPET SHALL BE SIZE 'C'.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL ALL SIGNS, BARRIERS, SAND BARRELS, CONES AND PAVEMENT STRIPES NECESSARY TO MAINTAIN TRAFFIC DURING CONSTRUCTION, AND TO PROVIDE DAILY PATROLS TO ENSURE THAT THE PROPER SIGNS, STRIPES, AND OTHER EQUIPMENT ARE IN GOOD CONDITION.

1 / - MAINTENANCE AND PROTECTION OF TRAFFIC PLAN - PHASE 1 (PH. 1)
1" = 50'

~~-INCLUDE MPT IN BID ITEM 1.25 (USA)~~ N.I.C.
-INCLUDE MPT IN BID ITEM 2.24 (CANADA)

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ENGINEER'S STAMP

ENGINEER'S STAMP

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5365 Military Road, Lewiston, NY 14092
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DISCLAIMER

MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3 - SAND BARRELS	1/12/18	SC
2	ADDENDUM 2 - CRASH ATTENUATOR	12/29/17	SC

DESIGNED BY: S. CHAVANNA
DRAWN BY: W.F.
CHKD BY: K.H.
DATE: 1/8/2018
SOLICITATION NO.
CONTRACT NO.: 187774
SUBMITTED BY: WSP USA INC.
PLOTTED BY: ROCHETTE LAFLEUR
PLOT DATE: 1/11/2018
FILE NAME: RB-S101.dwg
SIZE: ANSI D

NIAGARA FALLS BRIDGE COMMISSION
Administration Building
5365 Military Road
Lewiston, NY 14092

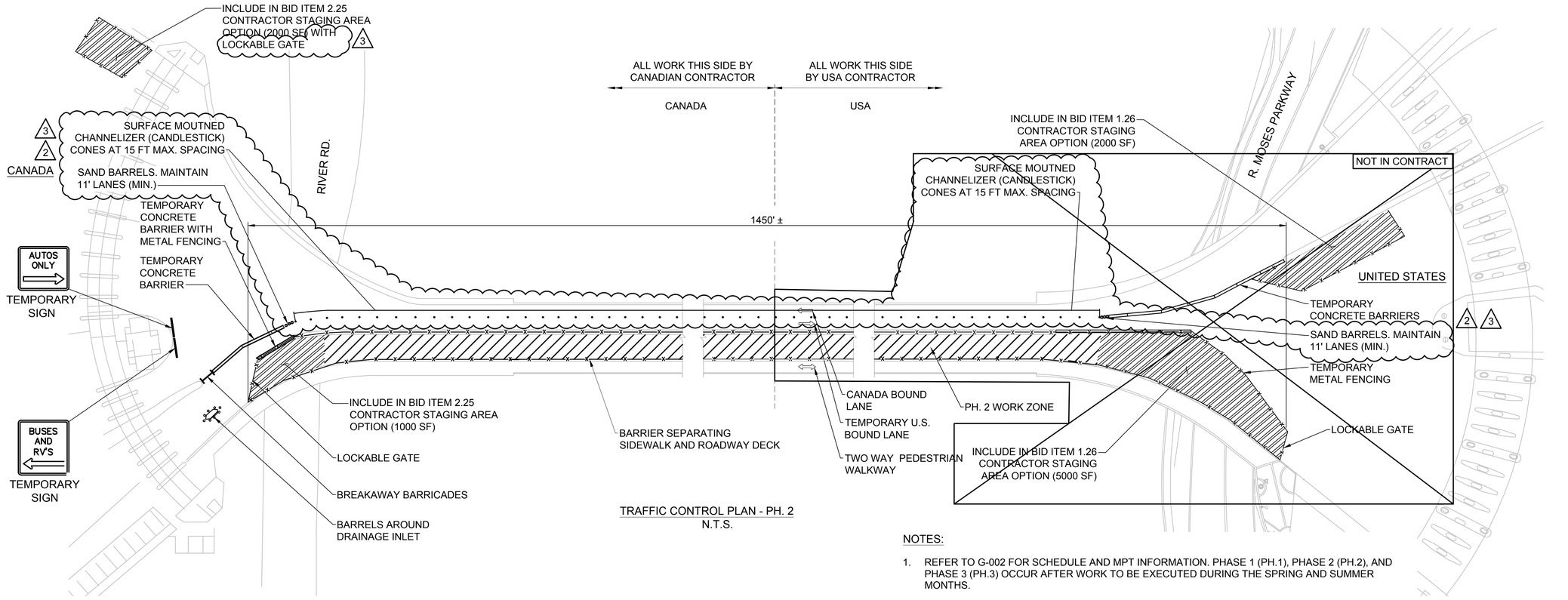
WSP USA Inc.
1395 Hooker Blvd.
Suite 111
Lewiston, NY 14092
(716) 853-1228

NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

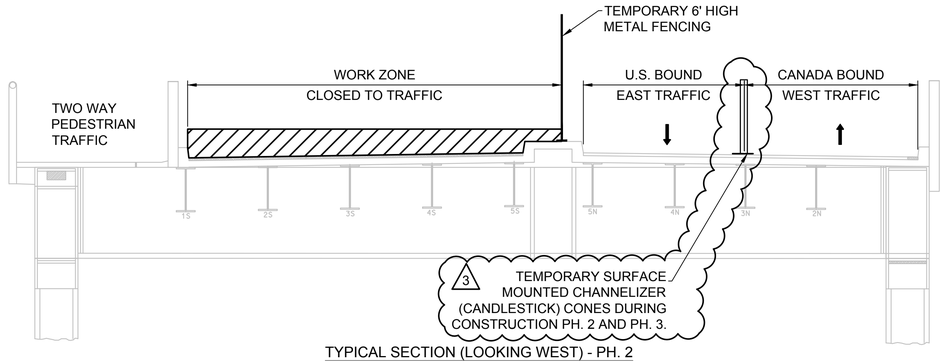
RAINBOW BRIDGE REPAIRS
MAINTENANCE & PROTECTION OF TRAFFIC
STAGE 1

SHEET REFERENCE NUMBER
RB-111
SHEET 12 A3 OF 29

J:\187774 - nfcb rainbow - whirlpool-q bridge repair\02-rainbow\-CAD\RB-S101.dwg Sat, 13 Jan 2018 - 9:00am frechetlreb



TRAFFIC CONTROL PLAN - PH. 2
N.T.S.



TYPICAL SECTION (LOOKING WEST) - PH. 2

NOTES:

1. REFER TO G-002 FOR SCHEDULE AND MPT INFORMATION. PHASE 1 (PH.1), PHASE 2 (PH.2), AND PHASE 3 (PH.3) OCCUR AFTER WORK TO BE EXECUTED DURING THE SPRING AND SUMMER MONTHS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE PLANS, THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (NYSMUTCD), NYSDOT SPECIFICATION 619, AND AS APPROVED OR DIRECTED BY THE ENGINEER. TRAFFIC CONTROL SCHEMES SHOWN ON THE PLANS OR IN THE NYSMUTCD ARE TO BE CONSIDERED MINIMUM REQUIREMENTS. THE ENGINEER MAY ORDER ADDITIONAL SIGNS, FLAGGERS, CONES, REFLECTORIZATION, ETC. IF THE ENGINEER DEEMS IT NECESSARY, AT NO ADDITIONAL COST TO THE NFBC.
3. THE PLAN SHOWN IS SUGGESTED. THE CONTRACTOR IS RESPONSIBLE FOR MEETING SCHEDULE AND MPT REQUIREMENTS AND MAY SUBMIT REVISIONS TO THIS PLAN FOR APPROVAL BY THE NFBC.
4. VARIOUS MAINTENANCE AND CONSTRUCTION SIGNS SPECIFIED IN PART 238 OF THE NYSMUTCD ARE AVAILABLE IN THE STANDARD DIAMOND SHAPE AND AN ALTERNATE RECTANGULAR SHAPE.
5. UNLESS OTHERWISE NOTED, ALL WORK ZONE SIGNS USED SHALL BE THE LARGEST SIZE AVAILABLE IN ACCORDANCE WITH NYSMUTCD. WHERE THERE IS INADEQUATE CLEARANCE FOR THE LARGEST AVAILABLE SIZE SIGN, THE ENGINEER MAY APPROVE A SMALLER SIGN. WORK ZONE WARNING SIGNS MOUNTED ON CONCRETE BARRIER OR BRIDGE PARAPET SHALL BE SIZE 'C'.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL ALL SIGNS, BARRIERS, SAND BARRELS, CONES AND PAVEMENT STRIPES NECESSARY TO MAINTAIN TRAFFIC DURING CONSTRUCTION, AND TO PROVIDE DAILY PATROLS TO ENSURE THAT THE PROPER SIGNS, STRIPES, AND OTHER EQUIPMENT ARE IN GOOD CONDITION.

1 - MAINTENANCE AND PROTECTION OF TRAFFIC PLAN - PHASE 2 (PH. 2)

1" = 50'

~~-INCLUDE MPT IN BID ITEM 1.25 (USA)~~ N.I.C.

-INCLUDE MPT IN BID ITEM 2.24 (CANADA)

NOT FOR CONSTRUCTION.
FOR BIDDING PURPOSES ONLY.

ENGINEER'S STAMP

ENGINEER'S STAMP

NIAGARA FALLS BRIDGE COMMISSION
5365 Military Road, Lewiston, NY 14092
P: (716) 285-6322 • F: (716) 282-3292

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DISCLAIMER

MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3 - SAND BARRELS	1/12/18	SC
2	ADDENDUM 2 -CRASH ATTENUATOR	12/29/17	SC

DESIGNED BY: S. CHAPLANKA
DRAWN BY: W.F.
CHECKED BY: K.H.
SUBMITTED BY: WSP USA INC.
FILE NAME: RB-S101.dwg
SIZE: ANSI D
DATE: 1/8/2018
SOLICITATION NO.
CONTRACT NO. 187774
PLOT DATE: 1/11/2018
PLOTTED BY: PROCHETTE,MEGHEN

NIAGARA FALLS BRIDGE COMMISSION
Administration Building
5365 Military Road
Lewiston, NY 14092

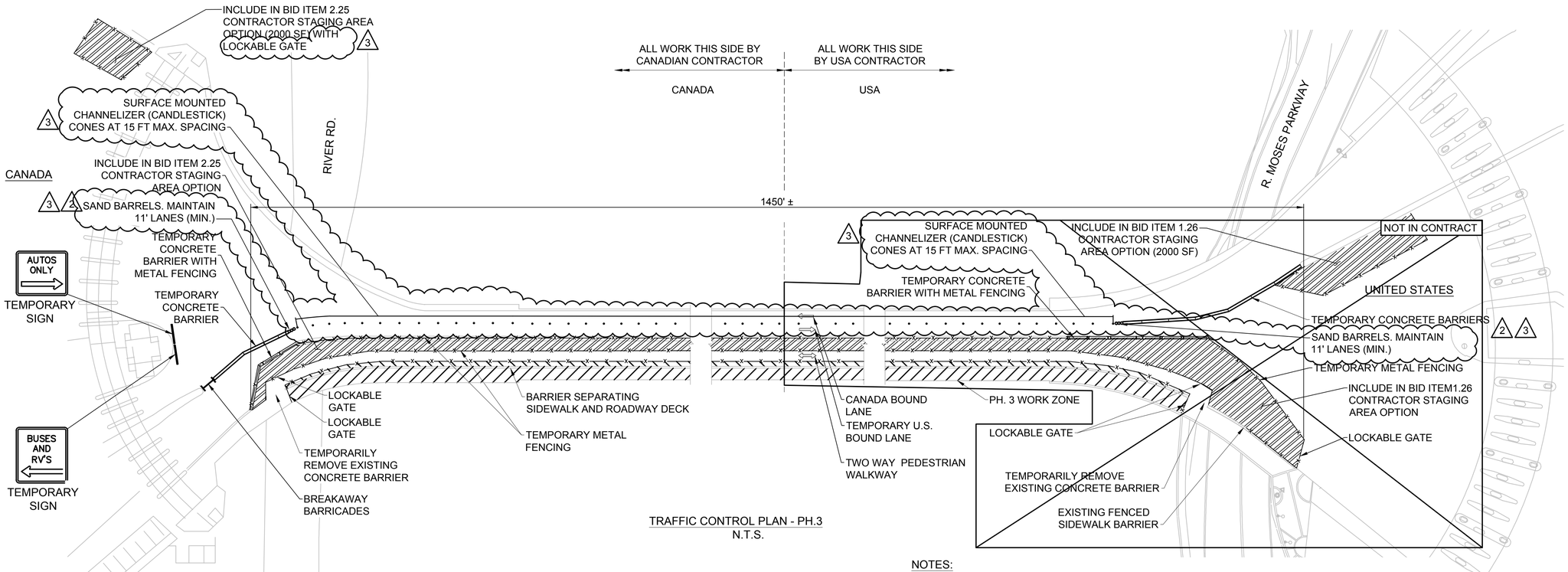
WSP USA Inc.
300 Pearl Street
Suite 111, 14202
Buffalo, NY
(716) 853-1220

NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

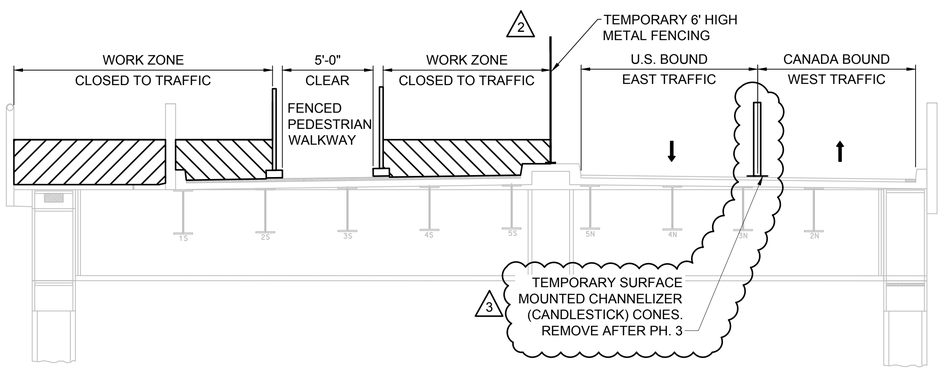
RAINBOW BRIDGE REPAIRS
MAINTENANCE & PROTECTION OF TRAFFIC
STAGE 2

SHEET REFERENCE NUMBER
RB-112
SHEET 13 A3 OF 39

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TRAFFIC CONTROL PLAN - PH.3
N.T.S.



NOTES:

1. REFER TO G-002 FOR SCHEDULE AND MPT INFORMATION. PHASE 1 (PH.1), PHASE 2 (PH.2), AND PHASE 3 (PH.3) OCCUR AFTER WORK TO BE EXECUTED DURING THE SPRING AND SUMMER MONTHS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE PLANS, THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (NYSMUTCD), NYSDOT SPECIFICATION 619, AND AS APPROVED OR DIRECTED BY THE ENGINEER. TRAFFIC CONTROL SCHEMES SHOWN ON THE PLANS OR IN THE NYSMUTCD ARE TO BE CONSIDERED MINIMUM REQUIREMENTS. THE ENGINEER MAY ORDER ADDITIONAL SIGNS, FLAGGERS, CONES, REFLECTORIZATION, ETC. IF THE ENGINEER DEEMS IT NECESSARY, AT NO ADDITIONAL COST TO THE NFBC.
3. THE PLAN SHOWN IS SUGGESTED. THE CONTRACTOR IS RESPONSIBLE FOR MEETING SCHEDULE AND MPT REQUIREMENTS AND MAY SUBMIT REVISIONS TO THIS PLAN FOR APPROVAL BY THE NFBC.
4. VARIOUS MAINTENANCE AND CONSTRUCTION SIGNS SPECIFIED IN PART 238 OF THE NYSMUTCD ARE AVAILABLE IN THE STANDARD DIAMOND SHAPE AND AN ALTERNATE RECTANGULAR SHAPE.
5. UNLESS OTHERWISE NOTED, ALL WORK ZONE SIGNS USED SHALL BE THE LARGEST SIZE AVAILABLE IN ACCORDANCE WITH NYSMUTCD. WHERE THERE IS INADEQUATE CLEARANCE FOR THE LARGEST AVAILABLE SIZE SIGN, THE ENGINEER MAY APPROVE A SMALLER SIGN. WORK ZONE WARNING SIGNS MOUNTED ON CONCRETE BARRIER OR BRIDGE PARAPET SHALL BE SIZE 'C'.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL ALL SIGNS, BARRIERS, SAND BARRELS, CONES AND PAVEMENT STRIPES NECESSARY TO MAINTAIN TRAFFIC DURING CONSTRUCTION, AND TO PROVIDE DAILY PATROLS TO ENSURE THAT THE PROPER SIGNS, STRIPES, AND OTHER EQUIPMENT ARE IN GOOD CONDITION.

1 / - MAINTENANCE AND PROTECTION OF TRAFFIC PLAN - PHASE 3 (PH.3)

1" = 50'

~~-INCLUDE MPT IN BID ITEM 1.25 (USA)~~ N.I.C.

-INCLUDE MPT IN BID ITEM 2.24 (CANADA)

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ENGINEER'S STAMP

ENGINEER'S STAMP

NIAGARA FALLS BRIDGE COMMISSION
5365 Military Road, Lewiston, NY 14092
P: (716) 285-6322 • F: (716) 282-3292

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DISCLAIMER

MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3 - SAND BARRELS	1/12/18	SC
2	ADDENDUM 2 -CRASH ATTENUATOR	12/29/17	SC

DESIGNED BY: SHANA LAMA
DRAWN BY: W.F.
CKD BY: K.H.
SUBMITTED BY: WSP USA INC.
FILE NAME: RB-S101.dwg
SIZE: ANSI D
PLOTTED BY: PECHETTE, MEGHAN
DATE: 1/12/2018
SOLICITATION NO.: 18-02-2B
CONTRACT NO.: 187774
PLOT DATE: 1/11/2018

NIAGARA FALLS BRIDGE COMMISSION
Administration Building
5365 Military Road
Lewiston, NY 14092

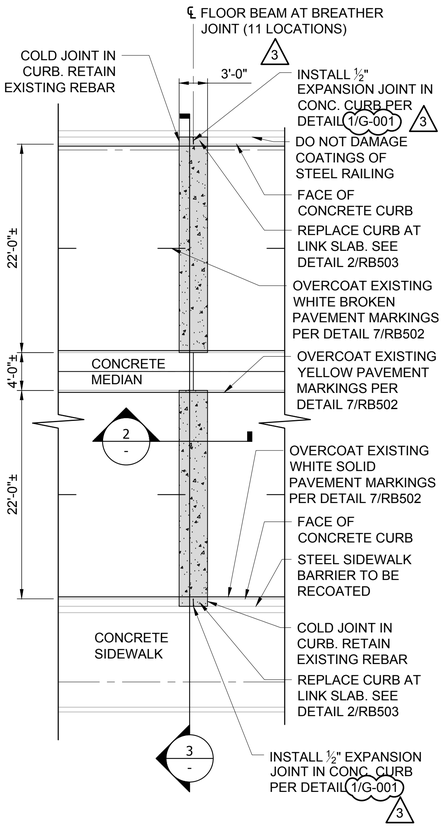
WSP USA Inc.
50 Fountain Plaza, Suite 1111
Buffalo, NY 14202
(716) 853-1220

NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

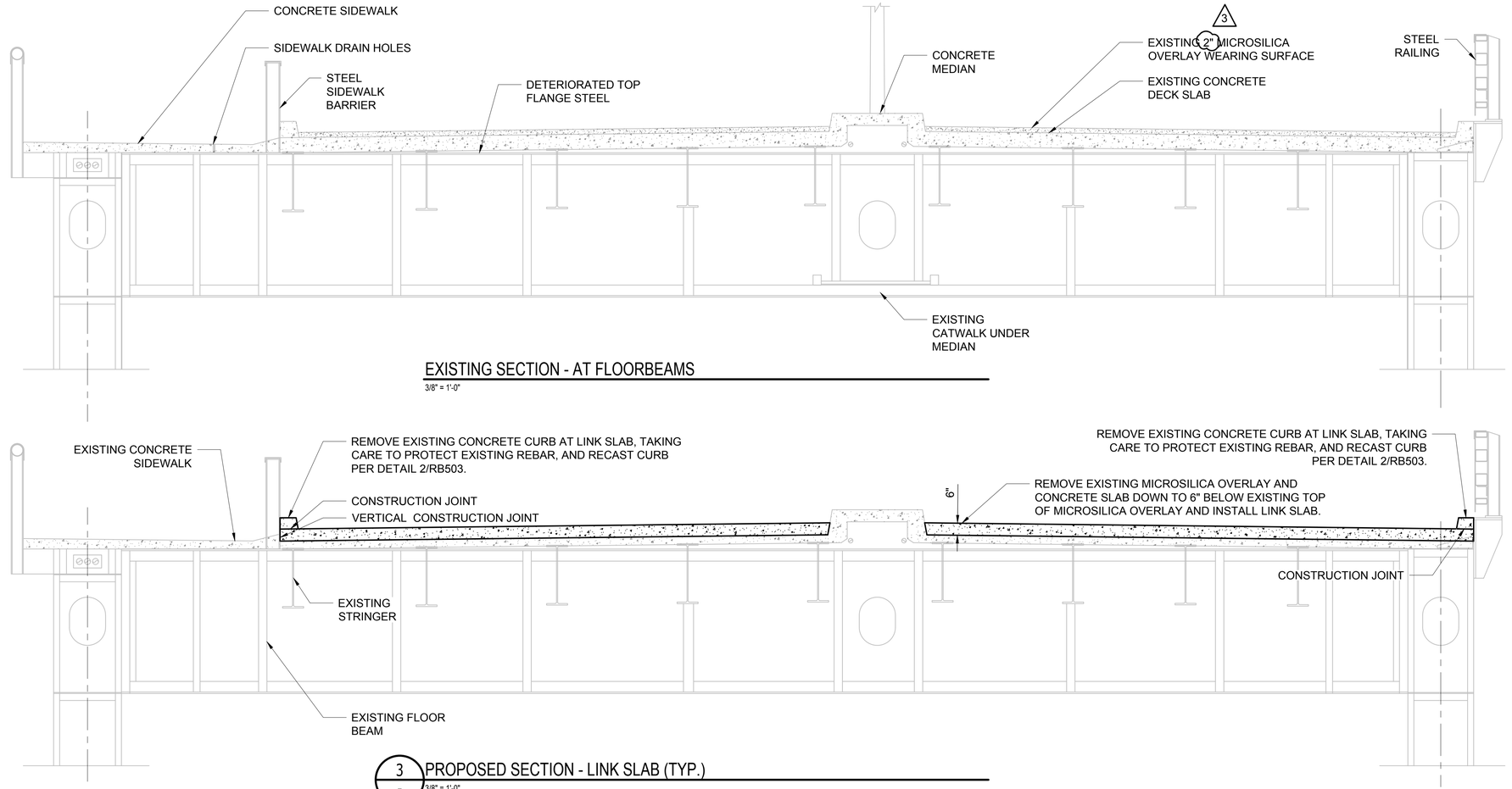
RAINBOW BRIDGE REPAIRS
MAINTENANCE & PROTECTION OF TRAFFIC
STAGE 3

SHEET REFERENCE NUMBER
RB-113
SHEET 14 A3 OF 29

J:\187774 - nfcb rainbow - whirlpool-ls bridge repair\02-rainbow\~CAD\RB-S101.dwg Sat, 13 Jan 2018 - 9:00am frechettewb

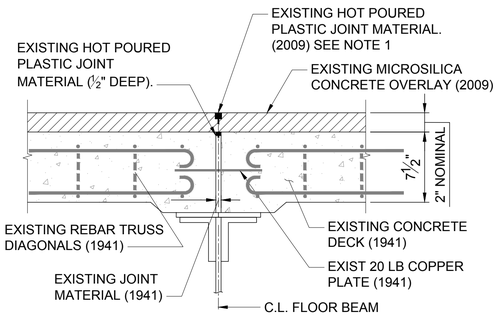


1 RB103 PLAN - LINK SLAB (TYP.)
1" = 1/8" = 1'-0"

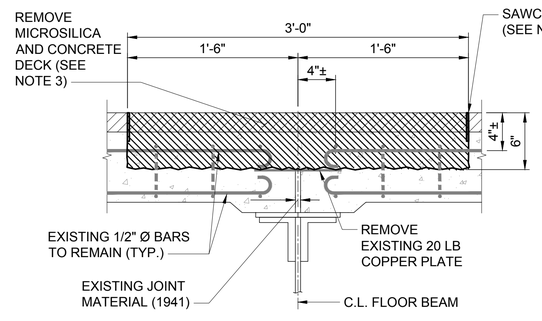


EXISTING SECTION - AT FLOORBEAMS
3/8" = 1'-0"

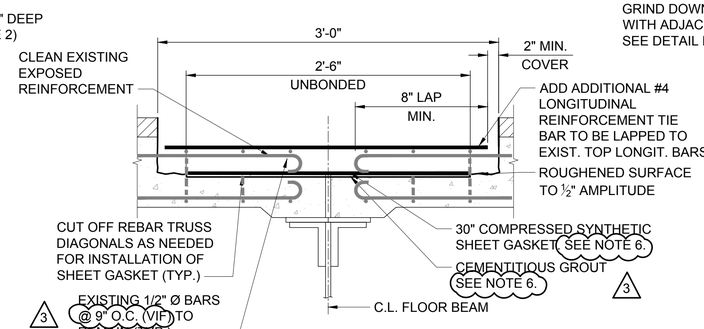
3 - PROPOSED SECTION - LINK SLAB (TYP.)
3/8" = 1'-0"



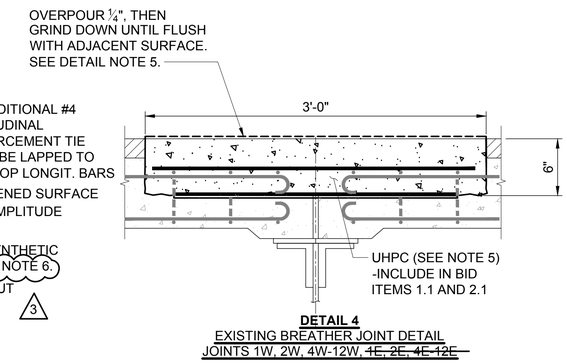
DETAIL 1
EXISTING BREATHER JOINT DETAIL
JOINTS 1W, 2W, 4W-12W, ~~4E, 2E, 4E-12E~~



DETAIL 2
EXISTING BREATHER JOINT DETAIL
JOINTS 1W, 2W, 4W-12W, ~~4E, 2E, 4E-12E~~



DETAIL 3
EXISTING BREATHER JOINT DETAIL
JOINTS 1W, 2W, 4W-12W, ~~4E, 2E, 4E-12E~~



DETAIL 4
EXISTING BREATHER JOINT DETAIL
JOINTS 1W, 2W, 4W-12W, ~~4E, 2E, 4E-12E~~

2 - DETAIL - LINK SLAB INSTALLATION
NTS
~~BID ITEM 1.1 (USA)~~ N.I.C.
BID ITEM 2.1 (CANADA)

NOTES:

1. HOT POURED PLASTIC JOINT MATERIAL INSTALLED IN 2009 MAY NOT LINE UP DIRECTLY OVER ORIGINAL 1941 JOINT.
2. SAWCUT TO DEPTH OF 3". TAKE CARE NOT TO CUT OR DAMAGE EXISTING REINFORCEMENT.
3. REMOVE MICROSILICA AND STRUCTURAL CONCRETE DECK TO DEPTH BELOW TOP MAT OF REINFORCEMENT. METHOD OF REMOVAL SHALL NOT DAMAGE EXISTING REINFORCEMENT OR CONCRETE TO REMAIN.
4. REFER TO NYSDOT ITEM 557.20010010.
5. PREP SURFACES AND APPLY BONDING AGENT PER LAFARGE RECOMMENDATIONS FOR THE ULTRA HIGH PERFORMANCE CONCRETE PRODUCT (UHPC). FORM AND FILL VOID WITH UHPC (LAFARGE DUCTAL JS1212). OVERPOUR ¼" USING CLOSED FORMS WITH PORTS TO ALLOW AIR TO ESCAPE DURING SUBSIDENCE, AND ALLOW IT TO SET UNTIL IT REACHES ~~10KSI~~ DO NOT WAIT UNTIL IT REACHES 28 KSI) TO GRIND DOWN SURFACE SO THAT THE SURFACE IS FLUSH WITH TOP OF ADJACENT MICROSILICA OVERLAY SURFACE.
6. GASKET SHALL BE PROVIDED ON A LEVEL SURFACE AND PROTECTED FROM DAMAGE DURING CONCRETE POURING.
7. LINK SLAB AREA SHALL BE PREHEATED AND TEMPERATURE CONTROLLED DURING POURING AND CURING. TEMPERATURE SHALL BE CLOSELY MONITORED USING THERMOCOUPLES. TEMPERATURE CONTROL MAY INVOLVE THE USE OF HEATED INSULATING BLANKETS, ENCLOSURES, OR OTHER METHODS UNTIL THE MATERIAL REACHES 10KSI.
8. LINK SLABS MAY BE OPEN TO TRAFFIC WHEN THE MATERIAL REACHES AT LEAST 12 KSI.

1

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MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3 - BAR SPACING	1/12/18	SC
1	ADDENDUM 1 - UHPC STRENGTHS	12/12/17	SC

DISCLAIMER

DESIGNED BY: SCHOOLCRAFT
DRAWN BY: W.F.
CKD BY: K.H.
SUBMITTED BY: WSP USA INC.
DATE: 1/8/2018
SOLICITATION NO.:
CONTRACT NO.: 187774
FILE NAME: RB-S501.dwg
SIZE: ANSI D
PLOTTED BY: PEQUETTE,VESSER B.
PLOT DATE: 1/11/2018

NIAGARA FALLS BRIDGE COMMISSION
Administration Building
5365 Military Road
Lewiston, NY 14092

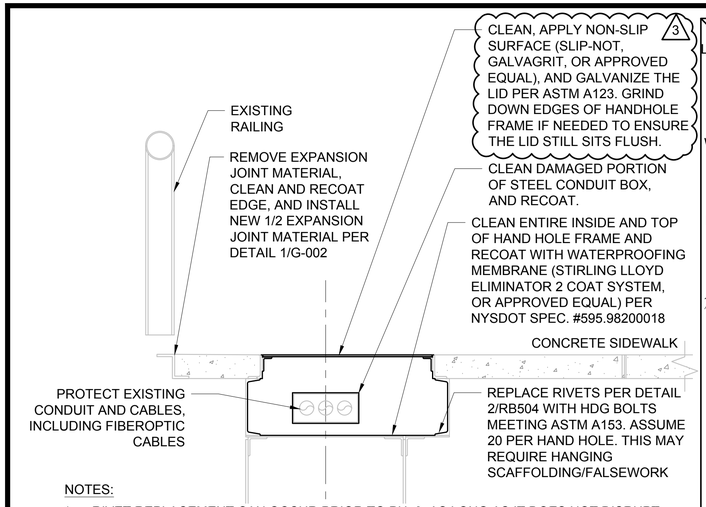
WSP USA Inc.
300 Pearl Park Blvd.
Suite 111
Williamsville, NY 14221
(716) 853-1220

NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

RAINBOW BRIDGE REPAIRS
DETAILS (1 OF 6)

SHEET REFERENCE NUMBER
RB-501
SHEET 15A 3 OF 29

J:\187774 - nfcb rainbow - whirlpool-lq bridge repair\02-rainbow\...CAD\RB-S501.dwg Sat, 13 Jan 2018 - 9:00am frechettetwb



NOTES:

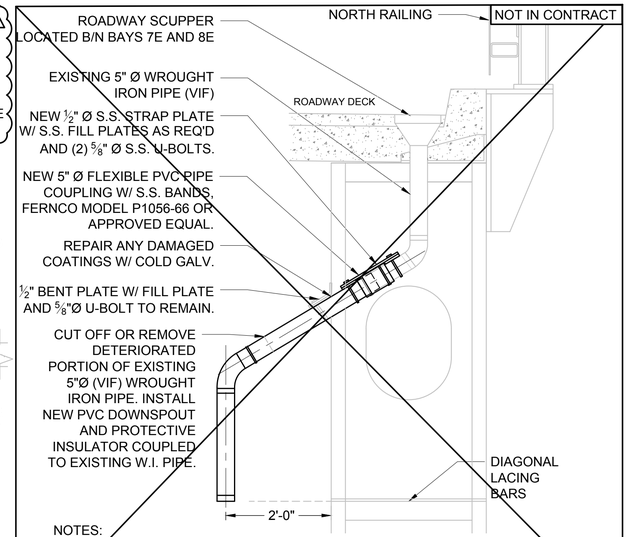
1. RIVET REPLACEMENT CAN OCCUR PRIOR TO PH. 3, AS LONG AS IT DOES NOT DISRUPT PEDESTRIAN TRAFFIC ON THE SIDEWALK. ALL OTHER WORK ASSOCIATED WITH THIS BID ITEM SHALL BE COMPLETED DURING PH. 3.

1 RB101 DETAIL - SIDEWALK UTILITY HAND HOLE REPAIRS (TYP.)

3/4" = 1'-0"

~~BID ITEM 1.14 (USA) - 2 LOCATIONS~~ N.I.C.

BID ITEM 2.14 (CANADA) - 1 LOCATION



NOTES:

1. THIS REPAIR MAY REQUIRE HANGING SCAFFOLDING/FALSEWORK FOR ACCESS

2 RB106 DETAIL - DOWNSPOUT REPAIR @ BAY 7E-8E

3/4" = 1'-0"

BID ITEM 1.16 (USA)



3 RB103 CLEAN AND RECOAT STEEL SIDEWALK COMPONENTS

N.T.S.

~~BID ITEMS 1.9 AND 1.12 (USA)~~ N.I.C.

BID ITEMS 2.9 AND 2.12 (CANADA)

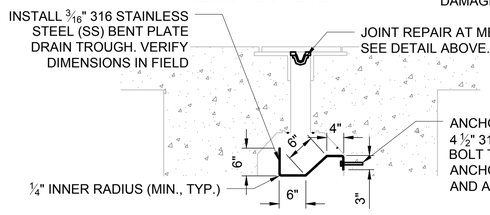


CLEAN DEBRIS OUT FROM GAP AND WELD STEEL TAB TO ARMOR ANGLE TO FILL THE GAP. SEAL ALL AROUND WITH 100% SILICONE TO COMPLETELY SEAL OFF THE JOINT.

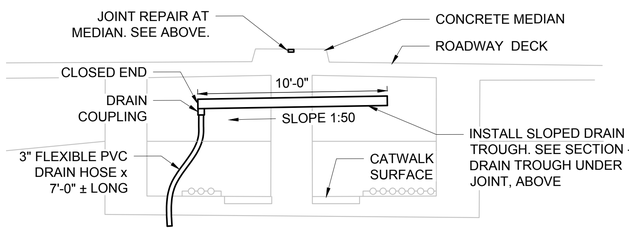
CAREFULLY TRIM OFF DAMAGED PORTION OF NEOPRENE JOINT AND REPAIR BY SPLICING WITH RJ WATSON SILICOFLEX SF400 UTILIZING SILICOFLEX PRIMERS AND APPROPRIATE LOCKING ADHESIVE, OR APPROVED EQUAL. JOINT SPLICE REPAIRS SHALL BE COMPLETED BY OR SUPERVISED BY JOINT SPLICE MANUFACTURER.

CLEAN DEBRIS OUT FROM GAP AND WELD STEEL TAB (APPROX. 2"x1"x½", VIF) TO ARMOR ANGLE TO FILL THE GAP. SEAL ALL AROUND WITH SILICONE TO COMPLETELY SEAL OFF THE JOINT. DO NOT DAMAGE JOINT SEAL

DETAIL - JOINT REPAIR AT MEDIAN
-INCLUDE IN BID ITEM 2.16



SECTION - DRAIN TROUGH UNDER JOINT

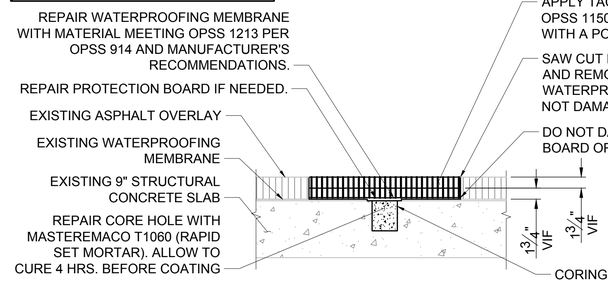


ELEVATION - DRAIN TROUGH UNDER JOINT (LOOKING EAST)
-INCLUDE IN BID ITEM 2.16

6 RB101 CANADIAN JOINT REPAIR AND DRAIN TROUGH

N.T.S.

BID ITEM 2.16 (CANADA)



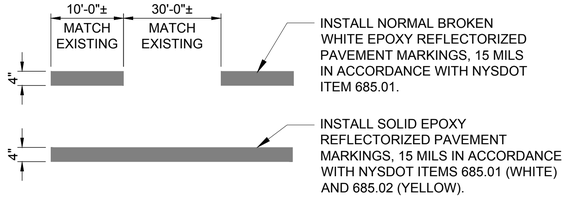
NOTES:

1. LOCATIONS SHOWN IN CONTRACT DRAWINGS ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE WITH ENGINEER AND VECTOR CORROSION SERVICES ON INVESTIGATION LOCATIONS AND DATES FOR THE WORK.
2. CONTRACTOR SHALL REMOVE ASPHALT WHERE INDICATED, TAKING CARE NOT TO DAMAGE THE WATERPROOF MEMBRANE.
3. VECTOR CORROSION SERVICES WILL PENETRATE THE WATERPROOF MEMBRANE AND PERFORM THE CORING

4 RB101 ASPHALT PAVEMENT PATCHING AT FOUR (4) INVESTIGATION LOCATIONS

1/2" = 1'-0"

INCLUDE IN BID ITEM 2.19 (CANADA)



NOTES:

1. ALL PAVEMENT MARKINGS INSTALLED SHALL BE EPOXY REFLECTORIZED MEETING NYSDOT SPECIFICATIONS.
2. ALL PAVEMENT MARKINGS SHALL BE PLACED IN THE SAME LOCATIONS AS EXISTING PAVEMENT MARKINGS ON THE BRIDGE PER MANUFACTURER'S RECOMMENDATIONS FOR OVERCOATING. SEE PLAN FOR LAYOUT.
3. REMOVE ANY FOREIGN DEBRIS FROM THE SURFACE PRIOR TO APPLICATION (WASH, BRUSH).

7 RB101 PAVEMENT MARKINGS - OVERCOATING

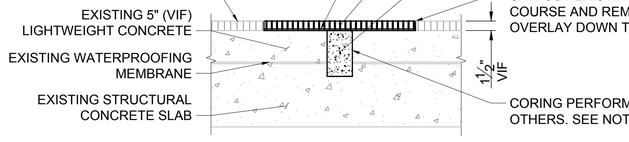
N.T.S.

~~-INCLUDE IN BID ITEM 1.15 (USA)~~ N.I.C.

-INCLUDE IN BID ITEM 2.15 (CANADA)

INSTALL WATERPROOFING MEMBRANE MATERIAL MEETING OPSS 1213 PER OPSS 914 AND MANUFACTURER'S RECOMMENDATIONS.

EXISTING ASPHALT OVERLAY



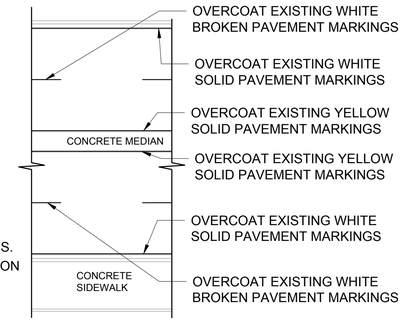
NOTES:

1. LOCATIONS SHOWN IN CONTRACT DRAWINGS ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE WITH ENGINEER AND VECTOR CORROSION SERVICES ON INVESTIGATION LOCATIONS AND DATES FOR THE WORK.
2. CONTRACTOR SHALL REMOVE ASPHALT WHERE INDICATED.
3. VECTOR CORROSION SERVICES WILL PERFORM THE CORING

5 RB101 ASPHALT PAVEMENT PATCHING AT TWO (2) INVESTIGATION LOCATIONS

1/2" = 1'-0"

INCLUDE IN BID ITEM 2.19 (CANADA)



PLAN - PAVEMENT MARKINGS LAYOUT

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DISCLAIMER

MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3 - DETAIL 1	1/2/18	SG

DATE: 1/2/2018
SOLICITATION NO.: 18200018
CONTRACT NO.: 187774
DESIGNED BY: SHANA ANA
DRAWN BY: W.F.
CHKD BY: K.H.
SUBMITTED BY: WSP USA INC.
FILE NAME: RB-S501.dwg
SIZE: ANSI D
PLOTTED BY: ROCHETTE MESUR'R
PLOT DATE: 1/11/2018

NIAGARA FALLS BRIDGE COMMISSION
Administration Building
5365 Military Road
Lewiston, NY 14092

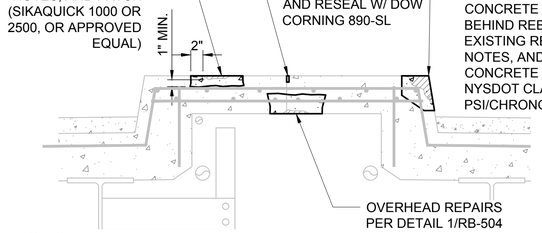
WSP USA Inc.
Main Place Bldg.
Suite 1111
Buffalo, NY 14202
(716) 853-1228

NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

RAINBOW BRIDGE REPAIRS
DETAILS (2 OF 6)

SHEET REFERENCE NUMBER
RB-502
SHEET 16 AS OF 29

J:\187774 - nfcb rainbow - whirlpool-q bridge repair\02-rainbow\-CAD\RB-S501.dwg Sat, 13 Jan 2018 - 9:00am frechettewb



NOTES:

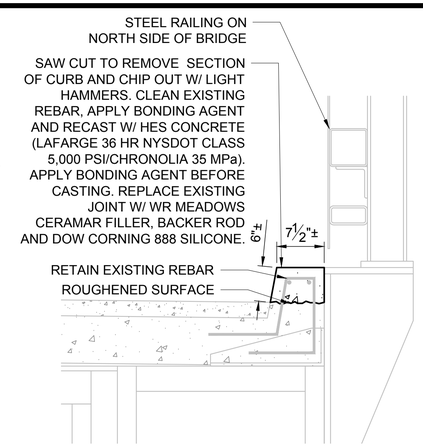
1. REMOVE MATERIAL TO COMPETENT CONCRETE. DO NOT DAMAGE EXISTING REBAR. IF REBAR IS ENCOUNTERED, REMOVE MATERIAL 1.5 " BEHIND REBAR PRIOR TO CASTING.
2. APPLY BONDING AGENT TO ROUGHENED SURFACE PRIOR TO CASTING CONCRETE REPAIRS.
3. CONCRETE COLOR SHALL BE MATCHED TO EXISTING ADJACENT CONCRETE SURFACES.
4. CONCRETE CURB MUST REACH 3,000 PSI/20MPa BEFORE OPENING TO TRAFFIC.

1 RB103 DETAIL - CONCRETE MEDIAN REPAIRS

1" = 1'-0"

~~-INCLUDE IN BID ITEMS 1.2, 1.7, 1.9 (USA)~~ N.I.C.

-INCLUDE IN BID ITEMS 2.2, 2.7, 2.9 (CANADA)



NOTES:

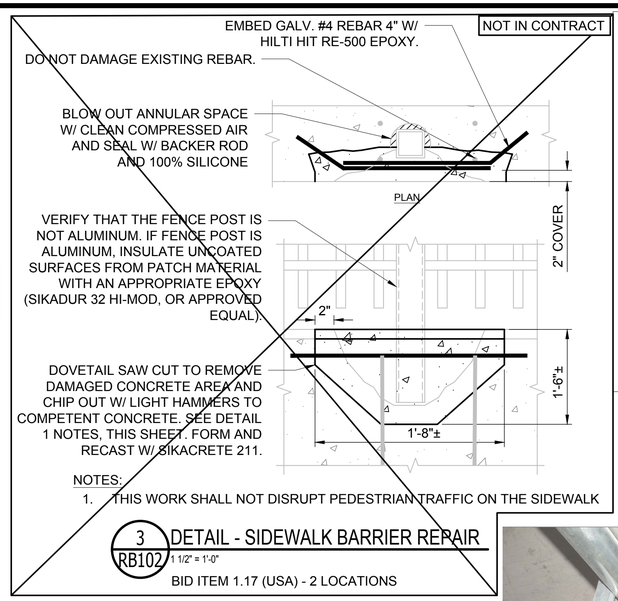
CONCRETE CURB MUST REACH 3,000 PSI/20 MPa BEFORE OPENING TO TRAFFIC

2 RB103 DETAIL - CURB REPLACEMENT/REPAIR

1" = 1'-0"

~~-BID ITEM 1.2 (USA)~~ N.I.C.

BID ITEM 2.2 (CANADA)



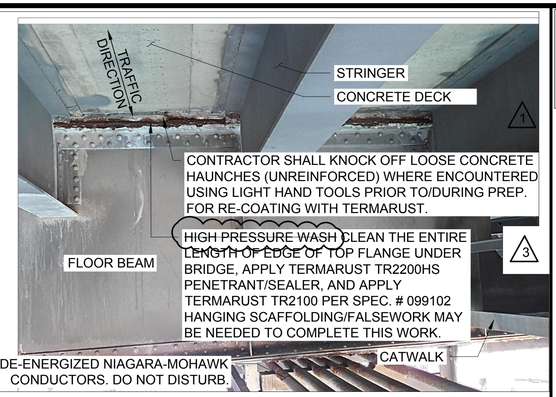
NOTES:

1. THIS WORK SHALL NOT DISRUPT PEDESTRIAN TRAFFIC ON THE SIDEWALK

3 RB102 DETAIL - SIDEWALK BARRIER REPAIR

1 1/2" = 1'-0"

BID ITEM 1.17 (USA) - 2 LOCATIONS

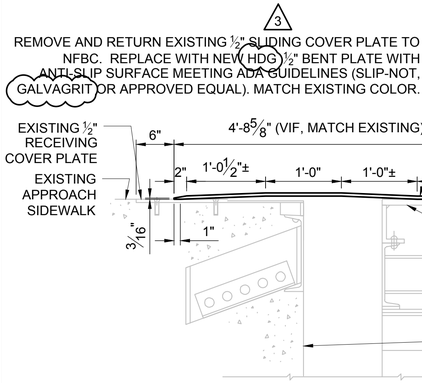


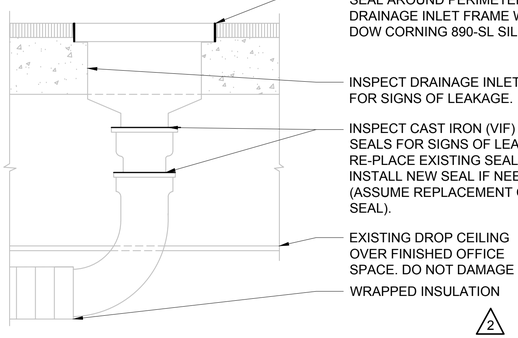
4 RB103 DETAIL - RECOAT TOP FLANGE OF FLOOR BEAMS

1/2" = 1'-0"

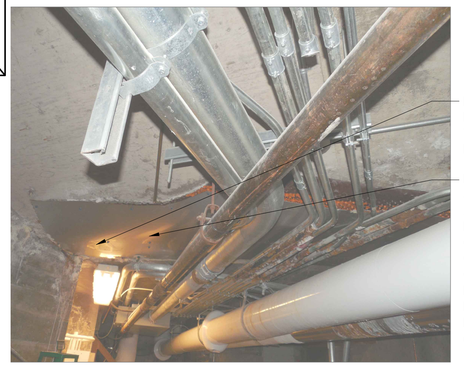
~~-BID ITEM 1.11 (USA)~~ N.I.C.

BID ITEM 2.11 (CANADA)





NOTE: ACCESS TO INTERIOR SPACE IS LIMITED TO 8AM TO 4PM WEEKDAYS ONLY



7 RB108 DETAIL - CONCRETE CRACK REPAIRS IN TUNNEL

SCALE:3/4"=1'-0"

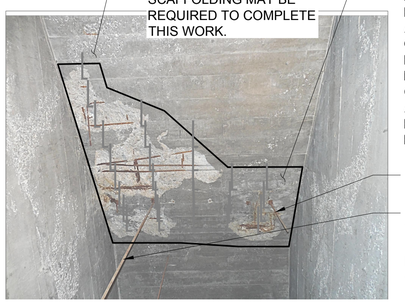
BID ITEM 2.22

5 RB103 DETAIL - STEEL SIDEWALK EXPANSION PLATES

1" = 1'-0"

~~-INCLUDE IN BID ITEM 1.13 (USA)~~ N.I.C.

-INCLUDE IN BID ITEM 2.13 (CANADA)



NOTE: ACCESS TO TUNNEL IS LIMITED TO 8AM TO 4PM WEEKDAYS ONLY

8 RB108 DETAIL - CONCRETE REPAIR UNDER STAIRS

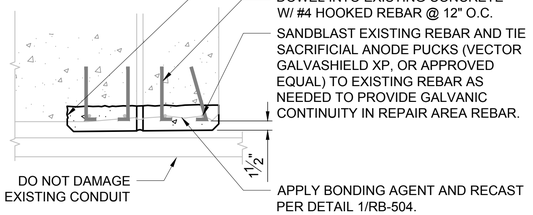
1 1/2" = 1'-0"

-INCLUDE IN BID ITEM 2.21 (CANADA)

6 RB101 DETAIL - REPAIR SCUPPER ABOVE ARCHIVE ROOM

3/4" = 1'-0"

-INCLUDE IN BID ITEM 2.23

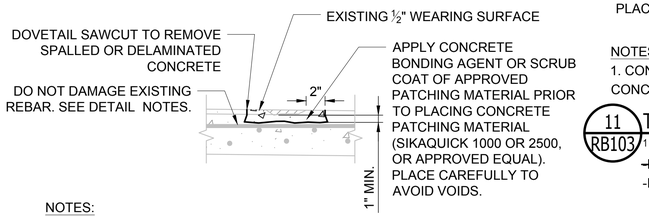


NOTE: ACCESS TO TUNNEL IS LIMITED TO 8AM TO 4PM WEEKDAYS ONLY

9 RB108 DETAIL - CONCRETE REPAIR IN SECRET GARDEN TUNNEL

1" = 1'-0"

-INCLUDE IN BID ITEM 2.21 (CANADA) - 2 LOCATIONS



NOTES:

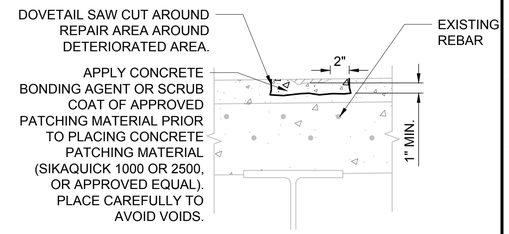
1. REMOVE MATERIAL TO COMPETENT CONCRETE. DO NOT DAMAGE EXISTING REBAR. IF REBAR IS ENCOUNTERED, REMOVE MATERIAL 1 ½ " BEHIND REBAR PRIOR TO CASTING.
2. IF REPAIR IS ALONG EXPANSION JOINT, REPLACE FILLER W/ WR MEADOWS CERAMAR AND BACKER ROD, AND SEAL WITH DOW CORNING 890-SL SILICONE.
3. CONCRETE COLOR SHALL BE MATCHED TO EXISTING ADJACENT CONCRETE SURFACES.

10 RB103 TYPICAL SIDEWALK CONCRETE REPAIR

1 1/2" = 1'-0"

~~-INCLUDE IN BID ITEM 1.5 (USA)~~ N.I.C.

-INCLUDE IN BID ITEM 2.5 (CANADA)



NOTES:

1. CONCRETE COLOR SHALL BE MATCHED TO EXISTING ADJACENT CONCRETE SURFACES.

11 RB103 TYPICAL MICROSILICA REPAIR ON BRIDGE DECK

1 1/2" = 1'-0"

~~-INCLUDE IN BID ITEM 1.3 (USA)~~ N.I.C.

-INCLUDE IN BID ITEM 2.3 (CANADA)

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DISCLAIMER

MARK	DESCRIPTION	DATE	APPR.
2	ADDENDUM 3 - DETAIL 5	11/12/18	SG
2	ADDENDUM 2 - DETAIL 7 ISI N.I.C.	12/29/17	SG
1	ADDENDUM 1 - DETAIL 4	2/1/217	SG

DESIGNED BY: SAMIR LAMA
DRAWN BY: W.F.
CHKD BY: K.H.
SUBMITTED BY: WSP USA INC.
CONTRACT NO.: 187774
FILE NAME: RB-S501.dwg
SIZE: ANSI D
PLOTTED BY: FECHETTE,MISSY B.
DATE: 1/11/2018
SOLICITATION NO.: 18-02-2B

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WSP USA Inc.
1395 Brighton Road, Suite 111, Tonawanda, NY 14222
(716) 853-1220

NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

RAINBOW BRIDGE REPAIRS DETAILS (3 OF 6)

SHEET REFERENCE NUMBER
RB-503
SHEET 17A-3 OF 29

J:\187774 - ntcb rainbow - whirlpool-ls_bridge repair\02-rainbow\-CAD\RB-S501.dwg Sat, 13 Jan 2018 - 9:01am frechettewb

QUEENSTON HEIGHTS PARK

1
LQ103

INCLUDE IN BID ITEM 6.5

SAW CUT LONGITUDINAL CRACK IN CONCRETE PAVEMENT, INSTALL BACKER ROD AND SEAL WITH DOW CORNING 890SL SILICONE PER OPSS 369 AND SILICONE MANUFACTURER'S RECOMMENDATIONS (ASSUME WIDTH OF CRACK = ½", ASSUME 400 LF).

INCLUDE IN BID ITEM 6.3

PERFORM CONCRETE PAVEMENT REPAIRS PER DETAIL 2/LQ-103 IN AREAS AOBE. (ASSUME 50 SF TOTAL FROM 3 LOCATIONS).

INCLUDE IN BID ITEM 6.5

SAW CUT CRACK IN CONCRETE PAVEMENT, INSTALL BACKER ROD AND SEAL WITH DOW CORNING 890SL SILICONE PER OPSS 369 AND SILICONE MANUFACTURER'S RECOMMENDATIONS (ASSUME WIDTH OF SAW CUT CRACK = ½", ASSUME 100 LF).

THIS CONCRETE PAVEMENT REPAIR REQUIRES TEMPORARILY MOVING JERSEY BARRIER

BID ITEM 6.4

REMOVE EXISTING BITUMINOUS JOINT SEAL MATERIAL IN CONCRETE PAVEMENT JOINTS, SANDBLAST JOINT WALLS, AND RE-SEAL WITH HOT-POURED RUBBERIZED JOINT SEALING COMPOUND MEETING OPSS 1212, INSTALL PER OPSS 369.

BID ITEM 8.3A1

REMOVE EXISTING BITUMINOUS JOINT SEAL MATERIAL IN CONCRETE PAVEMENT JOINTS, SANDBLAST JOINT WALLS, AND RE-SEAL WITH HOT-POURED RUBBERIZED JOINT SEALING COMPOUND MEETING OPSS 1212, INSTALL PER OPSS 369.

3

INCLUDE IN BID ITEM 6.3

PERFORM FULL DEPTH CONCRETE PAVEMENT REPAIRS PER DETAIL 2/LQ-103 IN AREAS AOBE. (APPROX. LOCATION OF 3 AREAS OF REPAIR ARE SHOWN, ASSUME 150 SF FROM 3 LOCATIONS TOTAL).

BID ITEM 8.4A1

PERFORM FULL DEPTH CONCRETE PAVEMENT REPAIRS PER DETAIL 2/LQ-103 IN AREAS AOBE. (ASSUME 150 SF FROM 5 LOCATIONS TOTAL).

3

BID ITEM 6.1

MILL AREA 13B AND APPLY TACK COAT, PAVE A SMOOTH LEVELING COURSE, INSTALL TENSAR GLASGRID 8511TF PER MANUFACTURER'S RECOMMENDATIONS, AND PAVE 40mm HL3 TOP COURSE (MEETING OPSS 1150, INSTALLATION PER OPSS 310). THIS WORK SHALL BE PERFORMED AT NIGHT (ASSUME 11,012 SF).

INCLUDE IN BID ITEM 6.7

WORK IN THE ROADWAY REQUIRES MPT AND COORDINATION WITH NFBC, ONLY 1 LANE WILL BE ALLOWED TO BE CLOSED AT A GIVEN TIME.

3

ASPHALT AREA 13B

MATCHLINE A-A

MATCHLINE A-A

INCLUDE IN BID ITEM 6.6

INSTALL DRAIN IN LOW SPOT OF EXISTING STAINLESS STEEL DRAIN TROUGH UNDER FINGER JOINT. WELD STAINLESS STEEL DOWNSPOUT TO UNDERSIDE OF TROUGH AND ATTACH 3" FLEXIBLE PVC HOSE (ASSUME 12 FEET LONG). ACCESS TO THE WORK AREA REQUIRES A LANE CLOSURE, THEREFORE MPT AND COORDINATION WITH NFBC IS REQUIRED.

ACCESS LADDER DOWN TO DRAIN TROUGH

OVERHEAD LANE CONTROL GANTRY

TOWER

PIER

GRAPHIC SCALE

80 0 40 80 160 320

(IN FEET)
1 inch = 80 ft.

NOTES:

1. THE CONTRACTOR IS REQUIRED TO SUBMIT MAINTENANCE AND PROTECTION OF TRAFFIC PLAN(S) FOR APPROVAL BY NFBC PER THE GENERAL NOTES PAGES G-001 AND G-002. INCLUDE MPT FOR WORK ON THE CANADA SIDE OF THE BRIDGE IN BID ITEM 6.7
2. INCLUDE MOBILIZATION COSTS IN BID ITEM 6.8.

1 / - LEWISTON-QUEENSTON BRIDGE PLAZA REPAIR LOCATION KEY PLAN
1" = 80'

2 / - LEWISTON-QUEENSTON BRIDGE
1" = 80'

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DISCLAIMER

MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3	1/12/18	SC

DATE: 1/8/2018
SOLICITATION NO.: 187774

CONTRACT NO.: 187774

DESIGNED BY: SHAILJA NAIK
DRAWN BY: W.F.
CKD BY: K.H.
SUBMITTED BY: WSP USA INC.

FILE NAME: Const Mod #2.dwg
LQ Plaza Plan Sheet - Constr Mod #2.dwg
SIZE: ANSI D
PLOTTED BY: FRICHETTE, WESLEY S.
PLOT DATE: 1/11/2018

NIAGARA FALLS BRIDGE COMMISSION
Administration Building
5365 Military Road
Lewiston, NY 14092

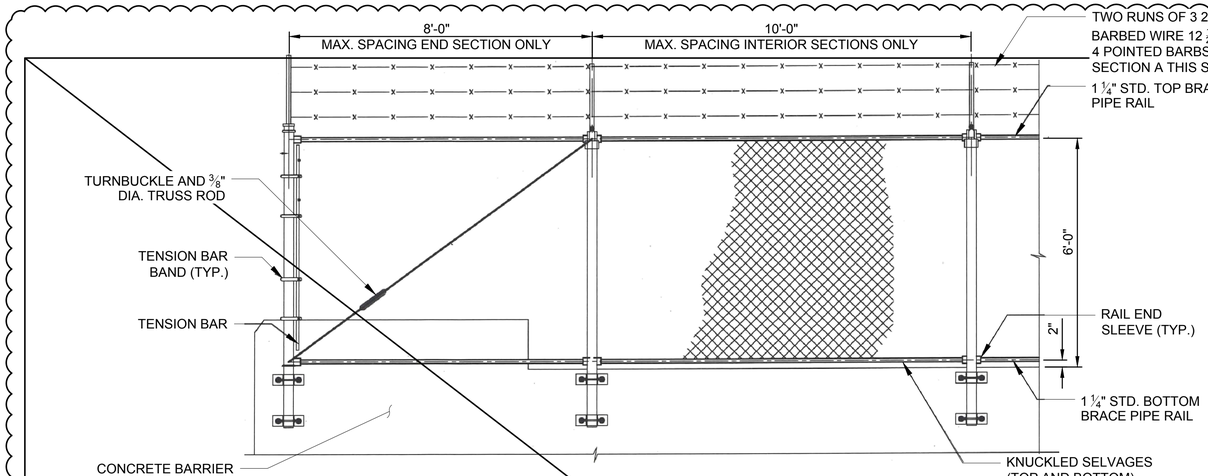
WSP USA Inc.
One Penn Plaza
Suite 1111, 14202
NY, New York
(716) 853-1220

NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

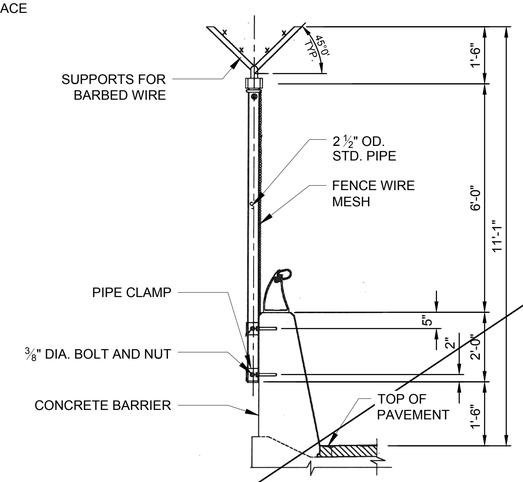
LEWISTON-QUEENSTON BRIDGE REPAIRS
GENERAL PLAN - CANADA

SHEET REFERENCE NUMBER
LQ-101
SHEET 25 AS OF 29

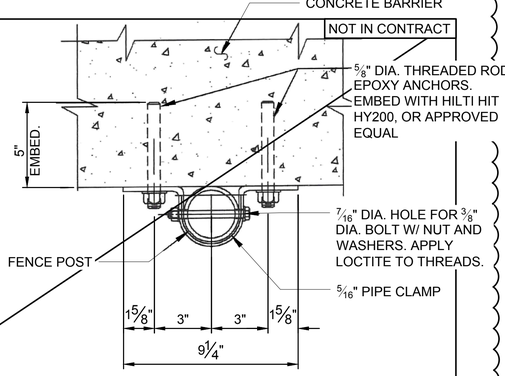
J:\187774 - nfcb rainbow - whirlpool-lq bridge repair\02--rainbow\--CAD\LQ Plaza Plan Sheet -- Constr Mod #2.dwg Sat, 13 Jan 2018 - 9:02pm frichettewb



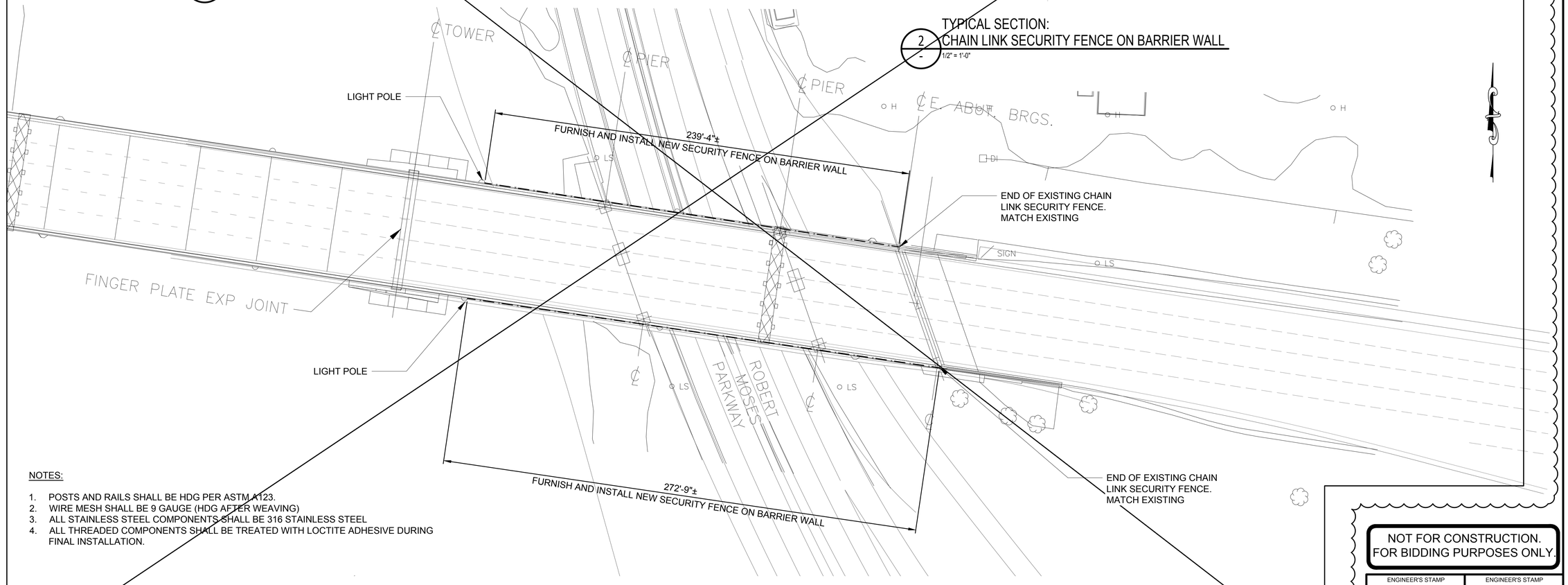
2 / - ELEVATION: CHAIN LINK SECURITY FENCE ON BARRIER WALL
1/2" = 1'-0"



2 / - TYPICAL SECTION: CHAIN LINK SECURITY FENCE ON BARRIER WALL
1/2" = 1'-0"



2 / - DETAIL: SECURITY FENCE ATTACHMENT
1/2" = 1'-0"



NOTES:

1. POSTS AND RAILS SHALL BE HDG PER ASTM A123.
2. WIRE MESH SHALL BE 9 GAUGE (HDG AFTER WEAVING)
3. ALL STAINLESS STEEL COMPONENTS SHALL BE 316 STAINLESS STEEL
4. ALL THREADED COMPONENTS SHALL BE TREATED WITH LOCTITE ADHESIVE DURING FINAL INSTALLATION.

1 / - LEWISTON QUEENSTON BRIDGE PLAZA REPAIR LOCATION PLAN
1" = 30'
-INCLUDE IN BID ITEM 7.6A3

NOTES:

1. THE CONTRACTOR IS REQUIRED TO SUBMIT MAINTENANCE AND PROTECTION OF TRAFFIC PLAN(S) FOR APPROVAL BY NFBC PER THE GENERAL NOTES PAGES G-001 AND G-002. INCLUDE MPT FOR WORK ON THE USA SIDE OF THE BRIDGE IN BID ITEM 5.2.

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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DISCLAIMER

MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3 - NEW DRAWING	1/12/18	SC

DESIGNED BY: S. CIANCIANA
DRAWN BY: W.F.
CHKD BY: K.H.
SUBMITTED BY: WSP USA INC.
DATE: 1/8/2018
SOLICITATION NO.: 187774
CONTRACT NO.: 187774
FILE NAME: LQ Plaza Plan Sheet - Constr Mod #2.dwg
SIZE: ARCH D
PLOT DATE: 1/11/2018
PLOTTED BY: PROCHETTE, WESLEY B.

NIAGARA FALLS BRIDGE COMMISSION
Administration Building
5365 Military Road
Lewiston, NY 14092

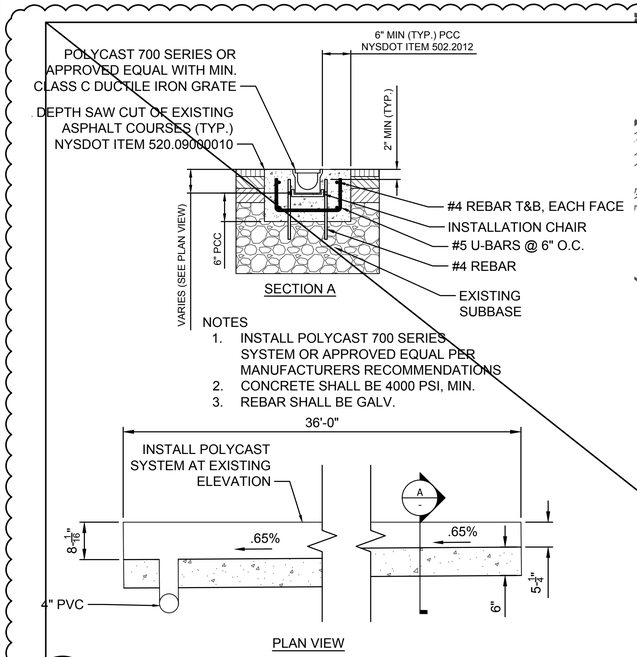
WSP USA Inc.
300 Pearl Street, Suite 111 - 14202
Buffalo, NY 14202
(716) 853-1220

NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B

LEWISTON-QUEENSTON BRIDGE REPAIRS
PLAN REPAIRS AREA 2 - USA

SHEET REFERENCE NUMBER
LQ-102A
SHEET 27 A3 OF 29

J:\187774 - nfcb rainbow - whirlpool-lq bridge repair\02-rainbow\-CAD\LQ Plaza Plan Sheet - Constr Mod #2.dwg Sat, 13 Jan 2018 - 9:02am frechettewb



2 TRENCH DRAIN INSTALLATION
3/4" = 1'-0"



NOTES:

1. INCLUDE MAINTENANCE AND PROTECTION OF TRAFFIC PLAN(S) AND MOBILIZATION COSTS IN BID ITEMS.
2. THE CONTRACTOR SHALL PERFORM INSTRUMENT SURVEYS AS NEEDED TO ASCERTAIN FINAL ELEVATIONS OF BOTTOM OF TRENCH DRAIN TO ENSURE REQUIRED SLOPE OF BOTTOM OF TRENCH DRAIN IS MET. COSTS SHALL BE INCLUDED IN THE PRICE OF THE TRENCH DRAIN BID ITEM.

1 ADMINISTRATION BUILDING REPAIR LOCATION PLAN
1" = 20'

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft

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NIAGARA FALLS BRIDGE COMMISSION RAINBOW BRIDGE DECK REPAIRS AND MISCELLANEOUS REPAIRS AT THE WHIRLPOOL AND LEWISTON-QUEENSTON BRIDGES
PROJECT # 2016-02-2B
NFBC ADMINISTRATION BUILDING
PAVEMENT REPAIRS

SHEET REFERENCE NUMBER
AD101
SHEET 29 A3 OF 29

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MARK	DESCRIPTION	DATE	APPR.
3	ADDENDUM 3 - NEW DRAWING	1/12/18	DS
1	ADDENDUM 1 - DRAWING REMOVED (NIC)	12/12/17	DS

DISCLAIMER

DATE: 12/20/2017
SOLICITATION NO.:

CONTRACT NO.: 187774

DESIGNED BY: S.GOLLANA
DRAWN BY: W.F.
CKD BY: K.H.
SUBMITTED BY: WSP
PLOTTED BY: HISCHETTE, WESLEY B.
FILE NAME: CS101 - Admin Building Plan Sheet.dwg
SIZE: ANSI D
PLOT DATE: 12/12/2017

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5365 Military Road
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WSP USA Inc.
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Suite 111
Rochester, NY 14522
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J:\187774 - nfcb rainbow - whirlpool-q bridge repair\03-NFBC Admin. Bldg\~CAD\CS101 - Admin Building Plan Sheet.dwg Sat, 13 Jan 2018 - 9:03pm hischettewb

SECTION 8.0
Addendum No. 3 SPECIFICATIONS

SECTION 099101 - SPOT RE-COATING OF STEELWORK

Scope of Work

Work under this specification shall consist of vacuum shrouded power tool cleaning with the use of HEPA filters or sandblasting in full containment, and coating applications of the following:

- Areas of steelwork that were previously coated and damaged as a result of the Contractor's activities;
- Areas where existing steelwork coating has been compromised and the plans call for repairing the coating.
    - The sidewalk railing edge shall be prepared using vacuum shrouded power tool cleaning with HEPA filters or vacuum-shrouded cleaning with the use of HEPA filters. The surface of the sidewalk steel edge shall be cleaned per SSPC SP3. The vertical face of the sidewalk steel edge (inside the separation joint) shall be cleaned to the greatest extent practicable per SSPC SP3 and SSPC SP2. Profiles shall be achieved per manufacturer's recommendations.
    - The sidewalk/roadway barrier shall be cleaned by sandblasting in full containment per SSPC SP10. Profiles shall be achieved per manufacturer's recommendations.

This work shall be performed during construction as the Contractor determines appropriate.

Should the Contractor choose to delay such coating and should the exposed steel corrode resulting in rust stains, the Contractor shall remove these rust stains to the satisfaction of the Contract Administrator and repair the coating.

All waste resulting from the existing paint removal operations shall be accumulated, handled, packaged, in accordance with all applicable laws, rules, and codes.

All steelwork coating to be repaired was previously blasted as per SSPC-SP 10. Surfaces that are not normally accessible (eg. faying surfaces, embedded steel) may have not been previously cleaned and are expected to contain a lead based primer. Contractor shall take appropriate measures to monitor exposure and protect workers from exposure and collect and dispose of the paint debris per applicable laws, rules, and codes for handling and disposing of lead based paint debris.

Definitions and Terms

Wherever in these specifications or in other documents the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

ASTM	American Society of Testing and Materials
SSPC	The Society for Protective Coatings
SSPC-QP 1	Standard Procedure for Evaluating Qualifications of Painting Contractors: Field Application to Complex Structures

SSPC-QP 2	Standard Procedure for Evaluating the Qualifications of Painting Contractors To Remove Hazardous Paint
NAAQS	National Ambient Air Quality Standards for Lead and Particulate Matter

Summary

This work will consist of solvent cleaning to remove grease, oil, bird droppings or visible salts from the surface, vacuum shrouded power tool cleaning or near white metal blast cleaning using vacuum shrouded blasters, and coating applications of previously painted areas damaged during the construction phase, newly exposed steel surfaces resulting from the removal of concrete, caulk, or steel components, or areas called out on the plans to be repaired. The Contractor shall perform cleaning and coating on these areas using vacuum shrouded power tools or vacuum shrouded blast cleaning tools. All areas shall be inspected by the Contract Administrator prior to application of each coat.

All Contractors are required to possess a current SSPC QP1 certifications to perform this work. Such certificates shall be in effect at the time of bidding and shall accompany the bid proposal.

Description

1. Furnishing of all labor, materials, and necessary equipment to prepare the structural steel surfaces to be painted, in accordance with the specified paint system manufacturer's requirements and as noted herein.
2. Furnishing all coatings as required by this Specification.
3. Furnishing all labor and equipment necessary to completely clean and coat the structural steel surfaces in accordance with this Specification.
4. Performing all cleaning, surface preparation, and coating as described in this Special Provision, shown on contract drawings or as directed by the Contract Administrator. The Contractor shall assure that all personnel performing cleaning / coating work are qualified to perform the work.
5. Provide all necessary clean up after completion of all surface preparation and painting operations. Refer to construction details.
6. Storage of Waste will be stored and disposed of in accordance with the applicable Federal, State, and Local Regulations.
7. Provide Access and Protection for all surface preparation and coating operations under Item, "Access to Work and Protection".

Reference Documents

A. The following SSPC (Society for Protective Coatings) publications form part of this specification:

1. SSPC-SP1	Solvent Cleaning
2. SSPC SP2	Hand Tool cleaning
3. SSPC SP3	Power Tool cleaning
4. SSPC-SP10	Near-White Metal Blast Cleaning
5. SSPC-SP11	Power Tool Cleaning to Bare Metal

6. SSPC-VIS 1 Visual Standards for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning
7. SSPC-VIS 3 Visual Standards for Power-and-Hand Tool Cleaned Steel
8. SSPC-PA 1 Shop, Field, and Maintenance Painting of Steel.
9. SSPC-PA 2 Measurement of Dry Film Thickness with Magnetic Gages.
10. SSPC-QP1 Standard Procedure for Evaluating Qualifications of Painting Contractors: Field Application to Complex Structures
11. SSPC-Guide 6 Guide for Containing Debris Generated During Paint Removal Operations

Note: The latest issue, revision, or amendment of the referenced standards in effect on the date of invitation to bid shall govern unless otherwise specified.

B. The following American Society for Testing and Materials (ASTM) Standards form Part of this specification.

1. ASTM D4414-95 Standard Practice for Measurement of Wet Film Thickness

Note: The latest issue, revision, or amendment of the referenced standards in effect on the date of invitation to bid shall govern unless otherwise specified.

Submittals

Contractor shall provide prior to commencing operations, mobilization and on-site the following:

1. Site Specific Worker Lead Exposure Control Plan including, but not limited to:
   - Schedule of worker exposure assessments (initial and periodic)
   - Personal protective equipment
   - Respirator protection equipment
   - Schedule of medical surveillance and biological monitoring
2. Hazardous Waste Management Plan including, but not limited to:
   - Waste Transporter identification number issued by USEPA/MEE
   - Disposal facility identification issued by USEPA
   - Generator site identification number issued by USEPA or Waste Generator Number issued by MEE, supplied by the Contract Administrator
   - On-site storage, labeling and protection of hazardous waste
   - No waste disposal until letter from approved Facility accepting waste from the project site.
3. All written compliance programs mandated by OSHA.
4. Documentation of current Contractor status with SSPC QP 2
5. Progress Schedule
6. Start Date
7. Completion data
8. Crew size and Make-up
9. Superintendent
10. SSPC QP-2 Competent Person training documentation (C-3 and current C-5 certificates)

Materials

The prime coat shall be a contrasting color and the finish coat color shall be submitted and approved by the Niagara Falls Bridge Commission. Reference Federal Standard 595B Colors and Federal Fan Deck to obtain a color match or match a paint chip. Contact Manufacturers Technical Representative for assistance and guidance as needed.

A trial area shall be undertaken to determine the shade/tint/gloss required to obtain the optimal match with the existing.

Steel Barrier:

The paint system to be used shall be supplied by one of the manufacturer's below. The same manufacturer shall supply the coatings.

SHERWIN WILLIAMS	
First Coat	Zinc Clad IV (B69) (3.0 - 5.0 mils DFT)
Penetrating Sealer	Macropoxy Pre-prime (B58) (1.0-2.0 mils DFT)
Stripe Coat	Epoxy Mastic Aluminum (B62/B60) (1.0 - 2.0 mils DFT)
Intermediate Coat	Epoxy Mastic Aluminum (B62/B60) (4.0 - 6.0 mils DFT)
Finish Coat	Acrolon 218 HS (3.0 - 6.0 mils DFT)
In no case shall the aggregate dry film thickness exceed 21 mils	

CARBOLINE	
First Coat	Carbolzinc 859 (3.0 - 5.0 mils DFT)
Penetrating Sealer	Rustbond Penetrating Sealer (1.0 - 2.0 mils DFT)
Stripe Coat	Carbomastic 90 (1.0 - 2.0 mils DFT)
Intermediate Coat	Carbomastic 90 (4.0 - 6.0 mils DFT)
Finish Coat	Carbothane 133 LH (3.0 - 6.0 mils DFT)
In no case shall the aggregate dry film thickness exceed 21 mils	

AMERON INTERNATIONAL	
First Coat	Amercoat 68HS (3.0 - 5.0 mils DFT)
Penetrating Sealer	Amerlock Sealer (1.0-2.0 mils DFT)
Stripe Coat	Amercoat 240 (1.0 - 2.0 mils DFT)
Intermediate Coat	Amercoat 240 (4.0 - 6.0 mils DFT)
Finish Coat	Amercoat 450 HS (3.0 - 6.0 mils DFT)
In no case shall the aggregate dry film thickness exceed 21 mils	

Steel Sidewalk edge:

The paint system to be used shall be supplied by the manufacturer's below. The same manufacturer shall supply the coatings.

SHERWIN WILLIAMS	
Sealer:	Macropoxy 920 PrePrime
Stripe Coat:	Macropoxy 646 Fast Cure Epoxy
Intermediate coat:	Macropoxy 646 Fast Cure Epoxy
Finish Coat:	Acrolon 218 HS Acrylic Polyurethane

Paint Delivery, Storage and Handling of Coating Materials:

A. Paint materials shall be delivered to the project in sealed, original, labeled containers bearing the manufacturer's name, type of material, brand name, color designation, shelf life, batch number and instructions for mixing and thinning. All containers of paint shall remain unopened until required for use.

B. Coating materials and solvents shall be stored in a vented storage trailer and approved in writing by the Applicable Fire Department. The temperature shall be maintained between 40°F and 95°F. An accurate recording thermometer must be used to record the Temperatures in the storage trailer. Containers shall be protected from moisture and adverse weather conditions. The storage area shall be maintained in a clean condition. All coating materials used shall be within their specified shelf life. Coating materials should be used on a "first in, first out" basis.

C. Storage Areas shall be located as per the contract drawings.

D. All coatings past their expiration date shall be immediately removed from the project site.

Construction Details:

A. All surface imperfections such as sharp fins, sharp edges, weld splatter, burning slag, laminations and slivers must be removed and inspected from the surface prior to any painting operations Reference Section 4.4 of SSPC-SP COM. Areas exhibiting rust shall be prepared per SSPC-SP 11.

B. The Steel Structures Painting Council Guide To Visual Standard No. 1, *Visual Standards for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning* shall be utilized as an added guide in conjunction with and without replacement of the written definition of SSPC-SP 10 for surface preparation requirements.

OR

The Steel Structures Painting Council Guide To Visual Standard No. 3, *Visual Standard for Power-and-Hand Tool Cleaned Steel* shall be utilized as an added guide in conjunction with and without replacement of the written definition of SSPC-SP 11 for surface preparation requirements.

Application of the coating systems shall be performed per the manufacturer instructions or as noted in this specification. The Contract Administrator's decision shall be final.

B After cleaning and approval by the Contract Administrator, the areas shall be primed with a surface tolerant epoxy mastic (Contrasting Color) to achieve a Dry Film Thickness of 3-5 mils. All areas shall be primed the same day they are cleaned.

C. After proper curing and acceptance by the Contract Administrator, one coat of penetrating sealer shall be worked in with brush, with a contrasting color applied to achieve a dry film thickness of 1-2mils. Any excessive application of product that causes puddles must be brushed out.

D. After proper cure of the penetrating sealer, one stripe coat of epoxy mastic shall be worked in with brush, with a contrasting color applied to achieve a dry film thickness of 1-2mils.

E. After proper cure of the stripe coat, Intermediate coat of epoxy mastic shall be worked in with brush to all coated surfaces, with a contrasting color applied to achieve a dry film thickness of 1-2mils.

F. After proper curing of the Intermediate coat an inspection must be performed to verify that no amine blushing has occurred prior to the application of the finish coat.

G. After acceptance of the Intermediate coat, a finish coat of urethane shall be applied to all coated surfaces to achieve a dry film thickness of 3-6mils. Finish color must be submitted to the Niagara Falls Bridge Commission for approval.

H. Reference material section of the specification for approved material list.

I. Coating material shall not be applied unless the following conditions are obtained and verified by the Contract Administrator.

- Surface temperatures shall be within 45°F and 100°F degrees Fahrenheit.
- Ambient temperatures shall be within 45°F and 100°F degrees Fahrenheit.
- Surface temperatures shall be at least 5°F degrees Fahrenheit above the dew point.
- Relative Humidity shall not exceed 85 %.

Contractor Hold Points:

The Contractor shall allow time for the Contract Administrator to perform necessary inspections prior to proceeding with subsequent work. These hold points are:

a. Surface preparation and the presence of foreign material shall be inspected prior to the application of penetrating sealer and primer.

b. All paint application shall be applied using brush and roller only.

c. Apply coats in such a manner to assure that they are well-adherent to each other and to the substrate.

d. The Contractor shall apply a test patch to one location for each typical repair area (once at steel barrier and once at steel sidewalk edge). Adhesion tests shall be conducted in accordance with ASTM D3359 or ASTM D4541. The manufacturer's representative shall be present during the test patch surface preparation and complete coating system application.

e. If the application of any coats causes lifting of an underlying coat, or there is poor adhesion between coats, or to the substrate, remove the coating in the affected area to adjacent sound, adherent coating, and reapply the material. If adhesion is suspect, conduct adhesion tests in accordance with ASTM D3359 or ASTM D4541 as directed by the Project Engineer. The minimum acceptable adhesion will be 400 psi. The acceptance criteria for the testing will be established by the Engineer and the coating technical representative. Replace all defective coating that is revealed by the testing, and repair the testing area.

f. Re-coat times based on the actual surface temperature must be verified prior to the application of additional material.

g. Ambient and surface temperature conditions shall be verified prior to any application and at least once every four hours during application. The Contractor is responsible to assure ambient and surface temperature conditions are acceptable for surface preparation activities.

h. All locations shall be feathered back 2-3in into the adjacent coating system to allow proper transition from repair location to existing coating system.

i. All vacuum shrouded tools shall be held tight to steel surfaces during operation.

j. The Contractor will provide a list or otherwise indicate those areas to be coated as part of this item. The Contract Administrator will review this information and may identify other areas.

k. The Niagara Falls Bridge Commission prior to application to steel surfaces shall approve finish color from the test area.

l. Prior to and after finish coat application, dry film thickness and dry film characteristics shall be verified as acceptable.

m. Prior to demobilization in a particular section worked, a final acceptance inspection shall be performed by the Contract Administrator.

Measurement for Payment

No measurement will be made for this tender item. The lump sum price shall be made in progress payments.

Basis for Payment

The lump sum price shall include the cost of all labor, materials and equipment necessary to access and complete the work. Payment will be advanced for this item based on the Contract Administrator's estimate of the progress of the work.

SECTION 099102 – RE-COATING OF STEEL FLOOR BEAM TOP FLANGES

ALTERNATE 1 OF 2

TERMARUST TECHNOLOGIES

THE BEST CORROSION CONTROL PERFORMANCE, GUARANTEED!

Condensed Specifications and Instructions for Cleaning and Overcoating Steel Structures, including those with Crevice Corroded and Pack Rusted Joints and Connections using the Termarust TR2000 HRCSA Series Corrosion Mitigation System

SURFACE PREPARATION AND CLEANING:

High Pressure Water Cleaning (HPWC) - The structure (or the portions of it to be coated) are to be cleaned using a 7,000 psi 6 gallon per minute Hot Water HPWC with Chlor*Rid – with a zero degree rotating tip (at a maximum of a 4" standoff distance) to a (SSPC–SP WJ4- NVC3 3ug/cm^2 chloride NVS 10 10 ug/cm^2 sulfate NVN 10 10 ug/cm^2 nitrate) to remove loose paint and loose rust (SSPC SP2 &SP3 hand or power tool cleaning may be used in inaccessible areas or when water cleaning is not possible). In some cases, after HPWC there are areas of tightly adhered black oxide which was not removed. This tightly adhered black oxide even though it meets the SSPC WJ4 standard (and the active corrosion under it) is highly contaminated with Chloride &/or Sulfates &/or Nitrates and if allowed to remain, will result in delamination of the black oxide substrate and the coating which has adhered to it and must be removed. This material may be removed by mechanical means or by using crushed glass media injection in addition to the 7000 psi 6 gallon per minute hot water. This method is also very effective in removing black oxide from the bottom of rust pits.

Note about Chlor*Rid:
NV [(Non Visible Contaminants) NVC3 3ug/cm^2 chloride NVS 10 10 ug/cm^2 sulfate and NVN 10 10 ug/cm^2 nitrate] soluble salt contaminants are expected to be present. The HPWC (high pressure water cleaning) should be finished with or incorporated into the wash water initially a 100:1 solution of Chlor*Rid (manufactured by CHLOR*RID International. www.chlor-rid.com 1-800-442-3217 (USA) or 1-888-279-5497 (CDN) or equivalent to remove those salts. (Just washing with water is not adequate – because the salts are chemically & polar attracted to steel) [For additional information on this topic – please access chlor-rid's website]

DRYING:

1. It is required that even if the joints and connections look dry - that they be blown dry with Clean, DRY, oil free, high pressure (100 psi) compressed air.
2. Application Temperature, Dew Point, Relative Humidity: minimum + 2°C (~~5°F~~) application Temperature, +2°C (5°F) temperature dew point spread, 99% relative humidity. See tech data for special conditions.

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TERMARUST TECHNOLOGIES

THE BEST CORROSION CONTROL PERFORMANCE, GUARANTEED!

APPLICATION OF THE TERMARUST TR2000 HRCSA Series TR2200HS Penetrant / Sealer and TR2100 Primer/Topcoat

Notes:

1. The Termarust system is considered to be a "one coat" system – there are 3 steps (and 2 materials) – the steps are done one after the other, wet on wet - with no waiting time between application of the materials; i.e. (a) application of the TR2200HS Penetrant/Sealer, and (b) application of a Caulk / Stripe coat and spot priming of TR2100 HRCSA Primer/Topcoat and (c) application of the 'finish' coat TR2100 HRCSA Primer/Topcoat. The painter goes to a particular location only once, after surface preparation has been completed.

2. Each of the two materials (TR2100 & TR2200HS) HRCSA are single component materials no mixing is needed.

3. For normal application the TR2100 Primer/Topcoat does not need to be thinned. If thinning is required use Thinner TRT01.

4. Cleanup can be done with Mineral Spirits.

Application of the Termarust Penetrant / Sealer (TR2200HS)
This material is to be applied liberally to all joints and connections, including around bolts, nuts and rivets were gaps exist. **Care should be taken to minimize putting penetrant on surfaces other than in and around joints and connections**. Excess Penetrant (on the surface) should be brushed out, primarily because excess Penetrant on the surface will make the surface look cosmetically poor.

Application of a Caulk (or Stripe) Coat - As soon as the Penetrant/Sealer TR2200HS has been applied - the Termarust TR2100 Primer/Topcoat can be applied into joints and connections, bolts, nuts and gaps around rivets.

Application of the Termarust Primer/Topcoat (TR2100)
The TR2100 material is used for a caulk/stripe coat, spot prime and overcoat for existing paint or for recoating prepared steel.

Notes:

1. During caulk coat apply a minimum of 10 mils DFT (15-18 mils wet) TR2100 HRCSA Primer/Topcoat directly into joints and connections – where there is pack rust and crevice corrosion.
2. Apply spot prime of a minimum of 5 mils DFT (7-9 mils wet) over bare steel and tightly adhered contaminant free rust; which includes the crevice corroded and pack rusted joints.

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Application of the Final Overcoat (TR2100 Primer Topcoat)

As soon as the Caulk Coat and spot prime has been applied, the 'finish' coat of TR2100 should be applied at a minimum of 7-9 mils wet over all surfaces including tightly adhered paint (for a minimum of 5 mils DFT)

COATING PROCEDURES SUMMARY

The following is a summary of the steps used for applying the one-coat Termarust 2000 HR CSA Series corrosion control system.

Overcoating Structure; including Crevices Joints and Connections

Step	Coating Material	DFT: (mils) Min-max	Usage
1	Termarust TR2200HS HRCSA Penetrant / Sealer	Thoroughly Wet the surface	Apply liberally to crevices and joints &/or spaces where a gap has been created between plates and around bolts, nuts and washers – allow material to soak into spaces. Brush out any excess material.
2	Termarust TR2100 HR CSA Primer/ Topcoat	10 to 12	Liberally apply s a stripe or caulk coat – to crevice corroded and pack rusted joints and connections, provide extra material to bolts, nuts and any gaps around rivets.
2a	Termarust TR2100 HR CSA Primer/ Topcoat	5 to 7	Over exposed metal areas and areas of tightly adhered contaminate free rust (flash rust) apply a spot prime of 5 to 7 mils DFT of Topcoat including areas mentioned in step 2.
3	Termarust TR2100 HR CSA Primer/ Topcoat	5 to 7	Apply an additional 5 to 7 mils DFT over the entire structure including the joints and connections

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Notes:

1. The result will be **a minimum of**:
   a) 20 mils DFT over caulk coated crevice corroded and pack rusted joints and connections, 30 to 36 mils wet.
   b) 10 mils DFT over contaminate free bare steel and tightly adhered rust; 15 to 18 mils wet.
   c) 5 mils DFT over contaminate free tightly adhered paint, 7 to 9 mils wet.

2. The above coats of materials can be applied "wet-on-wet", a waiting (curing) period is not necessary between steps.

3. It should be recognized that the TR2200HS Penetrant / Sealer is not a "primer" and it is to be applied only into spaces between plates and their connectors or at gaps on fasteners.

4. The resulting DFT of Topcoat material over the areas that are stripe/caulk coated will be a minimum of 20 mils DFT.

5. For additional information on the products and procedures see the manufactures technical literature.

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OR

ALTERNATE 2 OF 2

TERMARUST TECHNOLOGIES

THE BEST CORROSION CONTROL PERFORMANCE, GUARANTEED!

Condensed Specifications and Instructions for Hand (SSPC-SP2) and Power (SSPC-SP3) Tool Cleaning, Chlor-rid at 40 to 1 or Chlor-rid DTS and Overcoating using the Termarust® 2000 (HRCSA) High Ratio Co-Polymerized Calcium Sulfonate Series Corrosion Mitigation System

SURFACE PREPARATION AND CLEANING:

Hand and Power Tool Cleaning - The (or the portions of it to be coated) shall be cleaned using SSPC SP2 or SP3 (hand or power tool cleaning.

In some cases, after cleaning, there may be areas of tightly adhered black oxide which was not removed. Although this tightly adhered black oxide "technically" meets the SSPC SP2 or SP3 standard the active corrosion under it is highly contaminated with Chlorides &/or Sulfates &/or Nitrates. If such salts are allowed to remain they will ultimately result in delamination of the black oxide scale and any coating applied to it. Any black oxide scale shall be removed, unless otherwise directed by the Engineer. SSPC-SP11 and SSPC-SP15 will remove the tight black oxide. After surface preparation the surfaces should be washed with Chlor-rid DTS or a 40:1 dilution of straight Chlor-rid, this material can be applied with a barrel brush, allowed to sit for 10 minutes, then rinsed with fresh potable water to flush them thoroughly. Crevice corroded joints should be treated by spraying in Chlor-rid DTS or a 40:1 dilution of straight Chlor-rid, with a Hudson sprayer. Allowed to sit for 10 minutes, After treatment with Chlor-rid DTS fresh water needs to be sprayed into the crevice corroded joint to rinse it. The joint then needs to be blown dry with clean dry 100 PSI air before application of the TR2200HS Penetrant/Sealer.

Notes:

NV (Non Visible Contaminants) The maximum allowable chloride level is a NVC3 3 ug/cm2, Sulfate NVS10 10ug/cm2 as determined by the CHLOR-Test. When it is expected (or confirmed by testing) that the surface of the steel is contaminated with soluble salts (e.g. Chlorides, Sulfates, or Nitrates) the cleaning process shall include a hand wash with a barrel brush using a soluble salt removing chemical such as Chlor*Rid® DTS. It is important to note that washing with water (even at pressures above 25,000 psi) is not adequate to remove the 'soluble' salts, because they are chemically and/or polarity attracted to steel and it is necessary to remove them with a chemical which will reduce their surface tension and affinity for steel.
More information on soluble salts and Chlor*Rid® (manufactured by Chlor*Rid® International) is available on their website: www.chlor-rid.com or by calling 1-800-442-3217 (USA) or 1-888-279-5497 (CDN)

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DRYING:

1. It is required that even if the joints and connections look dry that they be blowr dry with Clean DRY, Oil Free, high pressure (100 psi) compressed air.
2. Application Temperature, Dew Point, Relative Humidity: minimum + 2°C (36°F) application temperature, +2°C (5°F) temperature dew point spread, 99% relative humidity. See tech data sheets for special conditions and more detailed specifications.

APPLICATION OF THE TERMARUST 2000(HRCSA) Series TR2200HS (HRCSA) Penetrant / Sealer and TR2100 (HRCSA) Primer/Topcoat

Notes:

1. The Termarust system is considered to be a "one coat" system – there are 3 steps (and 2 materials) – the steps are done one after the other, wet on wet - with no waiting time between application of the materials; i.e. (a) application of the Penetrant/Sealer TR2200HS, and (b) application of a Caulk / Stripe coat and spot priming TR2100 Primer/Topcoat and (c) application of the 'finish' coat TR2100 Primer/Topcoat. The painter goes to a particular location only once, after surface preparation has been completed.

2. Each of the two materials (TR2100 & TR2200HS) is single component materials – no mixing is needed.

3. For normal application the TR2100 Primer/Topcoat does not need to be thinned. If thinning is required use Thinner TRT01.

4. Cleanup can be done with Mineral Spirits.

Application of the Termarust Penetrant / Sealer (TR2200HS)

This material is to be applied liberally to all joints and connections, including around bolts, nuts and rivets were gaps exist. **Care should be taken to minimize putting penetrant on surfaces other than in and around joints and connections**. Excess Penetrant (on the surface) should be brushed out, primarily because excess Penetrant on the surface will make the surface look cosmetically poor.

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Application of a Caulk (or Stripe) Coat - As soon as the Penetrant/Sealer TR2200HS has been applied - the Termarust TR2100 (HRCSA) Primer/Topcoat can be applied into joints and connections, bolts, nuts and gaps around rivets.

APPLICATION OF THE TERMARUST (HRCSA) High Ratio Co-Polymerized Calcium Sulfonate TR2100 Self Priming Topcoat

The TR2100 Primer/Topcoat material is used for a caulk/stripe coat, spot prime and overcoat for existing paint or for recoating prepared steel.

Notes:

1. During caulk coat apply a minimum of 10 mils DFT (15-18 mils wet) TR2100 (HRCSA) Primer/Topcoat directly into joints and connections – where there is pack rust and crevice corrosion

.

2. Apply spot prime of a minimum of 5 mils DFT (7-9 mils wet) over bare steel and tightly adhered contaminant free rust; which includes the crevice corroded and pack rusted joints.

3. The Termarust system is considered to be a "one coat" system .The steps are done one after the other, wet on wet - with no waiting time between application of the materials and spot priming TR2100 HRCSA Primer/Topcoat and (c) application of the 'finish' coat TR2100 HRCSA Primer/Topcoat. The painter goes to a particular location only once, after surface preparation has been completed.

5. The material (TR2100) is a single component material no mixing is needed.

6. For normal application the TR2100 Primer/Topcoat does not need to be thinned. If thinning is required use Thinner TRT01, or equal.

7. Cleanup can be done with Mineral Spirits Cleanup can be done with Mineral Spirits.

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COATING PROCEDURES SUMMARY

The following is a summary of the steps used for applying the one-coat Termarust 2000 (HRCSA) Series corrosion control system.

Overcoating Galvanized lamp Pots

Step	Coating Material	DFT: (mils) Min-max	Usage
1	Termarust TR2100 HRCSA Primer Topcoat	10 to 12	Liberally apply s a stripe or caulk coat to bolts, nuts and any gaps around rivets.
1a	Termarust TR2100 HRCSA Primer Topcoat	5 to 7	Over exposed metal areas and areas of tightly adhered contaminate free rust (flash rust) apply a spot prime of 5 to 7 mils DFT of Topcoat including areas mentioned in step 2.
2	Termarust TR2100 HRCSA Primer Topcoat	5 to 7	Apply an additional 5 to 7 mils DFT over the entire Galvanized Lamp Pot

Notes:

1. When the above work is completed, the resulting thickness of TR2100 HRCSA Primer Topcoat will be **a minimum of** 10 mils DFT over contaminate free bare Galvanized steel and tightly adhered rust; 15 to 18 mils wet.
2. The above coats of materials shall be applied "wet-on-wet", a waiting (curing) period is not necessary between steps.
3. For additional information on the products and procedures see the manufactures technical literature.

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