

October 28, 2016

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATION
DEPARTMENT OF ADMINISTRATION
DIVISION OF PURCHASES BID NO. 7551000

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

RHODE ISLAND CONTRACT NO.2016-CB-059

FEDERAL-AID PROJECT NO. FAP Nos: BHO-0700(004)

0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

I-195 Westbound over Seekonk River between East Providence and Providence

CITY/TOWN OF Providence, East Providence

COUNTY OF PROVIDENCE

NOTICE TO PROSPECTIVE BIDDERS

ADDENDUM NO. 2 Prospective bidders and all concerned are hereby notified of the following changes in the Plans, Specifications, Proposal and Distribution of Quantities for this contract. These changes shall be incorporated in the Plans, Specifications, Proposal and Distribution of Quantities, and shall become an integral part of the Contract Documents.

A. Contract Dates

1. Substantial Completion Date
Substantial Completion Date Updated To "10/18/2019".

B. Other Item Changes

1. 707.2000 - ADJUST FRAME AND GRATE TO GRADE
Quantity Updated To "33.00".Quantity Updated To "34.00".
2. 708.9041 - CLEANING CATCH BASINS ALL TYPES AND SIZES
Quantity Updated To "16.00".
3. 818.2020 - PORTLAND CEMENT CONCRETE DECK REPAIRS (PARTIAL DEPTH REMOVAL)
Quest Item Deleted.
4. 817.2110 - REPAIRS TO STRUCTURAL CONCRETE MASONRY (PATCHING MORTAR)
Quantity Updated To "1436.00".Quantity Updated To "1353.00".
5. 821.1690 - SAW & SEALING JOINTS IN BITUMINOUS CONCRETE PAVEMENT
Quantity Updated To "2023.00".Quantity Updated To "2133.00".Quantity Updated To "2256.00".

6. 901.0197 - GUARDRAIL CONNECTION TO EXISTING ENDPPOST APPROACH END SECTION, STANDARD 34.3.5
Quest Item added.Quantity Updated To "1.00".Quantity Updated To "2.00".Quantity Updated To "3.00".
7. 901.0199 - GUARDRAIL END TREATMENT, ENERGY ABSORBING TERMINAL
Quest Item added.Quantity Updated To "1.00".
8. 808.0602 - CONCRETE SUBSTRUCTURE CLASS HP 3/4" BACKWALLS
Quantity Updated To "9.00".

C. Contract Documents

1. General Provisions - Contract Specific

The following changes have been made to the Contract Specific (CS) pages:

1.1 Section 9 Contract Completion Dates modified. Substantial Completion Date changed to October 18, 2019. Page CS-4

1.2 Section 11 Winter Shutdown modified. Page CS-6

1.3 Section 19 Coordination With Other Projects modified. Page CS-11

1.4 Section 23 Lump Sum Bid Items modified. Page CS-12

1.5 Sections 32 & 33 have been removed from the CS pages. Page CS-18

1.6 Section 34 Clarification Of Bid Items has been added. Page CS-19.

1.7 Appendix A Transportation Management Plan modified. General Project Schedule updated to include winter shutdown periods. Page 8 of 22. Holiday Restrictions updated. Page 12 of 22.

1.8 Appendix E U.S. Coast Guard Construction Requirements added.

2. Specifications - Job Specific

The following changes have been made to the Job Specific (JS) pages:

2.1 Section 803.9901 - Description of work section has been modified (Page JS-28). Construction Methods Item 6 has been modified (Page JS-30).

2.2 Sections 803.9904, 803.9905, 803.9906 - Description section has been modified (Page JS-32). Submittals section has been modified (Page JS-33). Basis of Payment section has been modified (Pages JS-34 & JS-35).

2.3 Sections 808.9901, 808.9902, 808.9903, 808.9904 - Description of work has been modified (Page JS-39). Basis of Payment section has been modified to include payment item numbers (Page JS-40).

2.4 Section 817.9901 - Basis of Payment section has been modified to clarify items included in payment (Page JS-44).

2.5 Sections 817.9902, 817.9903, 817.9904 - Protective Coating sections have been modified (Pages JS-47 & JS-60). Basis of Payment section has been modified (Page JS-61).

3. Drawings

The following changes have been made to the Contract Drawings:

3.1 Sheet 24 - Parapet Demolition and Replacement Details - Added note 5 under Parapet Demolition and Replacement notes.

3.2 Sheet 25 - Concrete Deck Repair Details - Note 11 has been modified, Underside Concrete Deck Repair Details and Topside Concrete Deck Repair Details have been modified.

3.3 Sheet 43 - Drop-In-Beam Repair & Strengthening Details - Revised note 8 reference to 820.9901.

3.4 Sheet 46 - Link Slab Details 2 - Notes 2 & 7 have been modified, Proposed Link Slab at Piers 15-17 has been modified, Existing Transverse Section Through Diaphragm and Proposed Section Through Diaphragm have been modified.

3.5 Sheet 49 - Deck Joint Details Sheet 3 - Notes 2 & 9 have been modified. Proposed Section at Abutment 2 and Proposed Section at Abutment 2 Gore Area have been modified.

3.6 Sheet 72 - Drop In Span Temp. Support And Jacking Sheet 1 - Note 1 has been added.

3.7 Sheets 75, 76, 77 - Drop In Span Temp. Support And Jacking Sheets 4 thru 6 - Clarification note has been added to the sheets indicating details shown are conceptual in nature.

3.8 Sheet 80 - Miscellaneous Bridge Details 1 - Revised Legend reference to Item 820.9901

D. Item List

1. Item List

Updated Item List for Addendum #2

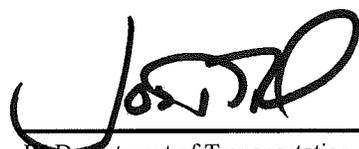
E. Distribution of Quantities

1. DOQ
Addendum #2 Distribution of Quantities

F. Proposal Addition/Deletion

1. Proposal
Addendum #2 Proposal

ADDENDUM NO. 2

 10.23.2016
RI Department of Transportation
Administrator, Division of Project Management

ATTACHMENTS

CONTRACT SUMMARY

Contract Summary

APPENDICES DESCRIPTION (IF APPLICABLE):

Prospective Bidders are hereby notified that all questions pertaining to this Contract must be submitted to the Department of Transportation in writing through its website at <http://www.dot.ri.gov/contracting/bids/> by accessing the Questions & Answers Menu located within the "Contracting", then "Contract Opportunities" link. Responses to the submitted questions will also be posted under this link. PHONE CALLS WILL NOT BE ACCEPTED.

For help with RIDOT's Quest Lite bid preparation software, please contact the Contracts & Specifications Office, Room 108, Two Capitol Hill, Providence, Rhode Island, 02903, Tel. Number (401)-222-2495 or e-mail Quest@dot.ri.gov.

UNDERSIGNED BIDDER INFORMATION STATEMENT:

The undersigned bidder further agrees, if awarded the contract on this proposal, to begin work within ten (10) calendar days after the date of execution of the contract unless otherwise specified under special provisions or permitted by the Engineer, and further agrees to complete the work on or before the dates outlined in the Contract Documents.

PRE-BID INFORMATION:

PRE-BID DATE: October 6, 2016

PRE-BID TIME: 9:00 AM

PRE-BID PLACE: The RIDOT Traffic Management Center Conference Room

BID OPENING INFORMATION:

BID OPENING DATE: November 16, 2016

BID OPENING TIME: 1:00 PM

COMPLETION DATE(S)

| <u>DESCRIPTION</u> | <u>DATE</u> |
|-----------------------------|--------------------|
| Substantial Completion Date | October 18, 2019 |
| Bid-Opening Date | November 16, 2016 |
| Pre-Bid Date | October 6, 2016 |
| Advertise Date | September 30, 2016 |

ADDENDA DATE POSTED

NO.1 October 12, 2016

NO.2

(R-1)

GENERAL PROVISIONS – CONTRACT SPECIFIC

GENERAL PROVISIONS – CONTRACT SPECIFIC

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32. Section has been removed (Addendum #2) CS-18

33. Section has been removed (Addendum #2) CS-18

34. Approved Specifications Supplement No. 17 CS-18

35. Clarification of Bid Items CS-19

Appendix A Transportation Management Plan (TMP)

Appendix B Small Site SWPPP

Appendix C Endangered Species

Appendix D CRMC Permit

Appendix E U.S. Coast Guard Construction Requirements (R-1)

8. LIST OF CONTRACT DOCUMENTS AND ADDITIONAL INFORMATION DOCUMENTS

There is one Compact Disc (CD) containing the Contract Documents and other Additional Information Documents. The contents are as follows:

Contract Documents

Contract Specifications

RI Department of Administration Division of Purchases Procurement Regulations
Standard Specifications for Road & Bridge Construction (Amended August 2013)
Compilation of Approved Specifications (through August 2013)
Required Contract Provisions/Federal-Aid Construction Contracts
Rhode Island Standard Details
Bridge Standard Details
General Provisions
General Provisions — Contract Specific
Specifications — Job Specific
Distribution of Quantities
Federal Wage Rates

Quest Software Information & Files

Quest Lite User Manual
Quest Lite Installation
Quest Lite Upgrade
Quest Lite Launch (Bid File)

Plans - There is one (1) volume of Plans that comprises the Contract Drawings for this Contract. This volume is as follows:

Volume 1 of 1: Plans for Bridge Rehabilitation – Washington Bridge North No.700

Additional Information Documents

Existing plans for Washington Bridge North No. 700 are available through RIDOT.

9. CONTRACT COMPLETION DATES

The following final completion dates has been established for the assessment of liquidated damages. Refer to Special Provision 108.1000 “Prosecution and Progress” for additional information.

Completion Date

Substantial Completion:

October 18, 2019

(R-1)

State Port Manager
RI State Police
US Coast Guard

Daniel Costa
Captain Ernst Quarry
Edward LeBlanc

401-783-5551
401-444-1000
401-435-2351

11. WINTER SHUTDOWN

The winter shutdown shall be in accordance with Section 101.80 of the Rhode Island Standard Specifications for Road and Bridge Construction.

(R-1)

12. SHOP DRAWINGS AND SUBMITTALS

The following list of work for which shop drawings and/or other submittals are required is provided for the convenience of the Contractor. This list includes only major items of work; it does not itemize all submittals required by the contract documents. All submittals shall be in accordance with Section 105.02 of the Specifications. The Contractor is responsible for timely submission of all shop drawings and other documents required by the contract. No extra payment will be made, nor will any extension be made to the contract completion date for making required submittals.

- a. Temporary Support and Jacking – Drop in Beams (Spans 1-6 and 8-14)
- b. Temporary jacking and Shoring Bridge Beans Ends Piers 14 through 17 and Abutment 2
- c. Temporary Deck Underside and Side Protection Shielding
- d. Reinforcing Steel Splicing and Inserts
- e. Concrete Forms
- f. Asphaltic Expansion Joint Systems and Strip Seal Expansion Joint Assemblies
- g. Demolition Procedures i.e. Equipment (type/size and placement and Detailed Sequence of Work
- h. Bridge Bearings
- i. Bridge Parapets
- j. Excavation and Backfill
- k. Concrete Repair Products
- l. Concrete Mix Design, Materials and Test Data
- m. Bridge Deck Placement and Curing Work Plan and Procedure
- n. Temporary Falsework for Support of Concrete Beam Working Drawings with Design Calculations
- o. Bridge Deck Waterproofing and Dampproofing

19. COORDINATION WITH OTHER PROJECTS

(R-1)

The Contractor shall be aware of other construction projects ongoing or commencing during the construction period of this contract. The RIDOT currently has the following projects scheduled for construction during the timeframe for this project:

- Replacement of Bridge 471 located on I-195 east of the subject project.
- Providence Area Bridges 1080 & 1082 on I-195 west of the subject project.
- I-195 Repairs to Ramp EI Bridge 1083 west of the subject project.

It shall be the Contractor's responsibility to coordinate with the Engineer to determine the impacts of the construction operations on adjacent projects. The Contractor may be required by the Engineer to attend periodic coordination meetings with representatives of the State to discuss and resolve potential conflicts

20. ENVIRONMENTAL PERMITS

Environmental permits/assets issued for this project are included in the appendices to these Contract Specific General Provisions. It will be the Engineer's responsibility to post the environmental permits in a noticeable location the project area. It shall be the Contractor's responsibility to adhere to all restrictions and to furnish all information required to be submitted to the permitting agencies as stated or implied by the permits and orders attached hereto and included as part of the contract documents. There will be no special payment for work done to comply with these permits and orders.

21. TRANSPORTATION MANAGEMENT PLAN

The Transportation Management Plan (TMP) for this project is included as an appendix to these Contract Specific General Provisions. The TMP lays out the set of coordinated transportation management strategies that will be used to manage the work zone safety and mobility impacts of this project. In the event of a discrepancy between information in the TMP and information elsewhere in the Contract Documents, the former shall govern.

The Contractor's attention is called to the Standard Specifications for Road & Bridge Construction, Amended August 2013, **SECTION 103.02 — POST-QUALIFICATION REQUIREMENTS AND AWARD OF CONTRACT**, which describes the requirements for the Contractor's designation of a TMP Implementation Manager for the Contract.

The Contractor's attention is called to the Standard Specifications for Road & Bridge Construction, Amended August 2013, **SECTION — 105.21 WORK ZONE TRAINING**, which describes the requirements for the training of all Contractor and Subcontractor personnel involved in work zone design, implementation, operation, inspection, management, and for enforcement.

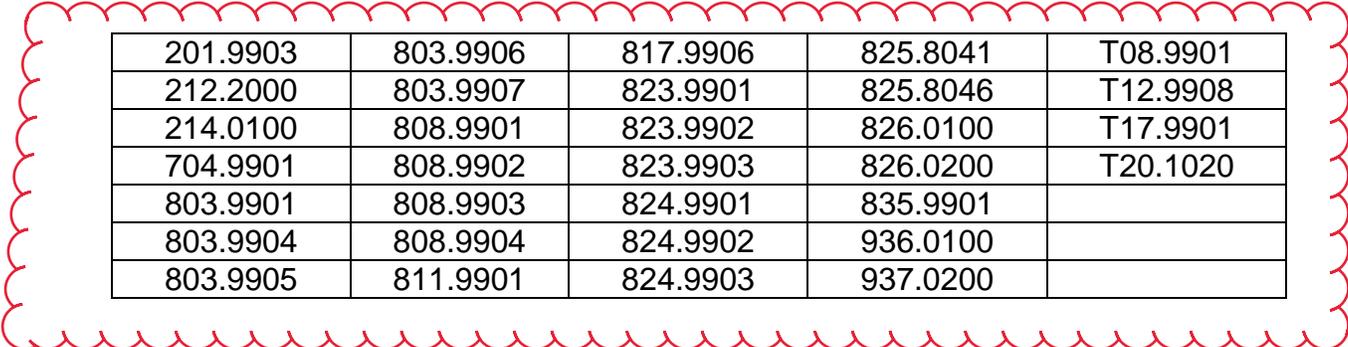
The Department's latest Training Guidelines for Personnel Responsible for Work Zone Safety & Mobility is available under the "Work Zone Safety & Mobility" section at:

22. SUBCONTRACTING

For work performed by a subcontractor, the subcontractor shall be subject to the reporting requirements as set forth for the prime contractor in the RI Standard Specifications. The Contractor shall accept as full payment therefore, an amount equal to the actual cost to the Contractor of such work performed by the subcontractor as determined by the Engineer, plus 10 percent of said cost.

23. LUMP SUM BID ITEMS

The Contractor shall note that some bridge items on this project are paid for on a lump sum basis or are included for payment under other lump sum item(s). There are over 30 Lump Sum items in the contract and include but are not limited to the following items:



| | | | | |
|----------|----------|----------|----------|----------|
| 201.9903 | 803.9906 | 817.9906 | 825.8041 | T08.9901 |
| 212.2000 | 803.9907 | 823.9901 | 825.8046 | T12.9908 |
| 214.0100 | 808.9901 | 823.9902 | 826.0100 | T17.9901 |
| 704.9901 | 808.9902 | 823.9903 | 826.0200 | T20.1020 |
| 803.9901 | 808.9903 | 824.9901 | 835.9901 | |
| 803.9904 | 808.9904 | 824.9902 | 936.0100 | |
| 803.9905 | 811.9901 | 824.9903 | 937.0200 | |

As provided for in Special Provisions Code 109.07 "Partial Payment of Lump Sum Items", within ten (10) calendar days after the date of the Notice of Award, the Contractor shall submit to the Engineer for approval the breakdown of each lump sum bid item.

24. UNIT BID ITEM AND LUMP SUM BID ITEM PAYMENTS

For requirements and work described in the Contract Documents but not expressly identified to be measured separately for payment, the costs thereof shall be included in the contract bid prices of the items of work which they pertain as listed in the Proposal.

Areas specified for Soil and Seed on the Plans shall be seeded at the earliest possible date as outlined in the Rhode Island Standard Specifications for Road and Bridge Construction. **Failure to comply will result in a fine of \$500 per day.**

Cleaning, repair and restoration of damage sustained by erosion and pollution controls caused by "normal" rainfall events will be paid for under the Section 212.2000 Cleaning and Maintenance of Erosion Controls. **Failure to maintain Erosion and Pollution Controls will result in fines outlined in the Special Provision for Code 212 Maintenance and Cleaning of Erosion and Pollution Controls.**

32. REPORT OF QUALITY/PROCESS CONTROL TESTING AND SAMPLING RESULTS

This section has been removed (R-1)

33. PROJECT QUALITY CONTROL PLAN

This section has been removed (R-1)

34. APPROVED SPECIFICATIONS SUPPLEMENT NO. 17

The requirements listed under Section 601.03.7(a) included in the Compilation of Approved Specifications Supplement No. 17 will not be enforced until April 1, 2017.

35. CLARIFICATION OF BID ITEMS

The following is offered as clarification to various Bid Items:

DOQ Item 039 - Item Code 808.9901 – Concrete Superstructure Class HP ¾” Bridge Decks

This item quantifies the concrete construction work associated with the 23 link slab locations only.

DOQ Item 054 – Item Code 818.2010 – Portland Cement Concrete Deck Repairs (Full Depth Removal)

This item quantifies the (assumed) areas of the deck which may require full depth repair. It is intended to quantify only the portion of the deck below the partial depth removal by hydro-demolition (i.e. deck below one-half of the original thickness). This item covers the removal and replacement of only that portion of the deck.

DOQ Item 055 – Item Code 818.2020 – Portland Cement Concrete Deck Repairs (Partial Depth Removal)

This item has been removed per Addendum #2. The previous quantity has been moved to Item Code 817.2110.

DOQ Item 078 – Item Code 840.9901 – Deck Surface Concrete Removal by Hydrodemolition (Partial Depth)

DOQ Item 079 – Item Code 840.9902 – Replacement of Deck Surface Concrete Removed by Hydro-demolition (Partial Depth)

These items quantify the area of bridge deck to be repaired by means of hydro-demolition. Item 840.9901 is associated with the removal of the deteriorated areas of concrete and Item 840.9902 is associated with the replacement of the concrete in those areas removed under Item 840.9901. It is intended that all topside deck repairs will take place by means of hydro-demolition. The anticipated area(s) of deteriorated concrete, for removal by hydro-demolition, are shown on Contract Drawings 20 thru 22 however as noted in Special Provision 840.9901/840.9902, the Contractor is responsible for performing an inspection of the exposed concrete deck and mark-out of all the areas requiring repair. The areas are to be approved by the Engineer prior to commencement of hydro-demolition work.

During hydro-demolition work, should there happen to be full depth removal of the deck, the intent is that payment for the area of one-half the depth of the original thickness shall be under Items 840.9901 & 840.9902 while the remaining depth will be paid for under Item 818.2010.

Appendix A
Transportation Management Plan (TMP)

General Project Schedule & Construction Sequence*

The project is expected to begin in April 2017 and be completed in October 2019. The bridge repair work will be completed within Phases 1 thru 3, followed by gore marker restoration work at Ramp DR-1 during Phase 3A, and finally micro-milling & resurfacing of the approaches along with restriping. Winter shut-down periods will occur for the 2017-2018 and 2018-2019 winter seasons.

(R-1)

The recommended construction sequence with anticipated completion dates is as follows:

| PHASE | DESCRIPTION | ANTICIPATED COMPLETION DATE |
|-------|---|-----------------------------|
| 1 | Bridge deck repair work and joint replacement (right side) | (TBD) |
| 2 | Bridge deck repair work and joint replacement (middle) | (TBD) |
| 3 | Bridge deck repair work and joint replacement (left side) | (TBD) |
| 3A | Gore marker restoration work (at Ramp DR-1) | (TBD) |
| - | Final micro-milling & resurfacing of approaches, and final overall striping | (TBD) |

*The information in this section is not intended to and shall not supersede the approved schedule and milestone/completion dates for the project.

OTHER ACTIVITIES IN PROJECT VICINITY WITH POTENTIAL FOR CAUSING SIGNIFICANT CUMULATIVE IMPACTS

| ACTIVITY | DETAILS / DATES / LOCATIONS |
|-------------------------------------|---|
| Patwucket Avenue Bridge Replacement | Begin Construction: October 2016 End Construction: August 2017 |
| | |
| | |
| | |

(R-1)

TRAFFIC-RELATED WORK RESTRICTIONS

General Restrictions

SEE THE ATTACHED TABLES TO THIS TMP (ATTACHMENTS "A" THROUGH "E" entitled "Minimum Number of Lanes & Shoulders to Remain Open to Traffic"). At no time during construction shall the number of travel lanes or the width of travel lanes along I-195 or its connecting ramps be reduced to less than what is specified in Attachments "A" through "E" of this TMP or as approved by RIDOT.

The Contractor shall maintain three open travel lanes along I-195 at all times as a "stationary set-up" for the entire duration of each of the three bridge construction phases of the project as shown on the plans, and as further specified in Attachments "A" through "C" of this TMP.

There will be required highway ramp closures to and from I-195 westbound during each Phase of the bridge construction work as shown on the plans, and as further specified in Attachments "A" through "C" of this TMP.

Detour routes for accessing I-195 westbound and points to the East side of Providence from the surrounding local arterial roadways will be required for the total duration of each of the three Phases of bridge construction, as shown on the plans.

For the final micro-milling, resurfacing, and striping of the bridge approach roadway areas, and for the restoration of the gore area near Ramp DR-1, all work items shall be performed at night time only between the hours of 7pm and 6am from Sunday night through Friday morning. The allowable number of travel lanes is further specified in Attachments "D" and "E" of this TMP.

Holiday Restrictions

2017 HOLIDAY WORK SCHEDULE:

- Easter- No night work on Saturday, April 15 and no day or night work on Sunday, April 16.
- Memorial Day- No day or night work from Saturday, May 27 through Monday, May 29.
- Independence Day- No day or night work from Sunday, July 2 through Tuesday, July 4.
- Victory Day*- No day or night work from Saturday, August 12 through Monday, August 14.
- Labor Day- No day or night work from Saturday, September 2 through Monday, September 4.
- Columbus Day*- No day or night work from Saturday, October 7 through Monday, October 9.
- Veterans Day- No day or night work on Friday, November 11.
- Thanksgiving Day**- No day or night work from Wednesday, November 22 through Sunday, November 26.
- Christmas Day- No day or night work from Saturday, December 23 through Monday, December 25.

2018 HOLIDAY WORK SCHEDULE:

- New Year's Day- No day or night work from Sunday, December 31 through Monday, January 1.
- Easter- No night work on Saturday, March 31 and no day or night work on Sunday, April 1.
- Memorial Day- No day or night work from Saturday, May 26 through Monday, May 28.
- Independence Day- No day or night work from Monday, July 2 through Wednesday, July 4.
- Victory Day*- No day or night work from Saturday, August 11 through Monday, August 13.
- Labor Day- No day or night work from Saturday, September 1 through Monday, September 3.
- Columbus Day*- No day or night work from Saturday, October 6 through Monday, October 8.
- Veterans Day- No day or night work from Sunday November 11 through Monday, November 12.
- Thanksgiving Day**- No day or night work from Wednesday, November 21 through Sunday, November 25.
- Christmas Day- No day or night work from Sunday, December 23 through Tuesday, December 25.

(R-1)

2019 HOLIDAY WORK SCHEDULE:

- New Year's Day- No day or night work from Monday, December 31 through Tuesday, January 1.
- Easter- No night work on Saturday, April 20 and no day or night work on Sunday, April 21.
- Memorial Day- No day or night work from Saturday, May 25 through Monday, May 27.
- Independence Day- No day or night work from Tuesday, July 2 through Thursday, July 4.
- Victory Day*- No day or night work from Saturday, August 10 through Monday, August 12.
- Labor Day- No day or night work from Saturday, August 31 through Monday, September 2.
- Columbus Day*- No day or night work from Saturday, October 12 through Monday, October 14.

-All Friday daytime work on any holiday weekend must end by 1:00 p.m.
 -If the Contract is extended beyond the specified completion date, a similar set of holiday work restrictions will be established by the Engineer.
 *Work may resume after 7:00pm on Monday
 ** Work may resume after 10:00pm on Sunday

If a significant deviation from any of the strategies included in the TMP is requested by the Contractor, unless directed otherwise by the RIDOT the Contractor is responsible for preparing and submitting to the RIDOT TMP Implementation Manager appropriate documentation (e.g., design calculations, analysis reports, Temporary Traffic Control Plans, etc.) showing that the requested change(s) are (1) feasible and (2) expected to result in safety and mobility impacts that are no more adverse than the impacts resulting from the strategies already included in the latest approved TMP. The RIDOT will review and consider the submittal(s) as described in the preceding paragraph and will determine whether the changes should be implemented. If the requested changes are approved by the RIDOT, unless otherwise directed by the RIDOT the Contractor shall prepare and submit to the RIDOT TMP Implementation Manager a revised version of the latest approved TMP in both printed and electronic (Microsoft® Excel) format that documents all of the approved changes. Work to implement the changes shall not begin until the Traffic Management Chief, the State Traffic Engineer, and the Chief Engineer have approved of the revised TMP.

When unexpected events (e.g., crashes, inclement weather, unforeseen traffic demands, etc.) occur in a project work zone where one or more lanes are closed, the RIDOT TMP Implementation Manager or his/her responsible designee should (1) determine whether or not the lane closure(s) can/should be removed in order to improve traffic operations and/or minimize delays and (2) if deemed appropriate, take action to remove the lane closure(s).

Project Specific Contingencies



TMP APPROVALS

All approvals must be obtained prior to start of work

| PROJECT MANAGER | | |
|-----------------|-----------------------|------|
| Signature: | | |
| | Joseph D. Baker, P.E. | |
| Date: | 10-25-16 | |
| Revision # | Initials | Date |
| | | |
| | | |
| | | |

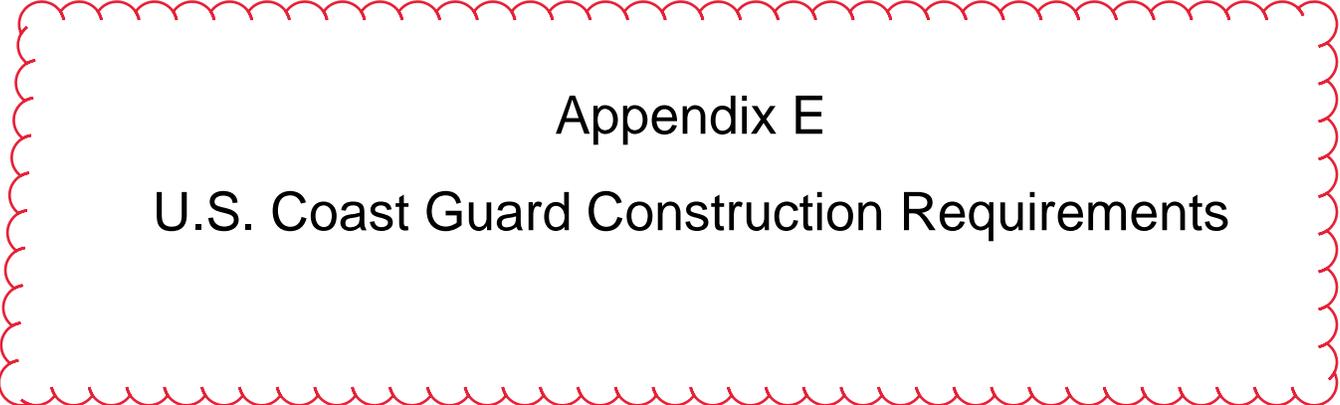
| STATE TRAFFIC ENGINEER | | |
|------------------------|----------------------|------|
| Signature: | | |
| | Robert Rocchio, P.E. | |
| Date: | 10-25-16 | |
| Revision # | Initials | Date |
| | | |
| | | |
| | | |

| ACTING CHIEF ENGINEER | | |
|-----------------------|---------------------|------|
| Signature: | | |
| | David W. Fish, P.E. | |
| Date: | 10-25-16 | |
| Revision # | Initials | Date |
| | | |
| | | |
| | | |

LIST OF ATTACHMENTS

**ATTACHMENT "A" to Level 1 TMP (for Phase 1)
Minimum Number of Lanes & Shoulders to Remain Open to Traffic**

(R-1)



Appendix E
U.S. Coast Guard Construction Requirements

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
First Coast Guard District

408 Atlantic Avenue
Boston, MA 02110-3350
Staff Symbol: dpb
Phone: (617) 223-8364
Fax: (617) 223-8291
Email: Jeffrey.D.Stieb@uscg.mil

16594/0.6H/
Seekonk River/RI
October 12, 2016

Ms. Kristen Capaldi, P.E.
Project Manager
Division of Project Management
Rhode Island Department of Transportation
Two Capitol Hill
Providence, RI 02903

Dear Ms. Capaldi:

We have reviewed the information contained in your letter of September 30, 2016 to Mr. Christopher Bisignano regarding the rehabilitation of the Washington Bridge North No. 700, mile 0.6, across the Seekonk River in Providence, R.I. Work over the waterway is authorized. Enclosure (1) contains standard requirements which shall be followed. Specific requirements for the work are provided below. These requirements are based on the information you provided, however, additional requirements may apply if additional information or conditions warrant.

- a. At least 30 days prior to the commencement of work, provide notice to this office of the day work is scheduled to commence, confirmation that the work to be conducted is the same as represented and emergency 24-hour telephone numbers for responsible individuals for the project. We will use this information to notify mariners of the work as needed.
- b. At no time during the work will the waterway be closed to navigation without prior approval from the Coast Guard. You and the contractor should maintain contact with Coast Guard Sector Southeast New England to keep them informed of activities over the waterway. The point of contact is Mr. Ed LeBlanc at 401-435-2351.
- c. During the progress of work, should any material, machinery or equipment be lost, dumped, thrown overboard, sunk or misplaced which may be dangerous to or obstruct navigation, immediate notice shall be given to the Coast Guard and the object removed. Until removal can be effected, the objects shall be properly marked in order to protect navigation. Notice to the Coast Guard shall give a description and location of any such object and the action taken or being taken to protect navigation.

October 12, 2016

- d. Upon project completion, provide this office with a written certification that waterway depths have not been impaired as a result of the work and that the waterway is clear of all debris.

You are responsible for compliance with the requirements of any Federal, state, or local agency that may have jurisdiction over any aspect of the project. Please contact me at the above listed number if you have any questions.

Sincerely,



J. D. Stieb
Bridge Management Specialist
By direction

Encl: (1) General Construction Requirements (RI)

E Copy: Mr. Ed LeBlanc, Coast Guard Sector Southeast New England

RI

U.S. Coast Guard Bridge Administration

GENERAL CONSTRUCTION REQUIREMENTS

1. All bridge closures, or bridge operating schedule changes, must be requested in writing, 30 days in advance, from the First Coast Guard District Bridge Branch Office. No channel restrictions, or vertical clearance reductions may be made without written approval from the above office.
2. Waterway closures or safety zones must also be requested a **minimum** of 90 days in advance. Please contact USCG Sector Southeast New England, 20 Risho Ave., Suite D, East Providence, RI 02914-1208. Ph: (401) 435-2351.
3. All submissions to the Coast Guard for review and approval must first be approved by the owner of the bridge or their authorized agent. All submission of plans, scope of work, and schedules of operation must be sent to the First Coast Guard District, Bridge Branch Office.
4. At least 30 days prior to commencement of any work, we must have for our review, a copy of the construction plans, contractor schedule, preferably depicted in a time line graphic format, and the contractor's daily hours of operation. The construction plan package must show the following: **(1)** a plan of the entire waterway area in the vicinity of the project. **(2)** The location of work barges and any anchor lines during working and off-hours. **(3)** In addition, a drawing must be included, if applicable, depicting any scaffolding or containment used indicating the location and the total vertical or horizontal channel reduction. All vertical clearance reductions below low steel or concrete under the bridge as a result of the use of scaffolding must be clearly detailed on the drawings shown in total feet. **(4)** Emergency 24-hour telephone numbers for all responsible individuals for this project must be submitted to this office before any phase of construction begins in case of an emergency situation during off-hours.
5. Scaffolding used under ANY span of the bridge must be lighted with constant burning red lights every 50 feet and on all corners. The placement of scaffolding must not interfere with the ability of a moveable bridge to open for vessel traffic. Moveable bridges must continue to operate according to their normal schedule unless special drawbridge operation regulation changes have been requested. Warning signs must be posted on both sides of the bridge, visible for a 1-mile range, to warn mariners of the vertical clearance reduction. The signs shall face upstream and downstream so as to draw the mariner's attention to the fact that the clearance has been reduced.
6. All barges placed in the waterway must be lighted with constant burning white lights on all four corners of the barge. The contractor is required to comply with all provisions of the Navigation Rules International-Inland, regarding the use of work barges or floating equipment in the waterway. Copies are available from the U.S. Government Bookstore, 710 N Capitol Street NW, Washington, DC, 20403, (202) 512-0132, or www.navcen.uscg.gov.
7. Placement of construction barges in the navigable channel shall be done so as to provide a minimum horizontal clearance reduction. Only one navigation channel of a swing bridge may be blocked by work equipment at anytime. Barges must be moved out of the navigable channel after working hours unless approved in writing by this office.

RI

8. Barges held in place by anchor lines must be marked by anchor buoys, which should be lighted.
9. An as built survey must be taken upon completion of this project, approved by a professional engineer or land surveyor verifying the bridge clearances.
10. The on-scene contractor must have a VHF-FM marine radio set to the bridge communication channels 16/13 or the designated channel for the bridge. Additional marine radios monitoring the above channels must also be maintained at the main control of any floating equipment or barges on station.
11. Preventive measures must be taken to prevent any hot work, debris, or construction material from entering the waterway. This includes sandblasting material, paint, and any concrete work by-products. Welding and burning must cease upon approach of a vessel and shall not start again until the vessel has passed the bridge.
12. The project manager must contact the Coast Guard Sector Southeastern New England via marine radio before commencement of any and after completion of any Hot Work. A cell phone back-up may be used to contact the above Coast Guard Unit at (401) 435-2300.
13. If permanent bridge navigational lighting cannot be maintained operational during any phase of this project, temporary battery/power lights must be installed at the same locations. These temporary lights must be visible for a distance of **2,000 yards on 90% of the nights of the year**. Generally, a lamp of **(50 candela)** will meet these requirements. Plans for temporary lighting shall be submitted to this office for written approval. Deviations from the approved temporary lighting shall be permitted only upon written authorization from this office.
14. **All newly constructed bridge piers, or those in the process of demolition, must be lighted with either red or white flashing (60 flashes per minute) lights. All cofferdams used during construction must also be lighted with red or white flashing (60 flashes per minute) on all four corners.**
15. Bridge protective fenders shall not be constructed or rebuilt with any metal surfaces on the rubbing face of the fender system. All bolts, spikes, or other metal fastening devices must be countersunk. Metal splicing plates, if used, shall be mounted on back of outer wales.
16. All piles including those previously damaged or broken that are not being used in the new or repaired fender shall be extracted rather than cut off at the mud line. Upon completion of all fender repairs a bottom sweep is required to determine if any piles or debris are present in the waterway. A wire-drag sweep or side-scan sonar is the preferred method.
17. During the progress of work should any debris or equipment enter the waterway and become a hazard to navigation, immediate notice shall be given to the Coast Guard and the object removed as soon as possible. Until removal can be effected, the obstruction shall be properly marked.
18. Spillage of oil and hazardous substances is specifically prohibited by the **Clean Water Act**, as amended. Approved spill containment equipment and absorbent material must be located at the project site in the event of a spill into the waterway or the shoreline. The Coast Guard must be notified immediately at (800) 424-8802.

RI

19. The bridge owner is responsible to ensure that channel depths are not affected by this work. Any material, machinery or equipment lost, dumped, thrown into, or otherwise entering the waterway must be removed immediately. If immediate removal is impractical and the object entering the waterway could possibly obstruct or hazard navigation, the object must be marked immediately to protect navigation and the Coast Guard shall be notified as soon as possible. Upon request of the Coast Guard or Corps of Engineers, the bridge owner/contractor shall provide the necessary equipment and personnel to determine the presence of any suspected obstructions in the waterway.
20. The bridge owner/contractor shall provide any and all necessary equipment and personnel to determine the presence of any "suspected" obstructions in the waterway at any time either during or following the completion of bridge construction or demolition operations.
21. Upon project completion, the bridge owner shall provide the Coast Guard with a written certification that the waterway depths have not been impaired as a result of any construction or demolition operations, that the waterway is clear of any and all construction debris or remnants from the existing or previous bridge construction or demolition.
22. This approval may be revoked and/or civil penalties imposed for failure to ensure that the above listed stipulations are adhered to or if work is determined to hazard or impair navigation.

SPECIFICATIONS – JOB SPECIFIC

803.9901

TEMPORARY DECK UNDERSIDE AND SIDE PROTECTIVE SHIELDING

DESCRIPTION:

The work under this heading shall conform to the applicable provisions of **SECTION 803** of the Standard Specifications and its latest revisions, and the following:

(R-1) This work shall consist of designing, furnishing, fabricating, erecting, maintaining, removing, and disposing of temporary deck underside and deck side protective shielding at locations shown or noted on the Plans, as indicated herein, and/or as directed by the Engineer. Lighting conduits, scuppers, scupper piping and other utilities and appurtenances located in the link slab construction area (including those in the deck & parapet) shall be protected and temporarily supported.

The temporary deck underside and deck side protective shielding shall provide for the safe passage of vehicles, pedestrians, and shall provide protection for utilities. The use of the protective shielding is to insure that no debris falls to the roadway, sidewalks or river environment below the structure. This protective shielding is to be used for or in conjunction with deck and parapet demolition and repairs, link slab construction, and other items as directed by the Engineer.

MATERIALS:

At the discretion of the Contractor and as called for in the Contractor's design, deck underside and side protective shielding may be constructed from timber, steel, or aluminum. Steel and aluminum shall conform to the requirements of **SECTION M.05; METALS** of the Rhode Island Standard Specifications for Road and Bridge Construction.

Timber and hardware shall conform to the requirements of **SECTIONS M.11** and **M.05**, respectively, of the Rhode Island Standard Specifications for Road and Bridge Construction. The material shall be structural lumber in accordance with the National Design Specifications for stress graded lumber recommended by the National Forest Products Association (NFPA). The grade shall be Fb=1200 psi minimum. Minimum lumber size for underside shielding shall be 3" x 8".

SUBMITTALS:

The Contractor shall submit shop drawings, stamped by a Professional Engineer registered in Rhode Island, in accordance with **SUBSECTION 105.02; PLANS AND SHOP DRAWINGS**, of the Standard Specifications, of all proposed shielding to the Engineer for his approval prior to installation. The drawings shall include details of all connections, brackets, and fasteners. The various components of the deck underside protective shielding system shall be designed for the anticipated weight of all material and debris to be supported, based on the Contractor's method and sequence of removal, but in no case shall it be designed for less than 150 pounds per square foot. Vertical shielding shall be designed for anticipated loads, or a minimum of 30 pounds per square foot, whichever is higher. The Engineer will review the plan and evaluate the system as to its effect on the loading capacity of the structure. The Contractor shall also submit the design calculations for the system to be employed including an analysis for the load which will be added to the structure by the protective shield. The analysis shall assure that the system will not induce a load on the bridge that will create an overstress condition or compromised the structural integrity of the bridge.

CONSTRUCTION METHODS:

The deck underside and side protective shielding shall be erected at the locations and to the limits indicated on the contract drawings, as indicated herein, and/or as directed by the Engineer. All work shall be performed in accordance with the Maintenance and Protection of Traffic Plans, and in accordance with the demolition and construction sequences shown on the Plans and as specified in the Contract Documents.

All shielding shall meet or exceed the following requirements:

1. It shall be the Contractor's responsibility, as part of this item of work, to design and detail the protective shielding to conform to all Federal, State, and Local laws and regulations, as well as to the requirements contained here in this Specification.
2. Protective shielding shall be designed in accordance with AASHTO Standard Specification for Highway Bridges. The design shall also include a complete description of the equipment and construction methods proposed. The shielding shall be placed and secured in a manner as to prevent it from being blown out by wind. If, in the opinion of the Engineer, the shielding is not secure, then the Contractor shall remove and install it to the Engineer's satisfaction.
3. Protective shield shall be installed or removed only upon approval of the Engineer.
4. Protective shield may be anchored to the existing structure (Deck and

Substructure). However, drilling through existing rebars shall not be permitted. The Contractor shall use a Pachometer or other suitable means to locate existing rebar. The Contractor may utilize the existing steel or prestressed concrete beams as supports but is not be permitted to drill or weld to any existing or new beams.

- (R-1)
5. The Protective Shielding is intended to act as barrier against construction materials falling into the water or on the land below the work area. It shall therefore be in place prior to commencing with removal of the existing concrete. The protective shielding shall not contain any gaps or openings that would allow debris to pass through, and shall be sufficiently strong to support any debris or section of demolished concrete from falling onto the roadway or walkway below **or into the river environment**. Protective shielding shall have all spaces along the perimeter and at the seams sealed to prevent dust and debris from escaping and entering the watercourse. In the event debris falls into the water, the debris shall be promptly removed by the Contractor.
 6. The shielding shall extend under all areas of concrete decks, safety walks, and safety barriers to be removed. It shall extend horizontally a minimum of 3 feet beyond the bridge railings or safety barriers, and it shall extend vertically to a point 2 feet above the top of the bridge parapet, or to a point 4 feet above the top of bridge safety walks or decks, whichever is higher. **The Protective Shielding shall cover at a minimum, an area 20 feet long x full deck width at each deck joint (10 feet on each side of the deck joint).** The Protective Shielding is anticipated to cover, at a minimum, the following:
 - a. **A four (4) foot wide area, full length of the bridge, along both fascias.**
 - b. **A twenty (20) foot wide by full bridge width area at each joint location, ten (10) feet on each side of the joint.**
 - c. **The entirety of the underside of Span 1 over Gano Street.**
 - d. **The portions of Spans 15, 16, and 18 which are over the roadways (Water Street, Waterfront Drive, Valley Street).**
 7. Shielding shall be placed so as to maintain the existing vertical clearance under the bridge.

If the Contractor's operations damage any existing portions of the bridge that are not within the scope of the contract, such damage shall be repaired at the Contractor's expense, and to the satisfaction of the Engineer.

METHOD OF MEASUREMENT:

“**TEMPORARY DECK UNDERSIDE AND SIDE PROTECTIVE SHIELDING**” will be measured for payment at the contract **LUMP SUM** price, including all the deck side protective shielding, as required by the stage construction sequences and in accordance with the plans, as indicated herein, and as directed by the Engineer.

BASIS OF PAYMENT:

The accepted quantity of “**TEMPORARY DECK UNDERSIDE AND SIDE PROTECTIVE SHIELDING**” will be paid for at the contract **LUMP SUM** price.

The price shall constitute full and complete compensation for all materials, labor, equipment, tools, locating existing reinforcing steel as required, accessories, hardware and incidentals necessary to complete the work, including design and detailing and all installation and removal of the protective shielding, including the deck side protective shielding, all as required by the stage construction sequences and complete and accepted by the Engineer.

803.9904
803.9905
803.9906

REMOVE AND DISPOSE EXISTING CONCRETE SUPERSTRUCTURE

REMOVE AND DISPOSE EXISTING CONCRETE SUBSTRUCTURE (PIER CAPS)

REMOVE AND DISPOSE EXISTING STEEL DIAPHRAGMS (SPAN 7)

DESCRIPTION:

The work under these items shall consist of the removal and disposal of existing reinforced concrete, associated reinforcing and structural steel embedded in the concrete unless noted as existing to remain, and other related items as described herein and to the limits shown on the Plans, and/or directed by the Engineer. The Contractor shall be made aware that the existing paint on the structure was found to potentially contain lead and/or other hazardous materials.

The work under this heading shall conform to the applicable provisions of **SECTION 803** of the Standard Specifications and its latest revisions, and the following:

(R-1) **ITEM 803.9904: “REMOVE AND DISPOSE EXISTING CONCRETE SUPERSTRUCTURE”** – The demolition shall consist of bridge superstructure elements, including but not limited to the existing concrete deck, barrier, and cope to the limits shown at link slab locations, the existing gore area and the existing joint systems.

ITEM 803.9905: “REMOVE AND DISPOSE EXISTING CONCRETE SUBSTRUCTURE (PIER CAPS)” – The demolition shall consist of removal and disposal of the concrete pedestals at Pier 14 including cutting off existing reinforcing and pedestal jackets.

ITEM 803.9906: “REMOVE AND DISPOSE EXISTING STEEL DIAPHRAGMS (SPAN 7)” – The demolition shall consist of bridge superstructure elements, including but not limited to the existing steel diaphragms in span 7 where shown on the contract plans.

SUBMITTALS:

Prior to the start of work, the Contractor shall submit Demolition Plans and Calculations, for review and approval by the Engineer, that conform to the same requirements as steel erection submittals, listed under **SECTION 824** of the Standard Specifications. The Demolition Plans and Calculations shall be designed and stamped by a

(R-1)

Professional Engineer registered in Rhode Island. The plans shall indicate the type, size, and dimensions of all materials and equipment to be used for the girder temporary supports and falsework. The contractor shall indicate his proposed methods of demolition and removal with a sequence and schedule of operations. If applicable, the contractor shall also submit a plan showing crane set-up locations, operating radii and heights, crane capacity, etc. for approval by the Engineer. No work shall commence until the Engineer has given written approval of the method of demolition, and girder temporary support design. ~~and the proposed protective shielding / debris containment system.~~

CONSTRUCTION METHODS:

Removal of concrete shall be performed in a workmanlike manner to prevent damage to the bridge deck that is to remain. Any damage to remaining portions of the bridge deck or to the structural beams caused by the Contractor's operations shall be repaired or replaced by the Contractor, at his own expense and to the satisfaction of the Engineer.

All concrete and reinforcement shall be removed as shown on the plans unless otherwise noted or as designated by the Engineer. Full depth saw cutting of the deck is not permitted. A saw cut to an approximate depth of 1/2-inch shall be made along all outer boundaries of the demolition area prior to removal. Particular care shall be taken not to cut into the top mat of bridge deck reinforcing steel, or into any reinforcing or prestressing strands of the structural beams. Concrete removal shall be performed in a manner that will not damage reinforcing steel or saw cut areas at the removal boundaries. Any damage caused by the concrete removal process shall be repaired at the Contractor's expense.

At the perimeter of the repair area the existing transverse reinforcement shall be exposed as shown on the plans to allow splicing to the proposed reinforcement. The longitudinal reinforcement shall be exposed to allow a lap length with the proposed longitudinal reinforcement as shown on the drawing.

"Jackhammers" heavier than nominal 30-pound class shall not be used. "Chipping Hammers" heavier than a nominal 15-pound class shall not be used to remove concrete from areas around reinforcing bars. Hand tools such as hammers and chisels shall be used for removal of particles of unsound concrete or to achieve the required depth throughout the repair areas, including the saw cut edges. In no case shall pneumatic tools be placed in direct contact with reinforcing steel so as to damage its bond to the surrounding concrete.

All demolition materials and debris shall become the property of the Contractor. The Contractor shall dispose of the material outside and away from the site in an appropriate

location. The Contractor shall notify the Engineer at the site prior to any disposal activity.

METHOD OF MEASUREMENT

“REMOVE AND DISPOSE EXISTING CONCRETE SUPERSTRUCTURE” will be measured for payment by the **LUMP SUM**, completed and accepted.

“REMOVE AND DISPOSE EXISTING CONCRETE SUBSTRUCTURE (PIER CAPS)” will be measured for payment by the **LUMP SUM**, completed and accepted.

“REMOVE AND DISPOSE EXISTING STEEL DIAPHRAGMS (SPAN 7)” will be measured for payment by the **LUMP SUM**, completed and accepted.

BASIS OF PAYMENT:

The accepted quantity of **“REMOVE AND DISPOSE EXISTING CONCRETE SUPERSTRUCTURE”** will be paid for at the contract **LUMP SUM** price.

The accepted quantity of **“REMOVE AND DISPOSE EXISTING CONCRETE SUBSTRUCTURE (PIER CAPS)”** will be paid for at the contract **LUMP SUM** price.

The accepted quantity of **“REMOVE AND DISPOSE EXISTING STEEL DIAPHRAGMS (SPAN 7)”** will be paid for at the contract **LUMP SUM** price.

(R-1) The prices bid for the above items shall constitute full compensation for ~~design, installation and removal of shielding,~~ all materials, labor, tools, transportation, equipment, disposal, saw cutting, surface preparation of reinforcing steel and concrete surfaces, removal of all concrete and incidental items, replacement of damaged reinforcing steel, repair of damage utility conduits/ducts, temporary utility supports, utility expansion fittings, sleeves, and incidental hardware, coordination with owners and agencies, water for dust control and all incidentals necessary for the complete and safe demolition, removal and disposal of the partial bridge superstructure, complete and accepted by the Engineer. No increase will be made in the bid price due to the nature of the materials involved in the demolition. All costs for permits, dump fees, taxes, special handling of hazardous materials, etcetera, shall be included in the bid price of the demolition item. Removal and disposal of hardware, membranes and pavement subdrains are included in the price bid.

The pavement removal shall be executed and paid for under **ITEM 839.0200, FULL DEPTH REMOVAL AND DISPOSAL OF BITUMINOUS PAVEMENT FROM CONCRETE BRIDGE DECKS.**

Removal of asbestos materials or lead based paint, if required, will be paid for separately.

(R-1)

The installation and removal of temporary protective shielding, where required, will be paid for separately under **Item 803.9901 Temporary Deck Underside and Side Protective Shielding**.

808.9901
808.9902
808.9903
808.9904

CAST-IN-PLACE STRUCTURE CONCRETE MASONRY:

CONCRETE SUPERSTRUCTURE CLASS HP ¾” BRIDGE DECKS
CONCRETE SUPERSTRUCTURE CLASS HP ¾” PARAPETS
CONCRETE SUPERSTRUCTURE CLASS HP ¾” MEDIANS
CONCRETE SUPERSTRUCTURE CLASS HP ¾” PIERS, COL, CAP

Unless otherwise modified elsewhere in the Contract Documents, **SECTION 808** of the Rhode Island Standard Specifications for Road and Bridge Construction is revised as follows:

Add the following paragraph to SUBSECTION 808.01 DESCRIPTION:

(R-1)

The concrete work under this item shall consist of the **concrete link slab construction**, the barrier/parapet replacement, the raised gore area replacement, and the Pier 14 beam pedestal replacement as shown on the plans. The Contractor shall prepare the joint between the existing and new concrete according to the requirements of **SECTION 808.03.7 EXPANSION, CONTRACTION AND CONSTRUCTION JOINTS** for a bonded construction joint.

Delete SUBSECTION 808.04.1 STRUCTURE CONCRETE MASONRY in its entirety and replace it with the following:

808.04.1 Structure Concrete Masonry. “CONCRETE SUPERSTRUCTURE CLASS HP ¾” BRIDGE DECKS” will be measured for payment by the **LUMP SUM**, completed and accepted and in accordance with the Plans and/or as directed by the Engineer.

“CONCRETE SUPERSTRUCTURE CLASS HP ¾” PARAPETS” will be measured for payment by the **LUMP SUM**, completed and accepted and in accordance with the Plans and/or as directed by the Engineer.

“CONCRETE SUPERSTRUCTURE CLASS HP ¾” MEDIANS” will be measured for payment by the **LUMP SUM**, completed and accepted and in accordance with the Plans and/or as directed by the Engineer.

“**CONCRETE SUPERSTRUCTURE CLASS HP 3/4” PIER, COL, CAP**” will be measured for payment by the **LUMP SUM**, completed and accepted and in accordance with the Plans and/or as directed by the Engineer.

No deduction in volume will be allowed for reinforcing steel, weep holes, drainage holes, expansion joint material and minor structural elements embedded in concrete.

Delete **SUBSECTION 808.05.1 STRUCTURE CONCRETE MASONRY** in its entirety and replace it with the following:

808.05.1 Structure Concrete Masonry.

The accepted quantity of “**CONCRETE SUPERSTRUCTURE CLASS HP 3/4” BRIDGE DECKS**” (Item Code 808.9901) will be paid for at the contract **LUMP SUM** price when all work as described is completed and approved.

The accepted quantity of “**CONCRETE SUPERSTRUCTURE CLASS HP 3/4” PARAPETS**” (Item Code 808.9902) will be paid for at the contract **LUMP SUM** price when all work as described is completed and approved.

The accepted quantity of “**CONCRETE SUPERSTRUCTURE CLASS HP 3/4” MEDIANS**” (Item Code 808.9903) will be paid for at the contract **LUMP SUM** price when all work as described is completed and approved.

The accepted quantity of “**CONCRETE SUPERSTRUCTURE CLASS HP 3/4” PIER, COL, CAP**” (Item Code 808.9904) will be paid for at the contract **LUMP SUM** price when all work as described is completed and approved.

The cost of backer rod, closed cell preformed polyethylene foam, closed cell polystyrene foam, bituminous dampproofing material and concrete adhesive/bonding agent is considered to be included in the cost of “**CONCRETE SUPERSTRUCTURE CLASS HP 3/4” PARAPETS**”, “**CONCRETE SUPERSTRUCTURE CLASS HP 3/4” BRIDGE DECKS**”, “**CONCRETE SUPERSTRUCTURE CLASS HP 3/4” MEDIANS**” and/or “**CONCRETE SUPERSTRUCTURE CLASS HP 3/4” PIER, COL, CAP**” as applicable.

Polyurethane elastomeric sealant will be paid for under **STANDARD ITEM CODE 808.1675**. The prices so-stated constitute full and complete compensation for all labor, materials and equipment, and all other incidentals required to finish the work, complete and accepted by the Engineer.

(R-1)

817.9901

REPAIRS TO STRUCTURE CONCRETE MASONRY

Unless otherwise modified elsewhere in the Contract Documents, **SECTION 817** of the Rhode Island Standard Specifications for Road and Bridges Construction is revised as follows:

Delete in its entirety RI Standard Specification SECTION 817.02.5 and replace with the following:

817.02.5 Form and Cast-In-Place Concrete. Concrete shall conform to Class HP ¾" concrete in accordance with the applicable provisions of **SECTION 601; PORTLAND CEMENT** of these specifications.

Delete the following sentence in RI Standard Specification SECTION 817.03.1 SURFACE PREPARATION (ALL REPAIR METHODS), Paragraph Two:

"The boundaries of areas to be removed where indicated on the Plans or as directed by the Engineer, shall be saw cut square to a minimum depth of 1 inch, unless otherwise noted on the Plans. Thin, tapered or feathered edges are prohibited."

Replace that sentence with the following:

"The boundaries of areas to be removed where indicated on the Plans or as directed by the Engineer, shall be saw cut square to a maximum depth of 1/2 inch, unless otherwise noted on the Plans. Thin, tapered or feathered edges are prohibited."

Delete in its entirety RI Standard Specification SECTION 817.05 and replace with the following:

817.05 BASIS OF PAYMENT.

The accepted quantities of **"REPAIRS TO STRUCTURE CONCRETE MASONRY – PNEUMATICALLY APPLIED MORTAR"**, **"REPAIRS TO STRUCTURE CONCRETE MASONRY – PATCHING MORTAR"** and **"REPAIRS TO STRUCTURE CONCRETE MASONRY – FORM AND CAST-IN-PLACE CONCRETE"** will be paid for at the respective contract unit prices per **CUBIC FOOT** as listed in the Proposal. The prices so stated shall constitute full

(R-1)

Date: 10/21/2016

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(R-1)

and complete compensation for all labor, materials, including **mechanical anchors**, and galvanized wire mesh reinforcement, equipment described above, including scaffolding, and all other incidentals required to finish the work, complete and accepted by the Engineer.

817.9902

817.9903

817.9904

FIBER REINFORCED WRAP – DROP IN BEAMS (SPANS 1-6 AND 8-14)

FIBER REINFORCED WRAP – AASHTO BEAMS (SPANS 15-18)

FIBER REINFORCED WRAP – PIER CAPS (PIERS 14-17)

DESCRIPTION:

The work includes the designing, detailing, furnishing, fabricating, installation, finishing, and testing of all structural strengthening using externally bonded Fiber Reinforced Polymer (FRP) composite system where shown on the contract drawings. This specification is intended to define the minimum requirements of structural strengthening using externally bonded FRP composite systems. The work under this item shall be in accordance with the FRP system manufacturer's requirements and these Special Provisions.

In addition to the standards described in this section, the FRP shall be installed as designed and detailed on the Contract Drawings.

MATERIALS:

Materials:

The Contractor shall provide compatible fabric, primer, saturant, mortar, protective coating, and other materials recommended by the Manufacturer as needed for the proper installation of the complete bonded FRP composite system.

FRP Reinforcement Fabric and/or Laminate

1. FRP Reinforcement fabric shall be high strength, high modulus, fiber fabric that may be unidirectional or woven (in various fiber architectures) to suit specific repair needs.
 - a) FRP Reinforcement fabric shall be of the type, size, layer and location as indicated on the approved shop drawings.
 - b) Submit FRP Reinforcement fabric test results for review and approval by the Engineer.

- c) Approved products are:
 - i. SikaWrap Hex Fabrics (100G, 106G, 107G, 320G, 430G, 103C, 113C, 117C, 230C), Sika Corp, Lyndhurst, NJ or approved equal.
 - ii. Alternate products must be submitted for review and approval by the Engineer.
2. FRP Precured Strip shall be high strength, high modulus, unidirectional carbon fiber reinforced polymer (CFRP).
 - a) FRP Precured Strip shall be of the type, size, layer and location as indicated on the approved shop drawings.
 - b) Submit FRP Precured Strip test results for review and approval by the Engineer.
 - c) Approved products are:
 - i. Sika CarboDur, Sika Corp., Lyndhurst, NJ or approved equal.
 - iii. Alternate products must be submitted for review and approval by the Engineer.

Concrete Surface Primer

1. Surface Primer shall be a two component, 100% solids, moisture/tolerant, high modulus, high strength epoxy.
2. Submit Surface Primer test results for review and approval by the Engineer.
3. Approved products are:
 - a) Sikadur 300, Sika Corp., Lyndhurst, NJ or approved equal.
 - b) Sikadur 330, Sika Corp., Lyndhurst, NJ or approved equal.
 - c) Alternate products must be submitted for review and approval by the Engineer.

Fabric Saturant

1. Saturant resin shall be two component, 100% solids, moisture tolerant, high strength, high modulus epoxy.
2. Saturants shall meet the following minimum test requirements in accordance with approved manufacturer data sheets.
3. Approved products are:

- a) Sikadur 300, Sika Corp, Lyndhurst, NJ or approved equal.
- b) Sikadur 330 (Dry Lay-up), Sika Corp, Lyndhurst, NJ or approved equal.
- c) Alternate products must be submitted for review and approval by the Engineer.

Epoxy Repair Mortar

1. Repair mortar shall be 100% solids, non-sag paste epoxy.
2. Approved products are:
 - a) Sikadur 30, Sika Corp., Lyndhurst, NJ or approved equal.
 - b) Sikadur 31, Sika Corp., Lyndhurst, NJ or approved equal.
 - c) Alternate products must be submitted for review and approval by the Engineer.

Protective Coating

1. Protective coating shall be polymer or acrylic based, shall be UV resistant and shall conform to **RIDOT Standard Specification Section 820 (Supplement No. 17)**. The Manufacturer shall provide evidence that the proposed protective coating is compatible with the proposed FRP system.

Reference Standards:

The publications listed below form a part of this specification to the extent referenced. Where a date is given for referenced standards, the edition of that date shall be used. Where no date is given for reference standards, the latest edition available on the date of the Advertisement of this project shall be used. Comply with the following reference standards, except where more stringent requirements are indicated on the Drawings or specified herein:

American Association of State Highway Transportation Officials (AASHTO):

1. AASHTO Guide Specification for design of Bonded FRP Systems for Repair and Strengthening of Concrete Bridge Elements.
2. AASHTO LRFD Bridge Design Specifications

American Concrete Institute (ACI):

1. ACI 440.2R-08, Guide for the Design and Construction of Externally Bonded FRP Systems for Strengthening Concrete Structures, 2008 with 2-15 Errata.
2. ACI 440R-07, Report on Fiber-Reinforced Polymer (FRP) Reinforcement for Concrete Structures

3. ACI 440 R-96, State-of-the-Art Report on Fiber Reinforced Plastic (FRP) Reinforcement for Concrete Structures.

International Concrete Repair Institute (ICRI):

1. ICRI Guideline No. 03742, Guide for the Selection of Strengthening Systems for Concrete Structures
2. ICRI Guideline No. 03739, Guide to Using In-Situ Tensile Pull-Off Tests to Evaluate Bond of Concrete Surface Materials

International Code Council (ICC):

1. ICC AC125, Acceptance Criteria for Concrete and Reinforced and Unreinforced Masonry Strengthening Using Externally Bonded Fiber Reinforced Polymer (FRP) Composite Systems.
2. ICC AC178, Interim Criteria for Inspection and Verification of Concrete and Reinforced and Unreinforced Masonry Strengthening Using Externally Bonded Fiber Reinforced (FRP) Composite Systems.

American Society of Testing and Materials (ASTM) as cited herein.

Quality Control and Quality Assurance:

Quality Control procedures performed by the Manufacturer shall include, but not be limited to the following:

1. Manufacturer shall have a nationally recognized program of contractor training, certification and technical support.
2. The Manufacturer shall have minimum ten years' experience in FRP Reinforcement confirmed by actual field tests of minimum 50 successful installations.
3. The Manufacturer shall be able to supply testing data to demonstrate system properties and durability of the actual FRP Reinforcement to be used.
4. The Manufacturer shall have a Technical Representative on site (full time) during FRP installation.

Quality Control procedures performed by the Contractor shall include, but not be limited to the following:

1. The Contractor shall be trained by the Manufacturer and shall have completed a program of instruction in the use of FRP Reinforcement.

2. The Contractor shall have a minimum of three years' experience in FRP Reinforcement confirmed by actual field tests of at least 5 successful installations.
3. The Contractor shall inspect all materials prior to application to assure that they meet specifications and have arrived to the job-site undamaged.
4. Only epoxy resins will be accepted for construction of FRP systems referenced in this specification. Other resins, such as polyesters/vinyl esters, are not allowed as substitutes.
5. The FRP Reinforcement shall be completely inspected by the contractor during and immediately following application of the composite materials. Conformance with the design drawings, proper alignment of fibers and quality workmanship shall be assured. Entrapped air shall be released or rolled out before the epoxy sets. Defects shall be noted in the Daily Construction Log.
6. After FRP Reinforcement has cured, the contractor shall inspect the all work to check for voids and or debonding. Repairs shall be made as per the "Repair of Defects" section, and noted in the Daily Construction Log.
7. The Engineer will suspend the work if the Contractor substitutes an unapproved fiber reinforced composite system or unapproved personnel during construction, or if the Manufacturer Representative indicates that work is not proceeding in accordance with the approved design and procedures.

Job-Site Conditions

1. Do not apply FRP Reinforcement materials if raining, snowing, or dew condensation is expected or existing concrete surface is wet or if the ambient or surface temperatures are below 40° F. In addition, conform to manufacturers recommendations with regard to permissible weather conditions for FRP system application.
2. The ambient temperature and temperature of the epoxy components shall be between 50° F and 80° F at the time of mixing. See appropriate technical data sheets as specified by the FRP Manufacturer for more specific instructions.
3. Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified material.
4. The Contractor is solely responsible for fume control and shall take necessary precautions against injury to Installer personnel during application of primer and resin, etc. Contractor personnel shall use protective equipment and area shall be

well vented to the outside. As a minimum, Installer must take the following precautions:

- a) Contractor to follow all state, federal, and local safety regulations.
- b) Contractor to follow all Manufacturers' safety requirements as indicated on appropriate MSDS sheets.

Product Delivery, Storage, and Handling

1. The Contractor shall deliver materials in original, factory-sealed containers with the FRP Manufacturer's name, labels intact and legible with product identification, batch numbers, verification of date of manufacture and shelf life.
2. FRP Reinforcement shall be stored in a cool dry area away from direct sunlight, flame, soil, moisture, or other hazards.
3. Store primer, saturant and protective coating under conditions as recommended by the Manufacturer in a cool dry place out of direct sunlight. Products that have exceeded their shelf life shall not be used.
4. Contractor is required to confirm that all materials used in accordance with this Section conform to local, state, and federal environmental and worker's safety laws and regulations.
5. During operations Contractor shall maintain barricades.
6. The Contractor shall properly dispose of empty containers in accordance with local regulations.
7. Prior to construction, the trades shall be briefed on any new or unusual construction procedures to ensure that they are aware of special conditions.

SUBMITTALS:

1. Submit for record, a qualification statement by the Contractor listing their completed FRP Reinforcement projects, including size, location, owner, engineer, and contact numbers.
2. Submit for record, written verification from the material manufacturer deeming the Contractor to be fully trained and certified to install the proposed FRP system.
3. Submit for record, Material Safety Data Sheets (MSDS) of each product, used on site.

4. Submit for record, a complete description of the FRP Reinforcing system materials, surface preparation, application procedures, application rates, cure times, product standards, physical and chemical characteristics, technical specifications, limitations, installation instructions, and general recommendations regarding each individual material.
5. Submit for record copies of purchase order and packaging slips showing quantities and dates of primer and resin purchased.
6. Stamped and signed structural FRP design calculations and drawings by a Professional Engineer registered in the State of Rhode Island, and familiar with FRP design. The FRP Design Engineer shall have a minimum of three years' experience in FRP Design confirmed by documentation of at least 5 implemented FRP designs. The Design shall be based on the clearly written performance criteria defined on the structural drawings. Include the design of the FRP anchorage.
7. Working drawings shall detail the types, locations, dimensions, number of layers, splice details and orientation of all FRP materials and coatings to be installed. Submit for review and approval shop drawings including, the following:
 - a) Limits of FRP Reinforcing.
 - b) Details of epoxy injection crack repair and epoxy resin patching.
 - c) Complete system details including, but not limited to, FRP reinforcement, anchorage type and details, primer, resin, and protective coating.
8. The name of the testing laboratories that will perform the required tests. Testing laboratories shall comply with Section 2.0 of the ICC-ES Acceptance Criteria for Test Reports (AC85) and Section 4.2 of the ICC-ES Rules of Procedure for Evaluation Reports. Copies of the testing laboratories certification/accreditation should be submitted to the Engineer for approval.
9. Submit for record test results of the Pull-off test to determine FRP adhesion to concrete substrate.
10. Submit for record Daily Construction Logs kept by the Contractor. These logs shall include the following information: Weather and temperature at application times; Amount of product used and square footage/linear footage of substrate covered; Batch numbers of all products used; Names of all crew members; Any bond-strength tests, noting location, quantity and who performed these tests.
11. Submit an approved ICC Evaluation Service Report in the name of the proposed FRP system to be used on this project.

12. Submit independent test report verifying the environmental durability of the proposed system to be used on this project. Such reports shall include as a minimum:
- a) 10,000 hr. resistance to salt water – [ASTM C 581]
 - b) 10,000 hr. resistance to high temperature (38C) and high humidity (100%)– [ASTM C 581]
 - c) 10,000 hr. resistance to alkali solution (pH 9.5) – [ASTM C 581]
 - d) 3,000 hr. resistance to dry heat (60C) – [ASTM D 3045]
 - e) resistance to 20 freeze/thaw cycles– [ASTM C 666]
 - f) resistance to UV/condensation @ 100 cycles– [ASTM G 154]
 - g) resistance to diesel fuel (4 hr. exposure) – [ASTM D 1308]

DESIGN:

1. Design the composite system to achieve the structural performance shown on the structural drawings. Design calculations and drawings for the composite system shall be submitted for approval by the engineer of record, and shall be stamped by a Professional Engineer registered in Rhode Island.
2. Calculations shall conform to the requirements set forth in these Special Provisions and the Contract Drawings and be based on the design modulus and associated area of the composite to be installed. FRP design values must be lower than the calculated mean determined from the test results received from the ASTM D3039 field test specimens.
3. FRP strips shall meet the minimum strength requirements and minimum dimensions shown on the Contract Drawings.
4. FRP System shall be designed in accordance with ACI as supplemented by AASHTO, these specifications, and shall cover the minimum dimensions shown on the drawing. The drawing and design calculations shall be stamped by a Professional Engineer registered in Rhode Island.
5. Design parameters are as shown on the contract plans.
6. The composite system must meet the stiffness requirement ($E \times A$) as indicated at all identified locations on the Contract Drawings. The modulus (E) and associated area (A) of the FRP system shall be based on published values consistent with long term durability exposure testing. The number of carbon fiber layers needed to meet the required stiffness parameters shall be determined by the Contractor's engineer.

7. Minimum effective length has been shown on the contract drawings for the drop-in-beam spans.
8. Calculations shall conform to the requirements set forth in these Special Provisions and Contract Plans and be based on the design modulus and associated area of the composite to be installed.

CONSTRUCTION METHODS:

General

1. Inspect surfaces to receive the work and report immediately in writing to the Engineer as required in the General Conditions and deficiencies in the surface that render it unsuitable for proper execution of this work. As indicated below in "Field Inspection", Contractor to complete an inspection checklist prior to execution of the work.
2. Protect vehicles, concrete, and other items surrounding work area from dust or damage due to Work of this Section.

Inspection and Testing

1. Field Inspection
 - a) Contractor to prepare an inspection checklist for each major phase of the work and must have sign-off from the Engineer and FRP manufacturer prior to proceeding with the next phase of work. The following inspection checklists and sign-offs are required:
 - .1 Inspection of surfaces to receive FRP
 - .2 Inspection of installed FRP system
 - .3 Inspection of repaired areas
 - .4 Inspection after protective coating is applied
 - b) The Applicator shall monitor the mixing of all epoxy components for proper ratio and adherence to the FRP Manufacturer's recommendations. Record batch numbers for fabric and epoxy used each day, and note locations of installation. Measure square footage of fabric and volume of epoxy used each day.
 - c) A representative of the Manufacturer shall be on site to observe all aspects of preparation, mixing, and application. All FRP composite applied areas shall be inspected, in accordance with the FRP Manufacturer's specifications for

voids, bubbles, and delaminations. All defective areas shall be repaired as specified elsewhere in these Special Provisions.

- d) Composite system Applicator shall submit witness panels prepared and cured on-site for materials testing. The testing (laboratory to be approved by RIDOT) shall be performed by an independent testing laboratory to verify all submitted design properties. Field test results that are lower than the design properties submitted shall require the Contractor to be responsible for all costs associated with the remedial repairs. The Contractor shall submit a proposed remedial repair plan to the Engineer and the FRP system manufacturer for review and approval prior to proceeding with the work.
 - e) The Contractor shall create samples of the neat resin with each prepared batch to be cured in the field with the repaired section. They shall be prepared so that the exposed surface is smooth and used for a Shore D hardness test to verify the cure of the resin under field conditions. Samples from the Manufacturer are required to be cured under laboratory conditions for a comparable baseline. The field samples should be made in the presence of the Engineer and will be used by RIDOT for acceptance. The manufacturer is required to submit the lab cured specimens (minimum 3" diameter by 3/8" thick) to RIDOT.
2. In-situ Testing: ASTM D7234-12 and ASTM D7522-15 – Adhesion Tests.
- a) Direct tension adhesion testing of cored samples shall be conducted using the method described by ASTM D7234-12 and ASTM D7522-15. A minimum of three tests shall be performed for each day of production or for each 500 ft² of FRP application, whichever is less. Pull-off tests shall be performed on a representative adjacent area to the area being strengthened whenever possible. Tests shall be performed on each type of substrate or for each surface preparation technique used.
 - b) The prepared surface of the bonded FRP system shall be allowed to cure a minimum of 72 hours before execution of the direct tension pull-off test. The locations of the pull-off tests shall be representative and on flat surfaces. If no adjacent areas exist, the tests shall be conducted on areas of the FRP system subjected to relatively low stress during service. The minimum acceptable value for any single tension test is 175 psi. The average of the tests at each location shall not be less than 200 psi. Additional tests may be performed to qualify the work.
 - c) Test locations shall be filled with a resin recommended by the FRP system manufacturer after the values have been recorded and verified by the Engineer and the test dollies have been removed.

- d) The location of the adhesion test sites shall be approved by the Engineer and be cleared with the designer of the FRP repair to verify that it will not compromise the integrity of the system.

3. Laboratory Testing

- a) Record lot number of fabric and epoxy resin used, and location of installation. Measure square footage of fabric and volume of epoxy used each day. Label each sample from each day's production.
- b) A "sample batch" shall consist of two 12" by 12" samples of cured composite. A minimum of two "sample batches" shall be made daily. The two "sample batches" will be taken at random times agreed to by the Engineer during the day as to ensure the maximum material deviance in the components of the FRP composite.

4. Preparation of Samples

- a) Prepare sample on a smooth, flat, level surface covered with polyethylene sheeting, or 16 mil plastic film, prime with epoxy. Then place one layer of saturated fabric and apply additional topping of epoxy. Cover with plastic film and squeegee out all bubbles.
- b) Samples shall be stored flat in a sample box or protected area and not moved for a minimum of 48 hours after casting. Cure samples under the same conditions as the FRP system. The prepared, identified samples shall be delivered to a pre-approved and experienced testing laboratory. The laboratory shall then precondition samples for 48 hours at 140°F before testing.

5. ASTM D3039 – Tension Tests

- a) Testing specimens shall be cut from samples and tested for ultimate tensile strength, tensile modulus and percentage elongation as per ASTM D3039 in the longitudinal fiber direction.
- b) Test a minimum of 15% of all samples. If one set of coupons fails to meet the design values (on average), then the other 12" x 12" sample from the same "sample batch" will be tested. In the extreme case that this sample also fails (on average), the remaining "sample batch" for that day will be tested and appropriate remediation, as described elsewhere in these specification, shall be taken to ensure integrity of the system at locations from the failed "sample

batch". In addition, 25% of the remaining sample batches shall be tested by the same criteria as per ICC AC178 criteria.

- c) Testing results shall be made available to the Engineer within 3 weeks of sample submission. Test reports shall comply with ICC-ES Acceptance Criteria for Test Reports (AC85).
6. Acceptance Criteria
- a) FRP design values must be lower than the calculated mean determined from the test results received from the ASTM D3039 field test specimens. Acceptable minimum values for ultimate tensile strength, tensile modulus, and elongation shall not be below the submitted design values.
 - b) Any test result values (on average) below the submitted design values are considered a failure and require remediation.

Surface Preparation

1. All concrete surfaces shall be dry and free of surface moisture and frost, and tested by the Contractor to evaluate moisture transmission in accordance with ASTM D4263 "Indicating Moisture in Concrete by the Plastic Sheet Method" or as specified by the FRP Manufacturer.
2. All concrete surfaces shall be sound. Remove deteriorated concrete, dust, laitance, grease, paint, curing compounds, waxes, impregnations, foreign particles, and other bond inhibiting materials from the surface by blast cleaning or equivalent mechanical means.
3. All concrete surfaces shall be air blasted and vacuumed clean to a dust free condition.
4. Concrete surface irregularities less than one inch shall be ground and smoothed and/or filled with an approved repair mortar. Surface irregularities shall be limited to less than 0.04 inches (1 mm). Surface irregularities greater than one inch shall be repaired using an approved cementitious repair mortar. Any sharp edges (e.g. fins, form lines, etc.) must be ground smooth and flush.
5. Surface levelness – Maximum allowable deviation in 6 ft. shall be limited to ¼ in., but no greater than 1/8 in. per linear ft.
6. External concrete corners shall be rounded to at least a 3/4" radius when perpendicular to fiber orientation and internal corners shall be smoothed by trowelling epoxy mortar into the corners.

7. The concrete surface should be prepared to a minimum concrete surface profile (CSP) 3 as defined by the ICRI surface profile chips.
8. The adhesive strength of the concrete shall be verified after preparation by random pull-off testing (ASTM D4541) at the direction of the Engineer. Minimum average tensile strength is 200 psi with concrete substrate failure, or as approved by the Engineer. The minimum acceptable value of any single test is 175 psi.
9. All concrete repairs must be completed and cured a minimum of 14 days prior to installation of the proposed FRP system.

Mixing Primer and Saturant

1. Mix components in accordance with Manufacturer's recommendations.
2. Diluting is not permitted. Pre-condition materials as indicated on technical data sheet.
3. Mix only that quantity which can be used within its pot life. Material is not to be used past its pot life.
4. Do not batch delivered units into smaller quantities. Mix only full units.

Primer Application

1. Apply primer in accordance with Manufacturer's recommendations.
2. Primer may be applied with a brush or roller. Apply second coat as necessary after first coat has penetrated into concrete.
3. Surface depressions shall be filled with epoxy filler per manufacturers' instructions.
4. Primer must be covered with fiber within the time specified by the manufacturer given the predicted temperature conditions and should not exceed 24 hours.. If 24-hour window is exceeded, the primed surfaces must be solvent wiped with a fast flashing solvent or roughened with sandpaper to break the amine blush.

FRP Reinforcement Application

Method 1: Wet Lay-Up

1. Apply FRP Reinforcement in accordance with Manufacturer's recommendations.
2. When using saturator equipment, follow Manufacturer's procedures for proper machine set-up and calibration. Rollers shall be calibrated to saturate the fabric with

the proper resin-to-fabric ratio. The roller gap shall be checked daily by a qualified technician for accuracy. The resin-to-fabric ratio shall also be verified by resin usage and documented on the daily project logs.

3. Once the fabric is saturated, it may then either be spooled for easy handling, or cut to specified lengths and booked for handling. Care must be taken not to damage the fibers.
4. The fabric may then be applied to the surface with no delay. Work from one end to the other, taking care to orient the fibers as specified. Remove any air entrapped in the fabric with a ribbed roller or squeegee.
5. Sheets shall be lapped in the longitudinal direction 6 inches minimum or as indicated on the Drawings. Note: no lapping is required of the sheets parallel to the direction of fiber orientation.

Method 2: Dry Lay-Up

1. Apply FRP Reinforcement in accordance with Manufacturer's recommendations.
2. FRP Reinforcement sheets shall be cut beforehand into prescribed lengths. Sheets shall be lapped in the longitudinal direction 6 inches minimum or as indicated on the Drawings. Note: no lapping is required of the sheets parallel to the direction of fiber orientation.
3. Follow Manufacturer's recommendations regarding primer open times.
4. Apply a primary saturant coat uniformly by roller brush.
5. Apply FRP Reinforcement sheets fiber side down to the concrete over the fresh saturant using a ribbed roller to remove any air bubbles.
6. FRP Reinforcement sheets shall be left alone for about 30 minutes allowing for the primary saturant to soak through the fabric. Correct any dislocation on lifting.
7. Apply secondary saturant coat with roller over installed sheets in order to impregnate and replenish primary saturant.
8. If succeeding FRP Reinforcement sheets are specified on the Drawings repeat application procedures.

Method 3: Precured Strip Application

1. Apply FRP Precured Strip in accordance with Manufacturer's recommendations.

2. Care shall be taken not to damage the fibers in handling and unpacking the Strips.
3. Strips may be either delivered to project site in factory pre-cut lengths, or cut on site. Care must be taken not to fray or otherwise damage the fibers when field cutting. Follow Manufacturer's recommendations for field cutting of strips.
4. Strips shall be cleaned with a fast flashing solvent to remove any bond inhibiting materials. A clean white cotton rag shall be used for this purpose. Continue cleaning the Strip in this manner until no black residue shows on the rag. Cleaning shall be performed the same day the strips are to be used.

Curing

1. Protect finished installation of FRP Reinforcement from rain, sand, dust, etc. using protective sheeting or other barriers. Do not allow protective sheeting to come in contact with finished application.
2. Curing of finished application shall be a minimum of 24 hours and in order to achieve full strength curing shall be extended for a period of two weeks at an average ambient temperature of 68°F.

Repair of Defects/Remediation

1. Upon completion of the curing process, the installed system shall be checked for areas where saturant has not penetrated or where saturant has not completely cured. Such areas shall be epoxy injected to re-establish bond subject to the approval of the FRP system manufacturer and then the Project Engineer.
2. Repair procedures shall be performed in accordance with guidelines established by ACI 440.2R-08 (paragraph 7.2.3) and approved by the FRP system manufacturer and the Project Engineer. All repairs shall be subject to the same application, curing and quality control specifications as the original work.
 - a) Small delaminations and voids less than 2 in² each are permissible as long as the delaminated area is less than 5% of the total laminate area and there are no more than 10 such delaminations per 10 ft².
 - b) Medium sized delaminations and voids greater than 2 in² but less than 25 in² may be repaired by epoxy resin injection or ply replacement, depending on the size and number of delaminations and their location. The repair procedure must be approved by the FRP Manufacturer and the Project Engineer.

c) Larger size delaminations and voids greater than 25 in² should be repaired by selectively cutting away the affected sheet and applying an overlapping sheet patch of equivalent plies. The overlap should extend a minimum of 6 in. in all directions. Proposed repair procedure must be approved by the FRP Manufacturer and the Project Engineer.

3. In the event that laboratory testing determines a “sample batch” to possess insufficient material properties, remedial measures shall be taken. Any structural member where the installed FRP composite system has material properties determined to be below the minimum specified values (on average), additional layers shall be installed until the composite thickness is increased by the same percentage as the deficiency of the material’s tensile modulus. Remedial measures are to be approved by the FRP system manufacturer and the Engineer.

Protective Coating

(R-1)

1. Apply protective coating in accordance with Manufacturer’s recommendations. All FRP surfaces are to be coated. Provide a coating system that is compatible with the FRP system and meets the requirements of **ITEM 820.9904 820.0110** limits as shown on the contract drawings.

Cleaning

1. Uncured saturants may be cleaned from tools with an approved solvent and properly disposed.
2. Cured saturants shall be removed by mechanical means and properly disposed.

METHOD OF MEASUREMENT:

“**FIBER REINFORCED WRAP – DROP IN BEAMS (SPANS 1-6 AND 8-14)**”, “**FIBER REINFORCED WRAP – AASHTO BEAMS (SPANS 15-18)**” and “**FIBER REINFORCED WRAP – PIER CAPS (PIERS 14-17)**” will be measured per **SQUARE FOOT** of surface area installed with a completed and accepted externally bonded Fiber Reinforced Polymer (FRP) composite strengthening system.

BASIS OF PAYMENT:

The accepted quantity of “**FIBER REINFORCED WRAP – DROP IN BEAMS (SPANS 1-6 AND 8-14)**”, “**FIBER REINFORCED WRAP – AASHTO BEAMS (SPANS 15-18)**” and “**FIBER REINFORCED WRAP – PIER CAPS (PIERS 14-17)**” will be paid for at the respective contract unit prices per **SQUARE FOOT** as listed in the Proposal.

The prices bid for above items shall constitute full compensation for all materials, labor, tools, transportation, equipment, supervision, surface preparation, and all incidentals necessary for the design, testing, installation, reporting and remediation of the FRP system, complete and accepted by the Engineer.

(R-1)

Protective coating is paid for separately as part of ~~820.9904~~ **820.0110** **“CONCRETE SURFACE TREATMENT PROTECTION SEALER”**.

Concrete repairs are paid for separately as part of **ITEM 817.2100 “REPAIRS TO STRUCTURAL CONCRETE MASONRY (PNEUMATIC MORTAR)”**, **“ITEM 817.2110 “REPAIRS TO STRUCTURAL CONCRETE MASONRY (PATCHING MORTAR)”** and **“ITEM 817.2140 “REPAIRS TO STRUCTURAL CONCRETE MASONRY FORM AND CAST-IN-PLACE”**.

ITEMS LIST

Item List

Estimate Name - Addendum #2
 Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)
 R.I. Contract No. - 2016-CB-059
 FAP Nos. - BHO-0700(004)

| Seq No. | Item Code | Description | Quantity | UM |
|---------|-----------|---|-----------|------|
| 001 | 201.0409 | REMOVE AND DISPOSE FLEXIBLE PAVEMENT | 433.00 | SY |
| 002 | 201.0415 | REMOVE AND DISPOSE GUARDRAIL AND POST ALL TYPES | 1,843.00 | LF |
| 003 | 201.9902 | REMOVE AND DISPOSE IMPACT ATTENUATOR | 1.00 | EACH |
| 004 | 201.9903 | REMOVE AND SALVAGE TRAFFIC SIGNAL SYSTEM | 1.00 | LS |
| 005 | 202.0100 | EARTH EXCAVATION | 207.00 | CY |
| 006 | 202.0700 | COMMON BORROW | 73.00 | CY |
| 007 | 202.0800 | GRAVEL BORROW | 11.00 | CY |
| 008 | 203.0100 | STRUCTURAL EXCAVATION EARTH | 21.00 | CY |
| 009 | 203.0700 | PERVIOUS FILL | 6.00 | CY |
| 010 | 204.0100 | TRIMMING AND FINE GRADING | 339.00 | SY |
| 011 | 206.0312 | COMPOST FILTER SOCK 12 INCH DIAMETER | 600.00 | LF |
| 012 | 206.9901 | REMOVE AND DISPOSE COMPOST FILTER SOCK | 600.00 | LF |
| 013 | 212.2000 | CLEANING AND MAINTENANCE OF EROSION CONTROLS | 1.00 | LS |
| 014 | 213.0100 | PLACEMENT OF MILLINGS BENEATH GUARDRAIL | 824.00 | LF |
| 015 | 214.0100 | CONTAINMENT SYSTEM FOR CONTROL OF HYDRODEMOLITION RUNOFF | 1.00 | LS |
| 016 | 214.0200 | MAINTENANCE & DISPOSAL OF HYDRODEMOLITION RUNOFF | 40.00 | PDAY |
| 017 | 302.0100 | GRAVEL BORROW SUBBASE COURSE | 145.00 | CY |
| 018 | 401.1000 | CLASS 19.0 HMA | 162.00 | TON |
| 019 | 401.2100 | MODIFIED CLASS 12.5 HMA | 56.00 | TON |
| 020 | 401.3100 | MODIFIED CLASS 9.5 HMA | 2,902.00 | TON |
| 021 | 401.9901 | PAY ADJUSTMENTS | 9,477.00 | EACH |
| 022 | 402.9901 | FRICTION COURSE WITHOUT PAY ADJUSTMENTS | 1,800.00 | TON |
| 023 | 403.0300 | ASPHALT EMULSION TACK COAT | 14,153.00 | SY |
| 024 | 410.1000 | TEMPORARY PATCHING MATERIAL/TRENCHES | 355.00 | TON |
| 025 | 704.9901 | RECONSTRUCT MANHOLE FRAME, COLLAR AND COVER | 1.00 | LS |
| (R-1) | 026 | 707.2000 ADJUST FRAME AND GRATE TO GRADE | 34.00 | EACH |
| | 027 | 708.9040 CLEANING AND FLUSHING PIPE ALL SIZES | 258.00 | LF |
| (R-1) | 028 | 708.9041 CLEANING CATCH BASINS ALL TYPES AND SIZES | 16.00 | EACH |
| | 029 | 800.9901 TEMPORARY SUPPORT AND JACKING - DROP IN BEAMS (SPANS 1-6 AND 8-14) | 57.00 | EACH |
| | 030 | 800.9902 TEMPORARY JACKING AND SHORING OF BRIDGE BEAM ENDS PIERS 14 THROUGH 17 AND ABUTMENT 2 | 126.00 | EACH |
| | 031 | 803.0400 CLEANING BRIDGE BEAM SEATS | 1.00 | EACH |

Item List

Estimate Name - Addendum #2
 Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)
 R.I. Contract No. - 2016-CB-059
 FAP Nos. - BHO-0700(004)

| Seq No. | Item Code | Description | Quantity | UM |
|---------|--------------|---|------------|------|
| | 032 803.9901 | TEMPORARY DECK UNDERSIDE AND SIDE PROTECTIVE SHIELDING | 1.00 | LS |
| | 033 803.9904 | REMOVE AND DISPOSE EXISTING CONCRETE SUPERSTRUCTURE | 1.00 | LS |
| | 034 803.9905 | REMOVE AND DISPOSE EXISTING CONCRETE SUBSTRUCTURE (PIER CAPS) | 1.00 | LS |
| | 035 803.9906 | REMOVE AND DISPOSE EXISTING STEEL DIAPHRAGMS (SPAN 7) | 1.00 | LS |
| | 036 803.9907 | ABUTMENT 1 DEBRIS REMOVAL AND RESTORATION | 1.00 | LS |
| (R-1) | 037 808.0602 | CONCRETE SUBSTRUCTURE CLASS HP 3/4" BACKWALLS | 9.00 | CY |
| | 038 808.1675 | POLYURETHANE ELASTOMERIC JOINT SEALANT | 22,362.00 | CI |
| | 039 808.9901 | CONCRETE SUPERSTRUCTURE CLASS HP 3/4" BRIDGE DECKS | 1.00 | LS |
| | 040 808.9902 | CONCRETE SUPERSTRUCTURE CLASS HP 3/4" PARAPETS | 1.00 | LS |
| | 041 808.9903 | CONCRETE SUPERSTRUCTURE CLASS HP 3/4" MEDIANS | 1.00 | LS |
| | 042 808.9904 | CONCRETE SUBSTRUCTURE CLASS HP 3/4" PIERS, COL, CAP | 1.00 | LS |
| | 043 810.0210 | GALVANIZED BAR REINFORCEMENT GRADE 60 | 184,608.00 | LBS |
| | 044 811.9901 | SUB PAVEMENT DRAINS | 1.00 | LS |
| | 045 813.0300 | COLD APPLIED LIQUID MEMBRANE | 18,714.00 | SY |
| | 046 817.2100 | REPAIRS TO STRUCTURAL CONCRETE MASONRY (PNEUMATIC MORTAR) | 445.00 | CF |
| (R-1) | 047 817.2110 | REPAIRS TO STRUCTURAL CONCRETE MASONRY (PATCHING MORTAR) | 1,353.00 | CF |
| | 048 817.2140 | REPAIRS TO STRUCTURAL CONCRETE MASONRY FORM AND CAST IN PLACE | 1,139.00 | CF |
| | 049 817.9902 | FIBER REINFORCED WRAP - DROP IN BEAMS (SPANS 1-6 AND 8-14) | 15,600.00 | SF |
| | 050 817.9903 | FIBER REINFORCED WRAP - AASHTO BEAMS (SPANS 15-18) | 4,463.00 | SF |
| | 051 817.9904 | FIBER REINFORCED WRAP - PIER CAPS (PIERS 14-17) | 1,623.00 | SF |
| | 052 817.9905 | CORBEL AND BEAM END CONFINEMENT | 72.00 | EACH |
| | 053 817.9906 | CHLORIDE EXTRACTION | 1.00 | LS |
| | 054 818.2010 | PORTLAND CEMENT CONCRETE DECK REPAIRS (FULL DEPTH REMOVAL) | 1,907.00 | SF |
| (R-1) | 055 818.2020 | PORTLAND CEMENT CONCRETE DECK REPAIRS (PARTIAL DEPTH REMOVAL) | 0.00 | SF |
| | 056 819.0800 | DRILL AND GROUT REINFORCING DOWELS | 2,354.00 | EACH |
| | 057 820.0110 | CONCRETE SURFACE TREATMENT (PROTECTIVE COATING) | 196,877.00 | SF |
| (R-1) | 058 821.1690 | SAW & SEALING JOINTS IN BITUMINOUS CONCRETE PAVEMENT | 2,256.00 | LF |
| | 059 823.9901 | ASPHALTIC EXPANSION JOINT SYSTEM | 1.00 | LS |
| | 060 823.9902 | ASPHALTIC EXPANSION JOINT SYSTEM - MATERIALS AND WORKMANSHIP WARRANTY | 1.00 | LS |

Item List

Estimate Name - Addendum #2
 Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)
 R.I. Contract No. - 2016-CB-059
 FAP Nos. - BHO-0700(004)

| Seq No. | Item Code | Description | Quantity | UM |
|---------|-----------|---|-----------|----------|
| 061 | 823.9903 | STRIP SEAL EXPANSION JOINTS | 1.00 | LS |
| 062 | 824.9901 | STRUCTURAL STEEL DIAPHRAGMS - SPAN 7, FURNISH, FABRICATE AND ERECT | 1.00 | LS |
| 063 | 824.9902 | REMOVE LONGITUDINAL RESTRAINERS | 1.00 | LS |
| 064 | 824.9903 | RESTRAINER ADJUSTMENT | 1.00 | LS |
| 065 | 825.8041 | PAINTING EXISTING STRUCTURAL STEEL | 1.00 | LS |
| 066 | 825.8046 | PAINTING STRUCTURAL STEEL | 1.00 | LS |
| 067 | 826.0100 | CONTAINMENT, COLLECTION, STORAGE AND DISPOSAL OF DEBRIS AND SPENT MATERIALS | 1.00 | LS |
| 068 | 826.0200 | PERSONNEL PROTECTION DURING PAINTING AND CLEANING OPERATIONS | 1.00 | LS |
| 069 | 828.0303 | ELASTOMERIC BEARINGS LAMINATED | 24.00 | EACH |
| 070 | 828.9901 | RESET ELASTOMERIC BEARINGS | 6.00 | EACH |
| 071 | 829.0300 | POLYVINYL CHLORIDE SCUPPER PIPING | 54.00 | LF |
| 072 | 834.0111 | VERTICAL FACE GRANITE CURB STRAIGHT 10" REVEAL | 50.00 | LF |
| 073 | 834.0112 | VERTICAL FACE GRANITE CURB CURVED 10" REVEAL | 50.00 | LF |
| 074 | 834.9901 | VERTICAL FACE GRANITE CURB FOR BRIDGES - REMOVE, STOCKPILE, AND RESET | 342.00 | LF |
| 075 | 835.9901 | CLEANING AND FLUSHING OF BRIDGE DRAINAGE SYSTEM | 1.00 | LS |
| 076 | 836.0100 | STRUCTURAL CONCRETE CRACK REPAIR BY EPOXY-RESIN BASE ADHESIVE INJECTION | 4,483.00 | LF |
| 077 | 839.0200 | FULL DEPTH REMOVAL AND DISPOSAL OF BITUMINOUS PAVEMENT FROM CONCRETE BRIDGE DECKS | 17,086.00 | SY |
| 078 | 840.9901 | DECK SURFACE CONCRETE REMOVAL BY HYDRODEMOLITION (PARTIAL DEPTH) | 9,211.00 | SF |
| 079 | 840.9902 | REPLACEMENT OF DECK SURFACE CONCRETE REMOVED BY HYDRODEMOLITION (PARTIAL DEPTH) | 9,211.00 | SF |
| 080 | 842.0100 | ANTI-GRAFFITI COATING | 49,713.00 | SF |
| 081 | 901.0101 | GUARDRAIL STEEL BEAM SINGLE FACE EARTH AND ASPHALT | 1,207.00 | LF |
| 082 | 901.0103 | GUARDRAIL STEEL BEAM SINGLE FACE CONCRETE | 636.00 | LF |
| 083 | 901.0151 | TERMINAL END SECTION SINGLE FACE STANDARD 34.3.2 | 4.00 | EACH |
| 084 | 906.0602 | BITUMINOUS BERM STANDARD 7.5.1 | 600.00 | LF |
| 085 | 907.0100 | WATER FOR DUST CONTROL | 100.00 | MGA L |
| 086 | 914.5010 | FLAGPERSONS | 4,160.00 | MHRS |
| 087 | 914.5020 | FLAGPERSONS - OVERTIME | 624.00 | MHRS |
| 088 | 916.0600 | SHOCK ABSORBING BARRIER MODULES | 3.00 | GRP |

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| Seq No. | Item Code | Description | Quantity | UM |
|---------|-----------|---|-----------|------|
| 089 | 916.0700 | GUARDRAIL ENERGY ABSORBING TERMINAL IMPACT ATTENUATOR | 1.00 | EACH |
| 090 | 922.0100 | TEMPORARY CONSTRUCTION SIGNS STANDARD 29.1.0 AND 27.1.1 | 1,880.00 | SF |
| 091 | 923.0105 | DRUM BARRICADE STANDARD 26.2.0 | 21,552.00 | BDAY |
| 092 | 923.0125 | PLASTIC PIPE TYPE III BARRICADE STANDARD 26.3.1 | 35.00 | EACH |
| 093 | 923.0200 | FLUORESCENT TRAFFIC CONES STANDARD 26.1.0 | 100.00 | EACH |
| 094 | 924.0113 | ADVANCE WARNING ARROW PANEL | 492.00 | PDAY |
| 095 | 925.0112 | PORTABLE CHANGEABLE MESSAGE SIGN | 990.00 | PDAY |
| 096 | 926.0140 | REFLECTIVE DELINEATORS FOR TEMPORARY CONCRETE BARRIERS | 204.00 | EACH |
| 097 | 926.9901 | ANCHORED PRECAST MEDIAN BARRIER FOR TEMPORARY TRAFFIC CONTROL | 687.00 | LF |
| 098 | 926.9902 | UNANCHORED PRECAST MEDIAN BARRIER FOR TEMPORARY TRAFFIC CONTROL | 7,815.00 | LF |
| 099 | 928.9901 | TRUCK MOUNTED ATTENUATOR WITH TRUCK MOUNTING FLASHING ARROW BOARD | 448.00 | HRS |
| 100 | 929.0110 | FIELD OFFICE | 18.00 | PMO |
| 101 | 931.0110 | CLEANING AND SWEEPING PAVEMENT | 143.00 | HSY |
| 102 | 932.0100 | CUTTING AND MATCHING ASPHALT | 792.00 | LF |
| 103 | 935.0400 | REMOVING BITUMINOUS PAVEMENT BY MICRO MILLING | 12,852.00 | SY |
| 104 | 936.0100 | MOBILIZATION AND DEMOBILIZATION | 1.00 | LS |
| 105 | 937.0200 | MAINTENANCE AND MOVEMENT TRAFFIC PROTECTION | 1.00 | LS |
| 106 | 943.0200 | TRAINEE MAN-HOURS | 5,000.00 | MHRS |
| 107 | L01.0104 | PLANTABLE SOIL 4 INCHES DEEP | 433.00 | SY |
| S108 | L02.0101 | GENERAL HIGHWAY SEEDING (TYPE 1) | 433.00 | SY |
| 109 | T04.5001 | 6 AWG SINGLE CONDUCTOR CABLE 600V INSULATION | 350.00 | LF |
| 110 | T04.5305 | 14 AWG 5 CONDUCTOR CABLE | 850.00 | LF |
| 111 | T04.9902 | VIDEO DETECTION SYSTEM CABLE | 400.00 | LF |
| 112 | T05.0320 | PULL BOX ON STRUCTURE TYPE V STANDARD 18.6.3 | 11.00 | EACH |
| 113 | T05.9901 | TYPE V PULL BOX CHECKERED COVER PLATE | 6.00 | EACH |
| 114 | T06.2020 | 2 IN. RIGID STEEL CONDUIT-OVERHEAD | 160.00 | LF |
| 115 | T06.2030 | 3 IN. RIGID STEEL CONDUIT-OVERHEAD | 50.00 | LF |
| 116 | T08.9901 | REMOVE, STOCKPILE AND RESET LIGHT STANDARD | 1.00 | LS |
| 117 | T11.6006 | SPAN AND MESSENGER WIRES 6/16 | 150.00 | LF |
| 118 | T11.9906 | TRAFFIC SIGNAL STANDARD, WOOD, 40 FT. CLASS | 2.00 | EACH |

Item List

Estimate Name - Addendum #2
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| Seq No. | Item Code | Description | Quantity | UM |
|---------|-----------|--|-----------|------|
| 119 | T12.0004 | ACTUATED CONTROLLER TS-2, TYPE 1 W/4 PHASE ASSEMBLY POLE MOUNTED INCLUDING CABINET STD. 19.1.1 | 1.00 | EACH |
| 120 | T12.9150 | METER SOCKET W/MANUAL BY-PASS | 1.00 | EACH |
| 121 | T12.9901 | VIDEO DETECTION SYSTEM HARDWARE | 3.00 | EACH |
| 122 | T12.9905 | MODIFY EXISTING TRAFFIC SIGNAL CONTROLLER CABINET | 10.00 | EACH |
| 123 | T12.9908 | MAINTENANCE OF TRAFFIC SIGNAL SYSTEMS | 1.00 | LS |
| 124 | T13.1000 | TRAFFIC DETECTORS-LOOP, STANDARD 19.6.0 | 1,150.00 | LF |
| 125 | T13.9905 | VIDEO DETECTION SYSTEM CAMERA | 3.00 | EACH |
| 126 | T14.3413 | 1 WAY 3 SECTION SPAN MOUNTED SIGNAL HEAD 12 INCH | 6.00 | EACH |
| 127 | T14.3513 | 1 WAY 3 SECTION MAST ARM MOUNTED SIGNAL HEAD 12 INCH | 2.00 | EACH |
| 128 | T14.3613 | 1 WAY 3 SECTION BRACKET MOUNTED SIGNAL HEAD 12 INCH | 2.00 | EACH |
| 129 | T15.0100 | DIRECTIONAL REGULATORY AND WARNING SIGNS | 68.00 | SF |
| 130 | T15.0110 | GUIDE SIGNS STANDARD 29.2.0 | 224.00 | SF |
| 131 | T17.9901 | REMOVE AND REPLACE GROUT AT OVERHEAD SIGN LEVELING PLATES | 1.00 | LS |
| 132 | T20.0900 | BI-DIRECTIONAL CONTROL DEVICE STANDARD 20.2.0 | 2.00 | EACH |
| 133 | T20.1020 | REMOVE EXISTING PAVEMENT MARKINGS | 1.00 | LS |
| 134 | T20.1106 | 6 INCH TEMPORARY WATERBORNE PAINT PAVEMENT MARKINGS WHITE | 58,394.00 | LF |
| 135 | T20.1112 | 12 INCH TEMPORARY WATERBORNE PAINT PAVEMENT MARKINGS WHITE | 25.00 | LF |
| 136 | T20.1206 | 6 INCH TEMPORARY WATERBORNE PAINT PAVEMENT MARKINGS YELLOW | 25,772.00 | LF |
| 137 | T20.1212 | 12 INCH TEMPORARY WATERBORNE PAINT PAVEMENT MARKINGS YELLOW | 1,114.00 | LF |
| 138 | T20.1310 | TEMPORARY WATERBORNE PAINT PAVEMENT ARROW - STRAIGHT, LEFT, RIGHT OR COMBINED STANDARD 20.1.0 | 5.00 | EACH |
| 139 | T20.1312 | TEMPORARY WATERBORNE PAINT PAVEMENT MARKING WORD "ONLY" STANDARD 20.1.0 | 2.00 | EACH |
| 140 | T20.2006 | 6 INCH EPOXY RESIN PAVEMENT MARKINGS WHITE | 7,566.00 | LF |
| 141 | T20.2012 | 12 INCH EPOXY RESIN PAVEMENT MARKINGS WHITE | 1,846.00 | LF |
| 142 | T20.2016 | 6 INCH EPOXY RESIN PAVEMENT MARKINGS YELLOW | 4,971.00 | LF |
| 143 | 901.0197 | GUARDRAIL CONNECTION TO EXISTING ENDPPOST APPROACH END SECTION, STANDARD 34.3.5 | 3.00 | EACH |
| 144 | 901.0199 | GUARDRAIL END TREATMENT, ENERGY ABSORBING TERMINAL | 1.00 | EACH |

(R-1)

DISTRIBIUTION OF QUANTITIES

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|-----------------|--|-------------|
| 201.0409 | REMOVE AND DISPOSE FLEXIBLE PAVEMENT | 1 |
| 201.0415 | REMOVE AND DISPOSE GUARDRAIL AND POST ALL TYPES | 1 |
| 201.9902 | REMOVE AND DISPOSE IMPACT ATTENUATOR | 1 |
| 201.9903 | REMOVE AND SALVAGE TRAFFIC SIGNAL SYSTEM | 1 |
| 202.0100 | EARTH EXCAVATION | 1 |
| 202.0700 | COMMON BORROW | 2 |
| 202.0800 | GRAVEL BORROW | 2 |
| 203.0100 | STRUCTURAL EXCAVATION EARTH | 2 |
| 203.0700 | PERVIOUS FILL | 2 |
| 204.0100 | TRIMMING AND FINE GRADING | 2 |
| 206.0312 | COMPOST FILTER SOCK 12 INCH DIAMETER | 2 |
| 206.9901 | REMOVE AND DISPOSE COMPOST FILTER SOCK | 3 |
| 212.2000 | CLEANING AND MAINTENANCE OF EROSION CONTROLS | 3 |
| 213.0100 | PLACEMENT OF MILLINGS BENEATH GUARDRAIL | 3 |
| 214.0100 | CONTAINMENT SYSTEM FOR CONTROL OF HYDRODEMOLITION RUNOFF | 3 |
| 214.0200 | MAINTENANCE & DISPOSAL OF HYDRODEMOLITION RUNOFF | 4 |
| 302.0100 | GRAVEL BORROW SUBBASE COURSE | 4 |
| 401.1000 | CLASS 19.0 HMA | 4 |
| 401.2100 | MODIFIED CLASS 12.5 HMA | 4 |
| 401.3100 | MODIFIED CLASS 9.5 HMA | 4 |
| 401.9901 | PAY ADJUSTMENTS | 5 |
| 402.9901 | FRICITION COURSE WITHOUT PAY ADJUSTMENTS | 5 |
| 403.0300 | ASPHALT EMULSION TACK COAT | 6 |
| 410.1000 | TEMPORARY PATCHING MATERIAL/TRENCHES | 6 |
| 704.9901 | RECONSTRUCT MANHOLE FRAME, COLLAR AND COVER | 6 |
| 707.2000 | ADJUST FRAME AND GRATE TO GRADE | 6 |
| 708.9040 | CLEANING AND FLUSHING PIPE ALL SIZES | 7 |
| 708.9041 | CLEANING CATCH BASINS ALL TYPES AND SIZES | 7 |
| 800.9901 | TEMPORARY SUPPORT AND JACKING - DROP IN BEAMS (SPANS 1-6 AND 8-14) | 8 |
| 800.9902 | TEMPORARY JACKING AND SHORING OF BRIDGE BEAM ENDS PIERS 14 THROUGH 17 AND ABUTMENT 2 | 8 |
| 803.0400 | CLEANING BRIDGE BEAM SEATS | 9 |
| 803.9901 | TEMPORARY DECK UNDERSIDE AND SIDE PROTECTIVE SHIELDING | 9 |
| 803.9904 | REMOVE AND DISPOSE EXISTING CONCRETE SUPERSTRUCTURE | 9 |
| 803.9905 | REMOVE AND DISPOSE EXISTING CONCRETE SUBSTRUCTURE (PIER CAPS) | 9 |
| 803.9906 | REMOVE AND DISPOSE EXISTING STEEL DIAPHRAGMS (SPAN 7) | 9 |
| 803.9907 | ABUTMENT 1 DEBRIS REMOVAL AND RESTORATION | 10 |
| 808.0602 | CONCRETE SUBSTRUCTURE CLASS HP 3/4'' BACKWALLS | 10 |
| 808.1675 | POLYURETHANE ELASTOMERIC JOINT SEALANT | 10 |
| 808.9901 | CONCRETE SUPERSTRUCTURE CLASS HP 3/4'' BRIDGE DECKS | 10 |
| 808.9902 | CONCRETE SUPERSTRUCTURE CLASS HP 3/4'' PARAPETS | 11 |
| 808.9903 | CONCRETE SUPERSTRUCTURE CLASS HP 3/4'' MEDIANS | 11 |
| 808.9904 | CONCRETE SUBSTRUCTURE CLASS HP 3/4'' PIERS, COL, CAP | 11 |
| 810.0210 | GALVANIZED BAR REINFORCEMENT GRADE 60 | 11 |
| 811.9901 | SUB PAVEMENT DRAINS | 11 |
| 813.0300 | COLD APPLIED LIQUID MEMBRANE | 12 |
| 817.2100 | REPAIRS TO STRUCTURAL CONCRETE MASONRY (PNEUMATIC MORTAR) | 12 |
| 817.2110 | REPAIRS TO STRUCTURAL CONCRETE MASONRY (PATCHING MORTAR) | 13 |
| 817.2140 | REPAIRS TO STRUCTURAL CONCRETE MASONRY FORM AND CAST IN PLACE | 13 |
| 817.9902 | FIBER REINFORCED WRAP - DROP IN BEAMS (SPANS 1-6 AND 8-14) | 13 |
| 817.9903 | FIBER REINFORCED WRAP - AASHTO BEAMS (SPANS 15-18) | 14 |
| 817.9904 | FIBER REINFORCED WRAP - PIER CAPS (PIERS 14-17) | 14 |
| 817.9905 | CORBEL AND BEAM END CONFINEMENT | 14 |

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| 817.9906 | CHLORIDE EXTRACTION | 15 |
| 818.2010 | PORTLAND CEMENT CONCRETE DECK REPAIRS (FULL DEPTH REMOVAL) | 15 |
| 818.2020 | ** ITEM DELETED ** | 15 |
| 819.0800 | DRILL AND GROUT REINFORCING DOWELS | 16 |
| 820.0110 | CONCRETE SURFACE TREATMENT (PROTECTIVE COATING) | 16 |
| 821.1690 | SAW & SEALING JOINTS IN BITUMINOUS CONCRETE PAVEMENT | 17 |
| 823.9901 | ASPHALTIC EXPANSION JOINT SYSTEM | 17 |
| 823.9902 | ASPHALTIC EXPANSION JOINT SYSTEM - MATERIALS AND WORKMANSHIP WARRANTY | 17 |
| 823.9903 | STRIP SEAL EXPANSION JOINTS | 18 |
| 824.9901 | STRUCTURAL STEEL DIAPHRAGMS - SPAN 7, FURNISH, FABRICATE AND ERECT | 18 |
| 824.9902 | REMOVE LONGITUDINAL RESTRAINERS | 18 |
| 824.9903 | RESTRAINER ADJUSTMENT | 18 |
| 825.8041 | PAINTING EXISTING STRUCTURAL STEEL | 18 |
| 825.8046 | PAINTING STRUCTURAL STEEL | 18 |
| 826.0100 | CONTAINMENT, COLLECTION, STORAGE AND DISPOSAL OF DEBRIS AND SPENT MATERIALS | 19 |
| 826.0200 | PERSONNEL PROTECTION DURING PAINTING AND CLEANING OPERATIONS | 19 |
| 828.0303 | ELASTOMERIC BEARINGS LAMINATED | 19 |
| 828.9901 | RESET ELASTOMERIC BEARINGS | 19 |
| 829.0300 | POLYVINYL CHLORIDE SCUPPER PIPING | 19 |
| 834.0111 | VERTICAL FACE GRANITE CURB STRAIGHT 10'' REVEAL | 19 |
| 834.0112 | VERTICAL FACE GRANITE CURB CURVED 10'' REVEAL | 20 |
| 834.9901 | VERTICAL FACE GRANITE CURB FOR BRIDGES - REMOVE, STOCKPILE, AND RESET | 20 |
| 835.9901 | CLEANING AND FLUSHING OF BRIDGE DRAINAGE SYSTEM | 20 |
| 836.0100 | STRUCTURAL CONCRETE CRACK REPAIR BY EPOXY-RESIN BASE ADHESIVE INJECTION | 20 |
| 839.0200 | FULL DEPTH REMOVAL AND DISPOSAL OF BITUMINOUS PAVEMENT FROM CONCRETE BRIDGE DECKS | 21 |
| 840.9901 | DECK SURFACE CONCRETE REMOVAL BY HYDRODEMOLITION (PARTIAL DEPTH) | 22 |
| 840.9902 | REPLACEMENT OF DECK SURFACE CONCRETE REMOVED BY HYDRODEMOLITION (PARTIAL DEPTH) | 22 |
| 842.0100 | ANTI-GRAFFITI COATING | 23 |
| 901.0101 | GUARDRAIL STEEL BEAM SINGLE FACE EARTH AND ASPHALT | 24 |
| 901.0103 | GUARDRAIL STEEL BEAM SINGLE FACE CONCRETE | 24 |
| 901.0151 | TERMINAL END SECTION SINGLE FACE STANDARD 34.3.2 | 24 |
| 906.0602 | BITUMINOUS BERM STANDARD 7.5.1 | 24 |
| 907.0100 | WATER FOR DUST CONTROL | 25 |
| 914.5010 | FLAGPERSONS | 25 |
| 914.5020 | FLAGPERSONS - OVERTIME | 25 |
| 916.0600 | SHOCK ABSORBING BARRIER MODULES | 25 |
| 916.0700 | GUARDRAIL ENERGY ABSORBING TERMINAL IMPACT ATTENUATOR | 25 |
| 922.0100 | TEMPORARY CONSTRUCTION SIGNS STANDARD 29.1.0 AND 27.1.1 | 25 |
| 923.0105 | DRUM BARRICADE STANDARD 26.2.0 | 29 |
| 923.0125 | PLASTIC PIPE TYPE III BARRICADE STANDARD 26.3.1 | 30 |
| 923.0200 | FLUORESCENT TRAFFIC CONES STANDARD 26.1.0 | 30 |
| 924.0113 | ADVANCE WARNING ARROW PANEL | 30 |
| 925.0112 | PORTABLE CHANGEABLE MESSAGE SIGN | 30 |
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| 926.9901 | ANCHORED PRECAST MEDIAN BARRIER FOR TEMPORARY TRAFFIC CONTROL | 31 |

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| 926.9902 | UNANCHORED PRECAST MEDIAN BARRIER FOR TEMPORARY TRAFFIC CONTROL | 31 |
| 928.9901 | TRUCK MOUNTED ATTENUATOR WITH TRUCK MOUNTING FLASHING ARROW BOARD | 32 |
| 929.0110 | FIELD OFFICE | 32 |
| 931.0110 | CLEANING AND SWEEPING PAVEMENT | 32 |
| 932.0100 | CUTTING AND MATCHING ASPHALT | 33 |
| 935.0400 | REMOVING BITUMINOUS PAVEMENT BY MICRO MILLING | 33 |
| 936.0100 | MOBILIZATION AND DEMOBILIZATION | 33 |
| 937.0200 | MAINTENANCE AND MOVEMENT TRAFFIC PROTECTION | 33 |
| 943.0200 | TRAINEE MAN-HOURS | 33 |
| L01.0104 | PLANTABLE SOIL 4 INCHES DEEP | 34 |
| L02.0101 | GENERAL HIGHWAY SEEDING (TYPE 1) | 34 |
| T04.5001 | 6 AWG SINGLE CONDUCTOR CABLE 600V INSULATION | 34 |
| T04.5305 | 14 AWG 5 CONDUCTOR CABLE | 34 |
| T04.9902 | VIDEO DETECTION SYSTEM CABLE | 34 |
| T05.0320 | PULL BOX ON STRUCTURE TYPE V STANDARD 18.6.3 | 34 |
| T05.9901 | TYPE V PULL BOX CHECKERED COVER PLATE | 35 |
| T06.2020 | 2 IN. RIGID STEEL CONDUIT-OVERHEAD | 35 |
| T06.2030 | 3 IN. RIGID STEEL CONDUIT-OVERHEAD | 35 |
| T08.9901 | REMOVE, STOCKPILE AND RESET LIGHT STANDARD | 35 |
| T11.6006 | SPAN AND MESSENGER WIRES 6/16 | 35 |
| T11.9906 | TRAFFIC SIGNAL STANDARD, WOOD, 40 FT. CLASS | 36 |
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| T12.9150 | METER SOCKET W/MANUAL BY-PASS | 36 |
| T12.9901 | VIDEO DETECTION SYSTEM HARDWARE | 36 |
| T12.9905 | MODIFY EXISTING TRAFFIC SIGNAL CONTROLLER CABINET | 36 |
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| T14.3513 | 1 WAY 3 SECTION MAST ARM MOUNTED SIGNAL HEAD 12 INCH | 38 |
| T14.3613 | 1 WAY 3 SECTION BRACKET MOUNTED SIGNAL HEAD 12 INCH | 38 |
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| T15.0110 | GUIDE SIGNS STANDARD 29.2.0 | 38 |
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| T20.0900 | BI-DIRECTIONAL CONTROL DEVICE STANDARD 20.2.0 | 39 |
| T20.1020 | REMOVE EXISTING PAVEMENT MARKINGS | 40 |
| T20.1106 | 6 INCH TEMPORARY WATERBORNE PAINT PAVEMENT MARKINGS WHITE | 40 |
| T20.1112 | 12 INCH TEMPORARY WATERBORNE PAINT PAVEMENT MARKINGS WHITE | 40 |
| T20.1206 | 6 INCH TEMPORARY WATERBORNE PAINT PAVEMENT MARKINGS YELLOW | 41 |
| T20.1212 | 12 INCH TEMPORARY WATERBORNE PAINT PAVEMENT MARKINGS YELLOW | 41 |
| T20.1310 | TEMPORARY WATERBORNE PAINT PAVEMENT ARROW - STRAIGHT, LEFT, RIGHT OR COMBINED STANDARD 20.1.0 | 42 |
| T20.1312 | TEMPORARY WATERBORNE PAINT PAVEMENT MARKING WORD "ONLY" STANDARD 20.1.0 | 42 |
| T20.2006 | 6 INCH EPOXY RESIN PAVEMENT MARKINGS WHITE | 42 |
| T20.2012 | 12 INCH EPOXY RESIN PAVEMENT MARKINGS WHITE | 43 |
| T20.2016 | 6 INCH EPOXY RESIN PAVEMENT MARKINGS YELLOW | 44 |
| 901.0197 | GUARDRAIL CONNECTION TO EXISTING ENDPOST APPROACH END SECTION, STANDARD 34.3.5 | 44 |
| 901.0199 | GUARDRAIL END TREATMENT, ENERGY ABSORBING TERMINAL | 44 |

Distribution of Quantities

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos: BHO-0700(004)

| Item No. | Item Code | Description | UM | Qty. | Pay Code | Seq. No. |
|---------------------------------|-----------|-----------------------------------|------|-----------------------------|------------------|----------|
| 022 | 402.9901 | Cont. (GORE AREA) | | | | |
| | | | | Item 402.9901 Total: | 1,800.00 | |
| 023 | 403.0300 | ASPHALT EMULSION TACK COAT | SY | | | |
| WASHINGTON BRIDGE NORTH NO. 700 | | | | | | |
| | | GANO STREET RAMP | | 1,138.00 | 0014 | 01 |
| | | RAMP DR-1 | | 811.00 | 0014 | 01 |
| | | STA. 16+78 TO STA. 21+54 | | 3,667.00 | 0014 | 01 |
| | | STA. 40+46 TO STA. 53+50 | | 7,672.00 | 0014 | 01 |
| | | STA. 40+50 TO STA. 43+50 LT | | 865.00 | 0014 | 01 |
| | | | | Item 403.0300 Total: | 14,153.00 | |
| 024 | 410.1000 | TEMPORARY PATCHING | TON | | | |
| MATERIAL/TRENCHES | | | | | | |
| WASHINGTON BRIDGE NORTH NO. 700 | | | | | | |
| | | PROJECT WIDE AS REQUIRED | | 355.00 | 0014 | 01 |
| | | | | Item 410.1000 Total: | 355.00 | |
| 025 | 704.9901 | RECONSTRUCT MANHOLE FRAME, COLLAR | LS | | | |
| AND COVER | | | | | | |
| WASHINGTON BRIDGE NORTH NO. 700 | | | | | | |
| | | GORE AREA | | 1.00 | 0014 | 01 |
| | | | | Item 704.9901 Total: | 1.00 | |
| 026 | 707.2000 | ADJUST FRAME AND GRATE TO GRADE | EACH | | | |
| WASHINGTON BRIDGE NORTH NO. 700 | | | | | | |
| | | SECOND ADJUSTMENT | | 17.00 | 0014 | 01 |
| | | STA. 17+00 LT & RT | | 2.00 | 0014 | 01 |
| | | STA. 20+79 LT | | 1.00 | 0014 | 01 |
| | | STA. 4+88 LT | | 1.00 | 0014 | 01 |
| | | STA. 41+17 RT | | 1.00 | 0014 | 01 |
| | | STA. 44+06 RT | | 2.00 | 0014 | 01 |
| | | STA. 45+37 RT | | 1.00 | 0014 | 01 |

Distribution of Quantities

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos: BHO-0700(004)

| <u>Item No.</u> | <u>Item Code</u> | <u>Description</u> | <u>UM</u> | <u>Qty.</u> | <u>Pay Code</u> | <u>Seq. No.</u> |
|-----------------------------|------------------|--|-------------|---------------|-----------------|-----------------|
| 026 | 707.2000 Cont. | STA. 45+76 RT | | 1.00 | 0014 | 01 |
| | | STA. 49+00 LT | | 2.00 | 0014 | 01 |
| | | STA. 49+75 LT | | 1.00 | 0014 | 01 |
| | | STA. 5+40 LT (RAMP M) | | 1.00 | 0014 | 01 |
| | | STA. 51+50 LT | | 2.00 | 0014 | 01 |
| | | STA. 53+50 LT | | 2.00 | 0014 | 01 |
| Item 707.2000 Total: | | | | 34.00 | | |
| 027 | 708.9040 | CLEANING AND FLUSHING PIPE ALL SIZES | LF | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | ABUTMENT 1 | | 52.00 | 0014 | 01 |
| | | PIER 01 | | 52.00 | 0014 | 01 |
| | | PIER 03 | | 48.00 | 0014 | 01 |
| | | PIER 15 | | 32.00 | 0014 | 01 |
| | | PIER 17 | | 32.00 | 0014 | 01 |
| | | STA. 26+87 RT | | 6.00 | 0014 | 01 |
| | | STA. 28+69 RT | | 6.00 | 0014 | 01 |
| | | STA. 30+76 RT | | 6.00 | 0014 | 01 |
| | | STA. 32+12 RT | | 6.00 | 0014 | 01 |
| | | STA. 33+28 RT | | 6.00 | 0014 | 01 |
| | | STA. 34+47 RT | | 6.00 | 0014 | 01 |
| | | STA. 35+50 RT | | 6.00 | 0014 | 01 |
| Item 708.9040 Total: | | | | 258.00 | | |
| 028 | 708.9041 | CLEANING CATCH BASINS ALL TYPES AND SIZES | EACH | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | STA. 17+00 LT & RT | | 2.00 | 0014 | 01 |
| | | STA. 20+79 LT | | 1.00 | 0014 | 01 |
| | | STA. 4+88 LT | | 1.00 | 0014 | 01 |
| | | STA. 41+17 RT | | 1.00 | 0014 | 01 |
| | | STA. 44+06 RT | | 1.00 | 0014 | 01 |

Distribution of Quantities

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos: BHO-0700(004)

| <u>Item No.</u> | <u>Item Code</u> | <u>Description</u> | <u>UM</u> | <u>Qty.</u> | <u>Pay Code</u> | <u>Seq. No.</u> |
|---------------------|------------------|---------------------|-----------|-------------|---------------------|---------------------|
| 028 | 708.9041 | Cont. STA. 45+37 RT | | 1.00 | 0014 | 01 |

Distribution of Quantities

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos: BHO-0700(004)

| Item No. | Item Code | Description | UM | Qty. | Pay Code | Seq. No. |
|-----------------------------|----------------|---|-------------|--------------|----------|----------|
| 028 | 708.9041 Cont. | STA. 45+76 RT | | 1.00 | 0014 | 01 |
| | | STA. 49+00 LT | | 2.00 | 0014 | 01 |
| | | STA. 49+75 LT | | 1.00 | 0014 | 01 |
| | | STA. 5+40 LT (RAMP M) | | 1.00 | 0014 | 01 |
| | | STA. 51+50 LT | | 2.00 | 0014 | 01 |
| | | STA. 53+50 LT | | 2.00 | 0014 | 01 |
| Item 708.9041 Total: | | | | 16.00 | | |
| 029 | 800.9901 | TEMPORARY SUPPORT AND JACKING - | EACH | | | |
| | | DROP IN BEAMS (SPANS 1-6 AND 8-14) | | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | AS DIRECTED BY THE ENGINEER | | 6.00 | 0014 | 01 |
| | | PIER 01 | | 5.00 | 0014 | 01 |
| | | PIER 02 | | 3.00 | 0014 | 01 |
| | | PIER 03 | | 4.00 | 0014 | 01 |
| | | PIER 04 | | 4.00 | 0014 | 01 |
| | | PIER 05 | | 5.00 | 0014 | 01 |
| | | PIER 06 | | 4.00 | 0014 | 01 |
| | | PIER 07 | | 3.00 | 0014 | 01 |
| | | PIER 08 | | 4.00 | 0014 | 01 |
| | | PIER 09 | | 2.00 | 0014 | 01 |
| | | PIER 10 | | 3.00 | 0014 | 01 |
| | | PIER 11 | | 4.00 | 0014 | 01 |
| | | PIER 12 | | 4.00 | 0014 | 01 |
| | | PIER 13 | | 4.00 | 0014 | 01 |
| | | PIER 3R | | 2.00 | 0014 | 01 |
| Item 800.9901 Total: | | | | 57.00 | | |
| 030 | 800.9902 | TEMPORARY JACKING AND SHORING OF | EACH | | | |
| | | BRIDGE BEAM ENDS PIERS 14 THROUGH | | | | |
| | | 17 AND ABUTMENT 2 | | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | PIER 14 | | 6.00 | 0014 | 01 |

Distribution of Quantities

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos: BHO-0700(004)

| <u>Item No.</u> | <u>Item Code</u> | <u>Description</u> | <u>UM</u> | <u>Qty.</u> | <u>Pay Code</u> | <u>Seq. No.</u> |
|---------------------|------------------|--------------------|-----------|-------------|---------------------|---------------------|
| 030 | 800.9902 | Cont. SPAN 15 | | 24.00 | 0014 | 01 |

Distribution of Quantities

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos: BHO-0700(004)

| <u>Item No.</u> | <u>Item Code</u> | <u>Description</u> | <u>UM</u> | <u>Qty.</u> | <u>Pay Code</u> | <u>Seq. No.</u> |
|-----------------------------|------------------|---|-----------|---|--|--|
| 036 | 803.9907 | ABUTMENT 1 DEBRIS REMOVAL AND RESTORATION WASHINGTON BRIDGE NORTH NO. 700 ABUTMENT 1 | LS | 1.00 | 0014 | 01 |
| Item 803.9907 Total: | | | | 1.00 | | |
| 037 | 808.0602 | CONCRETE SUBSTRUCTURE CLASS HP 3/4'' BACKWALLS WASHINGTON BRIDGE NORTH NO. 700 ABUTMENT #2 AS DIRECTED BY THE ENGINEER | CY | 7.00 2.00 | 0014 0014 | 01 01 |
| Item 808.0602 Total: | | | | 9.00 | | |
| 038 | 808.1675 | POLYURETHANE ELASTOMERIC JOINT SEALANT WASHINGTON BRIDGE NORTH NO. 700 ABUTMENT #2 AS DIRECTED BY THE ENGINEER PYLONS - PIERS 14 - 17 SPAN 16 SPAN 17 SPAN 18 SPANS 01 - 14: CONTRACTION JOINTS SPANS 01 - 14: EXPANSION JOINTS | CI | 1,017.00 1,108.00 1,808.00 62.00 4,568.00 8,260.00 1,116.00 4,423.00 | 0014 0014 0014 0014 0014 0014 0014 0014 | 01 01 01 01 01 01 01 01 |
| Item 808.1675 Total: | | | | 22,362.00 | | |
| 039 | 808.9901 | CONCRETE SUPERSTRUCTURE CLASS HP 3/4'' BRIDGE DECKS WASHINGTON BRIDGE NORTH NO. 700 LINK SLAB LOCATIONS | LS | 1.00 | 0014 | 01 |
| Item 808.9901 Total: | | | | 1.00 | | |

Distribution of Quantities

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos: BHO-0700(004)

| <u>Item No.</u> | <u>Item Code</u> | <u>Description</u> | <u>UM</u> | <u>Qty.</u> | <u>Pay Code</u> | <u>Seq. No.</u> |
|-----------------------------|------------------|---------------------------------|-----------|-----------------|-----------------|-----------------|
| 046 | 817.2100 Cont. | SPANDREL ARCHES | | 106.00 | 0014 | 01 |
| | | SUBSTRUCTURE | | 122.00 | 0014 | 01 |
| | | SUPERSTRUCTURE | | 170.00 | 0014 | 01 |
| Item 817.2100 Total: | | | | 445.00 | | |
| 047 | 817.2110 | REPAIRS TO STRUCTURAL CONCRETE | CF | | | |
| | | MASONRY (PATCHING MORTAR) | | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | AS DIRECTED BY THE ENGINEER | | 136.00 | 0014 | 01 |
| | | MOVED FROM 818.2020 | | 37.00 | 0014 | 01 |
| | | SPANDREL ARCHES | | 319.00 | 0014 | 01 |
| | | SUBSTRUCTURE | | 338.00 | 0014 | 01 |
| | | SUPERSTRUCTURE | | 523.00 | 0014 | 01 |
| Item 817.2110 Total: | | | | 1,353.00 | | |
| 048 | 817.2140 | REPAIRS TO STRUCTURAL CONCRETE | CF | | | |
| | | MASONRY FORM AND CAST IN PLACE | | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | AS DIRECTED BY THE ENGINEER | | 219.00 | 0014 | 01 |
| | | SPANDREL ARCHES | | 106.00 | 0014 | 01 |
| | | SUBSTRUCTURE | | 571.00 | 0014 | 01 |
| | | SUPERSTRUCTURE | | 243.00 | 0014 | 01 |
| Item 817.2140 Total: | | | | 1,139.00 | | |
| 049 | 817.9902 | FIBER REINFORCED WRAP - DROP IN | SF | | | |
| | | BEAMS (SPANS 1-6 AND 8-14) | | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | AS DIRECTED BY THE ENGINEER | | 2,600.00 | 0014 | 01 |
| | | SPAN 01 | | 975.00 | 0014 | 01 |
| | | SPAN 02 | | 975.00 | 0014 | 01 |
| | | SPAN 03 | | 975.00 | 0014 | 01 |
| | | SPAN 04 | | 975.00 | 0014 | 01 |
| | | SPAN 05 | | 1,300.00 | 0014 | 01 |

Distribution of Quantities

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos: BHO-0700(004)

| <u>Item No.</u> | <u>Item Code</u> | <u>Description</u> | <u>UM</u> | <u>Qty.</u> | <u>Pay Code</u> | <u>Seq. No.</u> |
|---------------------|------------------|--------------------|-----------|-------------|---------------------|---------------------|
| 049 | 817.9902 | Cont. SPAN 06 | | 975.00 | 0014 | 01 |

Distribution of Quantities

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos: BHO-0700(004)

| <u>Item No.</u> | <u>Item Code</u> | <u>Description</u> | <u>UM</u> | <u>Qty.</u> | <u>Pay Code</u> | <u>Seq. No.</u> |
|-----------------------------|------------------|--------------------------------------|-----------|-----------------|-----------------|-----------------|
| 052 | 817.9905 Cont. | SPAN 02 | | 5.00 | 0014 | 01 |
| | | SPAN 03 | | 4.00 | 0014 | 01 |
| | | SPAN 04 | | 6.00 | 0014 | 01 |
| | | SPAN 05 | | 7.00 | 0014 | 01 |
| | | SPAN 06 | | 3.00 | 0014 | 01 |
| | | SPAN 08 | | 6.00 | 0014 | 01 |
| | | SPAN 09 | | 6.00 | 0014 | 01 |
| | | SPAN 10 | | 4.00 | 0014 | 01 |
| | | SPAN 11 | | 4.00 | 0014 | 01 |
| | | SPAN 12 | | 6.00 | 0014 | 01 |
| | | SPAN 13 | | 6.00 | 0014 | 01 |
| | | SPAN 14 | | 3.00 | 0014 | 01 |
| Item 817.9905 Total: | | | | 72.00 | | |
| 053 | 817.9906 | CHLORIDE EXTRACTION | LS | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | PIERS 14 - 17 | | 1.00 | 0014 | 01 |
| Item 817.9906 Total: | | | | 1.00 | | |
| 054 | 818.2010 | PORTLAND CEMENT CONCRETE DECK | SF | | | |
| | | REPAIRS (FULL DEPTH REMOVAL) | | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | - BRIDGE DECK | | | | |
| | | SPAN 15 | | 90.00 | 0014 | 01 |
| | | SPAN 16 | | 130.00 | 0014 | 01 |
| | | SPAN 17 | | 150.00 | 0014 | 01 |
| | | SPAN 18 | | 160.00 | 0014 | 01 |
| | | SPANS 1-14: 20% OF ITEM | | 1,377.00 | 0014 | 01 |
| | | 840.9901 TOTAL | | | | |
| Item 818.2010 Total: | | | | 1,907.00 | | |

055 818.2020 PORTLAND CEMENT CONCRETE DECK SF
REPAIRS (PARTIAL DEPTH REMOVAL)

Distribution of Quantities

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos: BHO-0700(004)

| Item No. | Item Code | Description | UM | Qty. | Pay Code | Seq. No. |
|-----------------------------|----------------|---|-------------|-------------------|--------------------|----------|
| 055 | 818.2020 Cont. | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | - BRIDGE DECK | | | | |
| | | AS DIRECTED BY THE ENGINEER | | | 0014 | 01 |
| | | SPAN 15 | | | 0014 | 01 |
| | | SPAN 16 | | | 0014 | 01 |
| | | SPAN 17 | | | 0014 | 01 |
| | | SPAN 18 | | | 0014 | 01 |
| Item 818.2020 Total: | | | | | **DELETED** | |
| 056 | 819.0800 | DRILL AND GROUT REINFORCING DOWELS | EACH | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | ABUTMENT #2 | | 226.00 | 0014 | 01 |
| | | AS DIRECTED BY THE ENGINEER | | 214.00 | 0014 | 01 |
| | | SPAN 16 | | 434.00 | 0014 | 01 |
| | | SPAN 17 | | 626.00 | 0014 | 01 |
| | | SPAN 18 | | 854.00 | 0014 | 01 |
| Item 819.0800 Total: | | | | 2,354.00 | | |
| 057 | 820.0110 | CONCRETE SURFACE TREATMENT | SF | | | |
| | | (PROTECTIVE COATING) | | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | AS DIRECTED BY THE ENGINEER | | 16,553.00 | 0014 | 01 |
| | | BACKWALL SEALER (ABUTMENT #1) | | 248.00 | 0014 | 01 |
| | | BEAM SEALER (SPANS 15-18) | | 8,948.00 | 0014 | 01 |
| | | CANTILEVER BEAM SEALER | | 96,924.00 | 0014 | 01 |
| | | DROP-IN-BEAM SEALER | | 16,640.00 | 0014 | 01 |
| | | PARAPET SEALER | | 23,617.00 | 0014 | 01 |
| | | PEDESTAL SEALER (PIERS 6-7) | | 138.00 | 0014 | 01 |
| | | PIER CAP SEALER (PIERS 14-17) | | 5,855.00 | 0014 | 01 |
| | | PIER COLUMN SEALER (PIERS | | 4,274.00 | 0014 | 01 |
| | | 1-3 & 10-13) | | | | |
| | | SPANDREL WALL SEALER | | 23,680.00 | 0014 | 01 |
| Item 820.0110 Total: | | | | 196,877.00 | | |

Distribution of Quantities

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos: BHO-0700(004)

| <u>Item No.</u> | <u>Item Code</u> | <u>Description</u> | <u>UM</u> | <u>Qty.</u> | <u>Pay Code</u> | <u>Seq. No.</u> |
|-----------------------------|------------------|--|-----------|-----------------|-----------------|-----------------|
| 058 | 821.1690 | SAW & SEALING JOINTS IN BITUMINOUS CONCRETE PAVEMENT | LF | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | AT ABUTMENT #1 | | 62.00 | 0014 | 01 |
| | | AT ABUTMENT #2 | | 139.00 | 0014 | 01 |
| | | AT PIER 15 | | 201.00 | 0014 | 01 |
| | | AT PIER 16 | | 220.00 | 0014 | 01 |
| | | AT PIER 17 | | 247.00 | 0014 | 01 |
| | | SPAN 01 | | 68.00 | 0014 | 01 |
| | | SPAN 02 | | 136.00 | 0014 | 01 |
| | | SPAN 03 | | 68.00 | 0014 | 01 |
| | | SPAN 04 | | 136.00 | 0014 | 01 |
| | | SPAN 05 | | 93.00 | 0014 | 01 |
| | | SPAN 06 | | 136.00 | 0014 | 01 |
| | | SPAN 08 | | 136.00 | 0014 | 01 |
| | | SPAN 09 | | 136.00 | 0014 | 01 |
| | | SPAN 10 | | 68.00 | 0014 | 01 |
| | | SPAN 11 | | 136.00 | 0014 | 01 |
| | | SPAN 12 | | 136.00 | 0014 | 01 |
| | | SPAN 13 | | 68.00 | 0014 | 01 |
| | | SPAN 14 | | 70.00 | 0014 | 01 |
| Item 821.1690 Total: | | | | 2,256.00 | | |
| 059 | 823.9901 | ASPHALTIC EXPANSION JOINT SYSTEM | LS | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | PROJECT WIDE | | 1.00 | 0014 | 01 |
| Item 823.9901 Total: | | | | 1.00 | | |
| 060 | 823.9902 | ASPHALTIC EXPANSION JOINT SYSTEM - MATERIALS AND WORKMANSHIP WARRANTY | LS | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 | | | | |
| | | PROJECT WIDE | | 1.00 | 0014 | 01 |

Distribution of Quantities

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos: BHO-0700(004)

| <u>Item No.</u> | <u>Item Code</u> | <u>Description</u> | <u>UM</u> | <u>Qty.</u> | <u>Pay Code</u> | <u>Seq. No.</u> |
|-----------------------------|------------------|--|-----------|-----------------|-----------------|-----------------|
| 141 | T20.2012 Cont. | GP #3 - RAMP DR-1 - STA. 3+30 TO STA. 6+15 | | 285.00 | 0014 | 01 |
| | | GP #3 - RAMP DR-2 - STA. 3+30 TO STA. 6+15 | | 285.00 | 0014 | 01 |
| | | LOCATION #4 - BROADWAY/I-195 RAMP | | 25.00 | 0014 | 01 |
| Item T20.2012 Total: | | | | 1,846.00 | | |
| 142 | T20.2016 | 6 INCH EPOXY RESIN PAVEMENT MARKINGS YELLOW | LF | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 GANO ST RAMP | | 778.00 | 0014 | 01 |
| | | LOCATION #5 - SUMMIT/WATERMAN INTERSECTION | | 110.00 | 0014 | 01 |
| | | RAMP DR-1 | | 390.00 | 0014 | 01 |
| | | RAMP T | | 20.00 | 0014 | 01 |
| | | STA. 16+77 TO STA. 53+50 | | 3,673.00 | 0014 | 01 |
| Item T20.2016 Total: | | | | 4,971.00 | | |
| 143 | 901.0197 | GUARDRAIL CONNECTION TO EXISTING ENDPOST APPROACH END SECTION, STANDARD 34.3.5 | EACH | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 STA. 20+60 LT | | 1.00 | 0014 | 01 |
| | | STA. 4+85 LT (RAMP M) | | 1.00 | 0014 | 01 |
| | | STA. 44+66 LT | | 1.00 | 0014 | 01 |
| Item 901.0197 Total: | | | | 3.00 | | |
| 144 | 901.0199 | GUARDRAIL END TREATMENT, ENERGY ABSORBING TERMINAL | EACH | | | |
| | | WASHINGTON BRIDGE NORTH NO. 700 STA. 6+00 LT (RAMP M) | | 1.00 | 0014 | 01 |
| Item 901.0199 Total: | | | | 1.00 | | |

PROPOSAL

PROPOSAL

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

PROPOSAL

Project Name - 0009N WASHINGTON BRIDGE NORTH
NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos: BHO-0700(004)

THE UNDERSIGNED BIDDER HAS CAREFULLY EXAMINED THE SITE OF THE WORK DESCRIBED HEREIN, HAS BECOME FAMILIAR WITH LOCAL CONDITIONS AND THE CHARACTER AND EXTENT OF THE WORK, HAS CAREFULLY EXAMINED THE PLANS, THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WITH LATEST REVISIONS AND SUPPLEMENTS TO DATE OF CONTRACT, WHICH ARE ACKNOWLEDGED TO BE A PART OF THIS PROPOSAL, THE SPECIAL PROVISIONS, THE PROPOSAL FORM, THE FORM OF CONTRACT AGREEMENT, AND THE FORM OF CONTRACT BOND, AND THOROUGHLY UNDERSTANDS THEIR STIPULATIONS, REQUIREMENTS AND PROVISIONS.

THE UNDERSIGNED BIDDER HAS DETERMINED THE QUALITY AND QUANTITY OF EQUIPMENT AND MATERIALS REQUIRED, HAS INVESTIGATED THE LOCATION AND DETERMINED THE SOURCES OF SUPPLY OF MATERIALS REQUIRED, HAS INVESTIGATED LABOR CONDITIONS, AND HAS ARRANGED FOR THE CONTINUOUS PROSECUTION OF THE WORK HEREIN DESCRIBED.

THE UNDERSIGNED BIDDER HEREBY AGREES TO BE BOUND BY THE AWARD OF THE CONTRACT AND IF AWARDED THE CONTRACT ON THIS PROPOSAL TO EXECUTE WITHIN TEN (10) DAYS AFTER NOTICE OF AWARD THE REQUIRED CONTRACT AGREEMENT AND THE REQUIRED CONTRACT BOND, OF WHICH CONTRACT THIS PROPOSAL, THE PLANS FOR THE WORK, AND THE SPECIFICATIONS AS ABOVE INDICATED, SHALL BE A PART.

THE UNDERSIGNED BIDDER FURTHER AGREES TO PROVIDE ALL NECESSARY EQUIPMENT, TOOLS, LABOR, INCIDENTALS, AND OTHER MEANS OF CONSTRUCTION TO DO ALL THE WORK AND FURNISH ALL MATERIALS OF THE SPECIFIED REQUIREMENTS WHICH ARE NECESSARY TO COMPLETE THE WORK IN ACCORDANCE WITH THE PROPOSAL, THE PLANS AND THE SPECIFICATIONS AND AGREES TO ACCEPT THEREFORE, AS PAYMENT IN FULL, THE UNIT PRICES FOR THE VARIOUS ITEMS DESCRIBED IN THE SPECIFICATIONS AND SET FORTH IN THE PROPOSAL. ANY "EXTRA" OR "FORCE ACCOUNT WORK" WILL BE PAID FOR AS SET FORTH IN SUBSECTION 109.04, DIFFERING SITE CONDITIONS, CHANGES, EXTRA WORK AND FORCE ACCOUNT WORK, OF THE STANDARD SPECIFICATIONS AND THE UNDERSIGNED BIDDER HEREBY AGREES TO ACCEPT PAYMENT THEREFORE AS STATED THEREIN.

THE BIDDER UNDERSTANDS THAT THE QUANTITIES OF WORK SHOWN HEREIN ARE APPROXIMATE ONLY AND ARE SUBJECT TO INCREASE OR DECREASE AND AGREES THAT ALL QUANTITIES OF WORK, WHETHER INCREASED OR DECREASED, ARE TO BE PERFORMED AT THE UNIT PRICES STATED IN THE FOLLOWING ESTIMATE OF QUANTITIES AND SCHEDULE OF PRICES FOR THE WORK DESCRIBED, SUBJECT HOWEVER, TO STIPULATIONS IN SUBSECTION 104.02, CHANGES IN THE CONTRACT, OF THE STANDARD SPECIFICATIONS.

SPECIAL NOTICE

PROPOSAL

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700
(57A T-J)

Estimate Name - Addendum #2
R.I. Contract No. - 2016-CB-059
FAP Nos - BHO-0700(004)

All items in the Proposal must have a unit bid price in words and figures. All unit bid prices must be extended. Bids will not be accepted if they contain no unit price for an item or if they contain zero in words and figures as the unit price bid.

The minimum acceptable bid price for:

Code 212.2000, CLEANING AND MAINTENANCE OF EROSION CONTROLS is Four Thousand Five Hundred Dollars And No Cents (\$4,500.00) per LS

Code 907.0100, WATER FOR DUST CONTROL is Fourteen Dollars And Fifty Cents (\$14.50) per MGAL

Code 914.5010, FLAGPERSONS is Forty Nine Dollars And Fifty Cents (\$49.50) per MHRS

Code 914.5020, FLAGPERSONS - OVERTIME is Sixty Three Dollars And Fifty Cents (\$63.50) per MHRS

Code 928.9901, TRUCK MOUNTED ATTENUATOR WITH TRUCK MOUNTING FLASHING ARROW BOARD is Seventy Five Dollars And No Cents (\$75.00) per HRS

Code 937.0200, MAINTENANCE AND MOVEMENT TRAFFIC PROTECTION is One Hundred Fifty Thousand Dollars And No Cents (\$150,000.00) per LS

Code 943.0200, TRAINEE MAN-HOURS is Six Dollars And No Cents (\$6.00) per MHRS

The only acceptable bid price for:

Code 401.9901, PAY ADJUSTMENTS is One Dollar And No Cents (\$1.00) per EACH

Items preceded with the letter "S" in the proposal are Specialty Items.

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|----------|---|------|--------------------------|------------------------|
| 001 | 201.0409 | 433.00 | REMOVE AND DISPOSE FLEXIBLE PAVEMENT | | | |
| | AT | | | SY | | |
| 002 | 201.0415 | 1,843.00 | REMOVE AND DISPOSE GUARDRAIL AND POST ALL TYPES | | | |
| | AT | | | LF | | |
| 003 | 201.9902 | 1.00 | REMOVE AND DISPOSE IMPACT ATTENUATOR | | | |
| | AT | | | EACH | | |
| 004 | 201.9903 | 1.00 | REMOVE AND SALVAGE TRAFFIC SIGNAL SYSTEM | | | |
| | AT | | | LS | | |
| 005 | 202.0100 | 207.00 | EARTH EXCAVATION | | | |
| | AT | | | CY | | |
| 006 | 202.0700 | 73.00 | COMMON BORROW | | | |
| | AT | | | CY | | |
| 007 | 202.0800 | 11.00 | GRAVEL BORROW | | | |
| | AT | | | CY | | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|----------|--|------|--------------------------|------------------------|
| 008 | 203.0100 | 21.00 | STRUCTURAL EXCAVATION EARTH | | | |
| | AT | | | CY | _____ | _____ |
| 009 | 203.0700 | 6.00 | PERVIOUS FILL | | | |
| | AT | | | CY | _____ | _____ |
| 010 | 204.0100 | 339.00 | TRIMMING AND FINE GRADING | | | |
| | AT | | | SY | _____ | _____ |
| 011 | 206.0312 | 600.00 | COMPOST FILTER SOCK 12 INCH DIAMETER | | | |
| | AT | | | LF | _____ | _____ |
| 012 | 206.9901 | 600.00 | REMOVE AND DISPOSE COMPOST FILTER SOCK | | | |
| | AT | | | LF | _____ | _____ |
| 013 | 212.2000 | 1.00 | CLEANING AND MAINTENANCE OF EROSION CONTROLS | | | |
| | AT | | | LS | _____ | _____ |
| 014 | 213.0100 | 824.00 | PLACEMENT OF MILLINGS BENEATH GUARDRAIL | | | |
| | AT | | | LF | _____ | _____ |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-------------------------|----------|--|------|--------------------------|------------------------|
| 015 | 214.0100 | 1.00 | CONTAINMENT SYSTEM FOR CONTROL OF HYDRODEMOLITION RUNOFF | | | |
| AT | | | | LS | | |
| 016 | 214.0200 | 40.00 | MAINTENANCE & DISPOSAL OF HYDRODEMOLITION RUNOFF | | | |
| AT | | | | PDAY | | |
| 017 | 302.0100 | 145.00 | GRAVEL BORROW SUBBASE COURSE | | | |
| AT | | | | CY | | |
| 018 | 401.1000 | 162.00 | CLASS 19.0 HMA | | | |
| AT | | | | TON | | |
| 019 | 401.2100 | 56.00 | MODIFIED CLASS 12.5 HMA | | | |
| AT | | | | TON | | |
| 020 | 401.3100 | 2,902.00 | MODIFIED CLASS 9.5 HMA | | | |
| AT | | | | TON | | |
| 021 | 401.9901 | 9,477.00 | PAY ADJUSTMENTS | | | |
| AT | One Dollar And No Cents | | | EACH | \$1.00 | \$9,477.00 |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|------------|-----------------|--------------|--|------|--------------------------|------------------------|
| 022 | 402.9901 | 1,800.00 | FRICITION COURSE WITHOUT PAY ADJUSTMENTS | | | |
| AT | | | | TON | | |
| 023 | 403.0300 | 14,153.00 | ASPHALT EMULSION TACK COAT | | | |
| AT | | | | SY | | |
| 024 | 410.1000 | 355.00 | TEMPORARY PATCHING MATERIAL/TRENCHES | | | |
| AT | | | | TON | | |
| 025 | 704.9901 | 1.00 | RECONSTRUCT MANHOLE FRAME, COLLAR AND COVER | | | |
| AT | | | | LS | | |
| 026 | 707.2000 | 34.00 | ADJUST FRAME AND GRATE TO GRADE | | | |
| AT | | | | EACH | | |
| 027 | 708.9040 | 258.00 | CLEANING AND FLUSHING PIPE ALL SIZES | | | |
| AT | | | | LF | | |
| 028 | 708.9041 | 16.00 | CLEANING CATCH BASINS ALL TYPES AND SIZES | | | |
| AT | | | | EACH | | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|----------|--|------|--------------------------|------------------------|
| 029 | 800.9901 | 57.00 | TEMPORARY SUPPORT AND JACKING - DROP IN BEAMS (SPANS 1-6 AND 8-14) | | | |
| AT | | | | EACH | | |
| 030 | 800.9902 | 126.00 | TEMPORARY JACKING AND SHORING OF BRIDGE BEAM ENDS PIERS 14 THROUGH 17 AND ABUTMENT 2 | | | |
| AT | | | | EACH | | |
| 031 | 803.0400 | 1.00 | CLEANING BRIDGE BEAM SEATS | | | |
| AT | | | | EACH | | |
| 032 | 803.9901 | 1.00 | TEMPORARY DECK UNDERSIDE AND SIDE PROTECTIVE SHIELDING | | | |
| AT | | | | LS | | |
| 033 | 803.9904 | 1.00 | REMOVE AND DISPOSE EXISTING CONCRETE SUPERSTRUCTURE | | | |
| AT | | | | LS | | |
| 034 | 803.9905 | 1.00 | REMOVE AND DISPOSE EXISTING CONCRETE SUBSTRUCTURE (PIER CAPS) | | | |
| AT | | | | LS | | |
| 035 | 803.9906 | 1.00 | REMOVE AND DISPOSE EXISTING STEEL DIAPHRAGMS (SPAN 7) | | | |
| AT | | | | LS | | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|------------|-----------------|-------------|---|----------|--------------------------|------------------------|
| 036 | 803.9907 | 1.00 | ABUTMENT 1 DEBRIS REMOVAL AND RESTORATION | | | |
| | | | | AT _____ | LS _____ | |
| 037 | 808.0602 | 9.00 | CONCRETE SUBSTRUCTURE CLASS HP 3/4" BACKWALLS | | | |
| | | | | AT _____ | CY _____ | |
| 038 | 808.1675 | 22,362.00 | POLYURETHANE ELASTOMERIC JOINT SEALANT | | | |
| | | | | AT _____ | CI _____ | |
| 039 | 808.9901 | 1.00 | CONCRETE SUPERSTRUCTURE CLASS HP 3/4" BRIDGE DECKS | | | |
| | | | | AT _____ | LS _____ | |
| 040 | 808.9902 | 1.00 | CONCRETE SUPERSTRUCTURE CLASS HP 3/4" PARAPETS | | | |
| | | | | AT _____ | LS _____ | |
| 041 | 808.9903 | 1.00 | CONCRETE SUPERSTRUCTURE CLASS HP 3/4" MEDIANS | | | |
| | | | | AT _____ | LS _____ | |
| 042 | 808.9904 | 1.00 | CONCRETE SUBSTRUCTURE CLASS HP 3/4" PIERS, COL, CAP | | | |
| | | | | AT _____ | LS _____ | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|------------|-----------------|-----------------|---|-----------------|--------------------------|------------------------|
| 043 | 810.0210 | 184,608.00 | GALVANIZED BAR REINFORCEMENT GRADE 60 | | | |
| | | | | AT _____ | _____ | _____ |
| | | | | LBS | | |
| 044 | 811.9901 | 1.00 | SUB PAVEMENT DRAINS | | | |
| | | | | AT _____ | _____ | _____ |
| | | | | LS | | |
| 045 | 813.0300 | 18,714.00 | COLD APPLIED LIQUID MEMBRANE | | | |
| | | | | AT _____ | _____ | _____ |
| | | | | SY | | |
| 046 | 817.2100 | 445.00 | REPAIRS TO STRUCTURAL CONCRETE MASONRY (PNEUMATIC MORTAR) | | | |
| | | | | AT _____ | _____ | _____ |
| | | | | CF | | |
| 047 | 817.2110 | 1,353.00 | REPAIRS TO STRUCTURAL CONCRETE MASONRY (PATCHING MORTAR) | | | |
| | | | | AT _____ | _____ | _____ |
| | | | | CF | | |
| 048 | 817.2140 | 1,139.00 | REPAIRS TO STRUCTURAL CONCRETE MASONRY FORM AND CAST IN PLACE | | | |
| | | | | AT _____ | _____ | _____ |
| | | | | CF | | |
| 049 | 817.9902 | 15,600.00 | FIBER REINFORCED WRAP - DROP IN BEAMS (SPANS 1-6 AND 8-14) | | | |
| | | | | AT _____ | _____ | _____ |
| | | | | SF | | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|------------|-----------------|----------|--|-----------------|--------------------------|------------------------|
| 050 | 817.9903 | 4,463.00 | FIBER REINFORCED WRAP - AASHTO BEAMS (SPANS 15-18) | | | |
| | | | | AT _____ | SF _____ | _____ |
| 051 | 817.9904 | 1,623.00 | FIBER REINFORCED WRAP - PIER CAPS (PIERS 14-17) | | | |
| | | | | AT _____ | SF _____ | _____ |
| 052 | 817.9905 | 72.00 | CORBEL AND BEAM END CONFINEMENT | | | |
| | | | | AT _____ | EACH _____ | _____ |
| 053 | 817.9906 | 1.00 | CHLORIDE EXTRACTION | | | |
| | | | | AT _____ | LS _____ | _____ |
| 054 | 818.2010 | 1,907.00 | PORTLAND CEMENT CONCRETE DECK REPAIRS (FULL DEPTH REMOVAL) | | | |
| | | | | AT _____ | SF _____ | _____ |
| 055 | 818.2020 | | ItemDeleted | | | |
| | | | | AT _____ | SF _____ | _____ |
| 056 | 819.0800 | 2,354.00 | DRILL AND GROUT REINFORCING DOWELS | | | |
| | | | | AT _____ | EACH _____ | _____ |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|------------|---|------|--------------------------|------------------------|
| 057 | 820.0110 | 196,877.00 | CONCRETE SURFACE TREATMENT (PROTECTIVE COATING) | | | |
| AT | | | | SF | | |
| 058 | 821.1690 | 2,256.00 | SAW & SEALING JOINTS IN BITUMINOUS CONCRETE PAVEMENT | | | |
| AT | | | | LF | | |
| 059 | 823.9901 | 1.00 | ASPHALTIC EXPANSION JOINT SYSTEM | | | |
| AT | | | | LS | | |
| 060 | 823.9902 | 1.00 | ASPHALTIC EXPANSION JOINT SYSTEM - MATERIALS AND WORKMANSHIP WARRANTY | | | |
| AT | | | | LS | | |
| 061 | 823.9903 | 1.00 | STRIP SEAL EXPANSION JOINTS | | | |
| AT | | | | LS | | |
| 062 | 824.9901 | 1.00 | STRUCTURAL STEEL DIAPHRAGMS - SPAN 7, FURNISH, FABRICATE AND ERECT | | | |
| AT | | | | LS | | |
| 063 | 824.9902 | 1.00 | REMOVE LONGITUDINAL RESTRAINERS | | | |
| AT | | | | LS | | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|----------|--|------|--------------------------|------------------------|
| 064 | 824.9903 | 1.00 | RESTRAINER ADJUSTMENT | | | |
| | AT | | | LS | | |
| 065 | 825.8041 | 1.00 | PAINTING EXISTING STRUCTURAL STEEL | | | |
| | AT | | | LS | | |
| 066 | 825.8046 | 1.00 | PAINTING STRUCTURAL STEEL | | | |
| | AT | | | LS | | |
| 067 | 826.0100 | 1.00 | CONTAINMENT, COLLECTION, STORAGE AND DISPOSAL OF DEBRIS AND SPENT MATERIALS | | | |
| | AT | | | LS | | |
| 068 | 826.0200 | 1.00 | PERSONNEL PROTECTION DURING PAINTING AND CLEANING OPERATIONS | | | |
| | AT | | | LS | | |
| 069 | 828.0303 | 24.00 | ELASTOMERIC BEARINGS LAMINATED | | | |
| | AT | | | EACH | | |
| 070 | 828.9901 | 6.00 | RESET ELASTOMERIC BEARINGS | | | |
| | AT | | | EACH | | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|-----------|--|------|--------------------------|------------------------|
| 071 | 829.0300 | 54.00 | POLYVINYL CHLORIDE SCUPPER PIPING | | | |
| AT | | | | LF | | |
| 072 | 834.0111 | 50.00 | VERTICAL FACE GRANITE CURB STRAIGHT 10" REVEAL | | | |
| AT | | | | LF | | |
| 073 | 834.0112 | 50.00 | VERTICAL FACE GRANITE CURB CURVED 10" REVEAL | | | |
| AT | | | | LF | | |
| 074 | 834.9901 | 342.00 | VERTICAL FACE GRANITE CURB FOR BRIDGES - REMOVE, STOCKPILE, AND RESET | | | |
| AT | | | | LF | | |
| 075 | 835.9901 | 1.00 | CLEANING AND FLUSHING OF BRIDGE DRAINAGE SYSTEM | | | |
| AT | | | | LS | | |
| 076 | 836.0100 | 4,483.00 | STRUCTURAL CONCRETE CRACK REPAIR BY EPOXY-RESIN BASE ADHESIVE INJECTION | | | |
| AT | | | | LF | | |
| 077 | 839.0200 | 17,086.00 | FULL DEPTH REMOVAL AND DISPOSAL OF BITUMINOUS PAVEMENT FROM CONCRETE BRIDGE DECKS | | | |
| AT | | | | SY | | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|-----------|--|------|--------------------------|------------------------|
| 078 | 840.9901 | 9,211.00 | DECK SURFACE CONCRETE REMOVAL BY HYDRODEMOLITION (PARTIAL DEPTH) | | | |
| AT | | | | SF | _____ | _____ |
| 079 | 840.9902 | 9,211.00 | REPLACEMENT OF DECK SURFACE CONCRETE REMOVED BY HYDRODEMOLITION (PARTIAL DEPTH) | | | |
| AT | | | | SF | _____ | _____ |
| 080 | 842.0100 | 49,713.00 | ANTI-GRAFFITI COATING | | | |
| AT | | | | SF | _____ | _____ |
| 081 | 901.0101 | 1,207.00 | GUARDRAIL STEEL BEAM SINGLE FACE EARTH AND ASPHALT | | | |
| AT | | | | LF | _____ | _____ |
| 082 | 901.0103 | 636.00 | GUARDRAIL STEEL BEAM SINGLE FACE CONCRETE | | | |
| AT | | | | LF | _____ | _____ |
| 083 | 901.0151 | 4.00 | TERMINAL END SECTION SINGLE FACE STANDARD 34.3.2 | | | |
| AT | | | | EACH | _____ | _____ |
| 084 | 906.0602 | 600.00 | BITUMINOUS BERM STANDARD 7.5.1 | | | |
| AT | | | | LF | _____ | _____ |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|-----------|---|------|--------------------------|------------------------|
| 085 | 907.0100 | 100.00 | WATER FOR DUST CONTROL | | | |
| | AT | | | MGAL | | |
| 086 | 914.5010 | 4,160.00 | FLAGPERSONS | | | |
| | AT | | | MHRS | | |
| 087 | 914.5020 | 624.00 | FLAGPERSONS - OVERTIME | | | |
| | AT | | | MHRS | | |
| 088 | 916.0600 | 3.00 | SHOCK ABSORBING BARRIER MODULES | | | |
| | AT | | | GRP | | |
| 089 | 916.0700 | 1.00 | GUARDRAIL ENERGY ABSORBING TERMINAL IMPACT ATTENUATOR | | | |
| | AT | | | EACH | | |
| 090 | 922.0100 | 1,880.00 | TEMPORARY CONSTRUCTION SIGNS STANDARD 29.1.0 AND 27.1.1 | | | |
| | AT | | | SF | | |
| 091 | 923.0105 | 21,552.00 | DRUM BARRICADE STANDARD 26.2.0 | | | |
| | AT | | | BDAY | | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|----------|---|------|--------------------------|------------------------|
| 092 | 923.0125 | 35.00 | PLASTIC PIPE TYPE III BARRICADE STANDARD 26.3.1 | | | |
| | | | | AT | | |
| | | | | EACH | | |
| 093 | 923.0200 | 100.00 | FLUORESCENT TRAFFIC CONES STANDARD 26.1.0 | | | |
| | | | | AT | | |
| | | | | EACH | | |
| 094 | 924.0113 | 492.00 | ADVANCE WARNING ARROW PANEL | | | |
| | | | | AT | | |
| | | | | PDAY | | |
| 095 | 925.0112 | 990.00 | PORTABLE CHANGEABLE MESSAGE SIGN | | | |
| | | | | AT | | |
| | | | | PDAY | | |
| 096 | 926.0140 | 204.00 | REFLECTIVE DELINEATORS FOR TEMPORARY CONCRETE BARRIERS | | | |
| | | | | AT | | |
| | | | | EACH | | |
| 097 | 926.9901 | 687.00 | ANCHORED PRECAST MEDIAN BARRIER FOR TEMPORARY TRAFFIC CONTROL | | | |
| | | | | AT | | |
| | | | | LF | | |
| 098 | 926.9902 | 7,815.00 | UNANCHORED PRECAST MEDIAN BARRIER FOR TEMPORARY TRAFFIC CONTROL | | | |
| | | | | AT | | |
| | | | | LF | | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|-----------|--|------|--------------------------|------------------------|
| 099 | 928.9901 | 448.00 | TRUCK MOUNTED ATTENUATOR WITH TRUCK MOUNTING FLASHING ARROW BOARD | | | |
| AT | | | | HRS | | |
| 100 | 929.0110 | 18.00 | FIELD OFFICE | | | |
| AT | | | | PMO | | |
| 101 | 931.0110 | 143.00 | CLEANING AND SWEEPING PAVEMENT | | | |
| AT | | | | HSY | | |
| 102 | 932.0100 | 792.00 | CUTTING AND MATCHING ASPHALT | | | |
| AT | | | | LF | | |
| 103 | 935.0400 | 12,852.00 | REMOVING BITUMINOUS PAVEMENT BY MICRO MILLING | | | |
| AT | | | | SY | | |
| 104 | 936.0100 | 1.00 | MOBILIZATION AND DEMOBILIZATION | | | |
| AT | | | | LS | | |
| 105 | 937.0200 | 1.00 | MAINTENANCE AND MOVEMENT TRAFFIC PROTECTION | | | |
| AT | | | | LS | | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|------|-----------|----------|--|------|--------------------------|------------------------|
| 106 | 943.0200 | 5,000.00 | TRAINEE MAN-HOURS | | | |
| | | | | AT | _____ | _____ |
| | | | | MHRS | _____ | _____ |
| 107 | L01.0104 | 433.00 | PLANTABLE SOIL 4 INCHES DEEP | | | |
| | | | | AT | _____ | _____ |
| | | | | SY | _____ | _____ |
| S108 | L02.0101 | 433.00 | GENERAL HIGHWAY SEEDING (TYPE 1) | | | |
| | | | | AT | _____ | _____ |
| | | | | SY | _____ | _____ |
| 109 | T04.5001 | 350.00 | 6 AWG SINGLE CONDUCTOR CABLE 600V INSULATION | | | |
| | | | | AT | _____ | _____ |
| | | | | LF | _____ | _____ |
| 110 | T04.5305 | 850.00 | 14 AWG 5 CONDUCTOR CABLE | | | |
| | | | | AT | _____ | _____ |
| | | | | LF | _____ | _____ |
| 111 | T04.9902 | 400.00 | VIDEO DETECTION SYSTEM CABLE | | | |
| | | | | AT | _____ | _____ |
| | | | | LF | _____ | _____ |
| 112 | T05.0320 | 11.00 | PULL BOX ON STRUCTURE TYPE V STANDARD 18.6.3 | | | |
| | | | | AT | _____ | _____ |
| | | | | EACH | _____ | _____ |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|----------|--|------|--------------------------|------------------------|
| 113 | T05.9901 | 6.00 | TYPE V PULL BOX CHECKERED COVER PLATE | | | |
| | AT | | | EACH | | |
| 114 | T06.2020 | 160.00 | 2 IN. RIGID STEEL CONDUIT-OVERHEAD | | | |
| | AT | | | LF | | |
| 115 | T06.2030 | 50.00 | 3 IN. RIGID STEEL CONDUIT-OVERHEAD | | | |
| | AT | | | LF | | |
| 116 | T08.9901 | 1.00 | REMOVE, STOCKPILE AND RESET LIGHT STANDARD | | | |
| | AT | | | LS | | |
| 117 | T11.6006 | 150.00 | SPAN AND MESSENGER WIRES 6/16 | | | |
| | AT | | | LF | | |
| 118 | T11.9906 | 2.00 | TRAFFIC SIGNAL STANDARD, WOOD, 40 FT. CLASS | | | |
| | AT | | | EACH | | |
| 119 | T12.0004 | 1.00 | ACTUATED CONTROLLER TS-2, TYPE 1 W/4 PHASE ASSEMBLY POLE MOUNTED INCLUDING CABINET STD. 19.1.1 | | | |
| | AT | | | EACH | | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|----------|---|------|--------------------------|------------------------|
| 120 | T12.9150 | 1.00 | METER SOCKET W/MANUAL BY-PASS | | | |
| | AT | | | EACH | | |
| 121 | T12.9901 | 3.00 | VIDEO DETECTION SYSTEM HARDWARE | | | |
| | AT | | | EACH | | |
| 122 | T12.9905 | 10.00 | MODIFY EXISTING TRAFFIC SIGNAL CONTROLLER CABINET | | | |
| | AT | | | EACH | | |
| 123 | T12.9908 | 1.00 | MAINTENANCE OF TRAFFIC SIGNAL SYSTEMS | | | |
| | AT | | | LS | | |
| 124 | T13.1000 | 1,150.00 | TRAFFIC DETECTORS-LOOP, STANDARD 19.6.0 | | | |
| | AT | | | LF | | |
| 125 | T13.9905 | 3.00 | VIDEO DETECTION SYSTEM CAMERA | | | |
| | AT | | | EACH | | |
| 126 | T14.3413 | 6.00 | 1 WAY 3 SECTION SPAN MOUNTED SIGNAL HEAD 12 INCH | | | |
| | AT | | | EACH | | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|----------|---|------|--------------------------|------------------------|
| 127 | T14.3513 | 2.00 | 1 WAY 3 SECTION MAST ARM MOUNTED SIGNAL HEAD 12 INCH | | | |
| | | | | AT | | |
| | | | | | EACH | |
| 128 | T14.3613 | 2.00 | 1 WAY 3 SECTION BRACKET MOUNTED SIGNAL HEAD 12 INCH | | | |
| | | | | AT | | |
| | | | | | EACH | |
| 129 | T15.0100 | 68.00 | DIRECTIONAL REGULATORY AND WARNING SIGNS | | | |
| | | | | AT | | |
| | | | | | SF | |
| 130 | T15.0110 | 224.00 | GUIDE SIGNS STANDARD 29.2.0 | | | |
| | | | | AT | | |
| | | | | | SF | |
| 131 | T17.9901 | 1.00 | REMOVE AND REPLACE GROUT AT OVERHEAD SIGN LEVELING PLATES | | | |
| | | | | AT | | |
| | | | | | LS | |
| 132 | T20.0900 | 2.00 | BI-DIRECTIONAL CONTROL DEVICE STANDARD 20.2.0 | | | |
| | | | | AT | | |
| | | | | | EACH | |
| 133 | T20.1020 | 1.00 | REMOVE EXISTING PAVEMENT MARKINGS | | | |
| | | | | AT | | |
| | | | | | LS | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|-----------|--|----------|--------------------------|------------------------|
| 134 | T20.1106 | 58,394.00 | 6 INCH TEMPORARY WATERBORNE PAINT PAVEMENT MARKINGS WHITE | | | |
| | | | | AT _____ | LF _____ | |
| 135 | T20.1112 | 25.00 | 12 INCH TEMPORARY WATERBORNE PAINT PAVEMENT MARKINGS WHITE | | | |
| | | | | AT _____ | LF _____ | |
| 136 | T20.1206 | 25,772.00 | 6 INCH TEMPORARY WATERBORNE PAINT PAVEMENT MARKINGS YELLOW | | | |
| | | | | AT _____ | LF _____ | |
| 137 | T20.1212 | 1,114.00 | 12 INCH TEMPORARY WATERBORNE PAINT PAVEMENT MARKINGS YELLOW | | | |
| | | | | AT _____ | LF _____ | |
| 138 | T20.1310 | 5.00 | TEMPORARY WATERBORNE PAINT PAVEMENT ARROW - STRAIGHT, LEFT, RIGHT OR COMBINED STANDARD 20.1.0 | | | |
| | | | | AT _____ | EACH _____ | |
| 139 | T20.1312 | 2.00 | TEMPORARY WATERBORNE PAINT PAVEMENT MARKING WORD "ONLY" STANDARD 20.1.0 | | | |
| | | | | AT _____ | EACH _____ | |
| 140 | T20.2006 | 7,566.00 | 6 INCH EPOXY RESIN PAVEMENT MARKINGS WHITE | | | |
| | | | | AT _____ | LF _____ | |

Proposal Items

Project Name - 0009N WASHINGTON BRIDGE NORTH NO 700 (57A T-J)

Estimate Name - Addendum #2

R.I. Contract No. - 2016-CB-059

FAP Nos - BHO-0700(004)

 Note: The UNIT PRICE for each Item must be written in words and figures.

| No. | Item Code | Quantity | Description | Unit | Unit Bid Price \$0.00 | Amount (PxQ) \$0.00 |
|-----|-----------|----------|--|----------|--------------------------|------------------------|
| 141 | T20.2012 | 1,846.00 | 12 INCH EPOXY RESIN PAVEMENT MARKINGS WHITE | | | |
| | | | | AT _____ | LF _____ | |
| 142 | T20.2016 | 4,971.00 | 6 INCH EPOXY RESIN PAVEMENT MARKINGS YELLOW | | | |
| | | | | AT _____ | LF _____ | |
| 143 | 901.0197 | 3.00 | GUARDRAIL CONNECTION TO EXISTING ENDPOST APPROACH END SECTION, STANDARD 34.3.5 | | | |
| | | | | AT _____ | EACH _____ | |
| 144 | 901.0199 | 1.00 | GUARDRAIL END TREATMENT, ENERGY ABSORBING TERMINAL | | | |
| | | | | AT _____ | EACH _____ | |

FINAL TOTAL IS:

Revised: 2/19/2002

Total or gross sum of bid for Rhode Island Contract Number: 2016-CB-059

Federal-Aid Project Number(s): BHO-0700(004)

WRITTEN IN WORDS:

The undersigned bidder declares that this Proposal is made without connection with any other person or persons making proposals for the same work, and is in all respects fair and without collusion or fraud. The undersigned bidder submits herewith, a proposal guarantee in the form of a bid bond in favor of the State of Rhode Island in the amount of 5% of the total or gross sum of the bid and agrees and consents that the proposal guarantee shall be forfeited to the State as liquidated damages if the required contract agreement and contract bond are not executed within ten(10) days of the notice of award. All surety companies must be listed with The Department of the Treasury, Fiscal Services, Circular 570, (Latest Revision published by The Federal Register). The State reserves the right to retain the surety of all bidders until the successful bidder enters into the Contract or until such time as the award or cancellation of the Contract is announced at which point Sureties will be returned to all bidders by the State of Rhode Island, Office of Purchases. The undersigned bidder further agrees, if awarded the contract on this proposal, to begin work within ten (10) calendar days after the date of execution of the contract unless otherwise specified under special provisions or permitted by the Engineer, and further agrees to complete the work on or before the dates outlined in the Contract Documents.

COMPLETION DATE(S)

| DESCRIPTION | DATE |
|-----------------------------|--------------------|
| Substantial Completion Date | October 18, 2019 |
| Bid-Opening Date | November 16, 2016 |
| Pre-Bid Date | October 6, 2016 |
| Advertise Date | September 30, 2016 |

THE BIDDER ACKNOWLEDGES RECEIPT OF THE FOLLOWING:

| ADDENDA | DATE POSTED | DOCUMENT(S) | PAGE |
|----------------|--------------------|---|-------------|
| NO.1 | October 12, 2016 | 1. Status Certification for: Debarment, Eligibility, Indictments, Convictions or Civil Judgements | 1 |
| NO.2 | | 2. Anti-Collusion Certificate | 2 |
| | | 4. DBE Affirmative Action Certification | 3 - 9 |
| | | 3. Disclosure of Lobbying Activities | |

Total or gross sum of bid for Rhode Island Contract Number: 2016-CB-059

Federal-Aid Project Number(s): BHO-0700(004)

Whoever, being an officer, agent, or employee of the United States, or of any State, or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the costs thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction of any highway or related project submitted for approval to the Secretary of Transportation; or Whoever, knowingly makes any false statement, false representation, false report, or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or Whoever, knowingly makes any false statement or false representation as to a material fact in any statement, certificate, or report submitted pursuant to the provisions of the Federal-aid Road Act approved July 11, 1916 (39 Stat. 355), as amended and supplemented, Shall be fined not more than \$10,000 or imprisoned not more than five years, or both. By signing here the signee agrees that the disk submitted is the same as the paper submitted and that any discrepancies may result in disqualification of the bid.

BEING EITHER A (INDIVIDUAL, PARTNERSHIP,
(OR CORPORATION INCORPORATED)
(UNDER THE LAWS OF ANY STATE)
(IN THE UNITED STATES OF AMERICA)

Contractor

COMPOSED OF OFFICERS, PARTNERS
OR OWNER, AS FOLLOWS.

President

Vice-President

Secretary

Treasurer

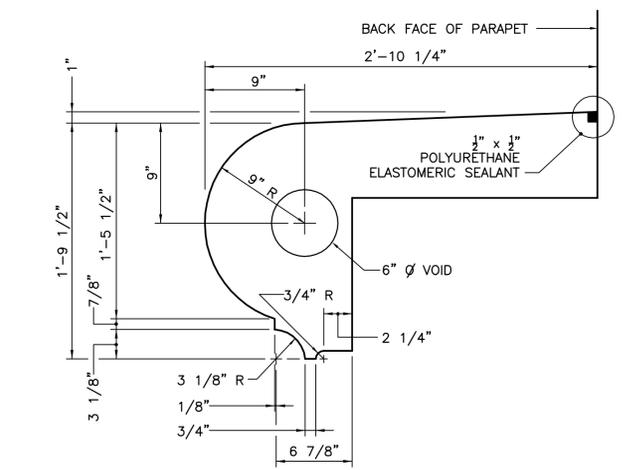
Address

CERTIFICATION SUMMARY: I hereby certify that I have read all of the above requirements and understand that it affects the acceptability of my bid(s).

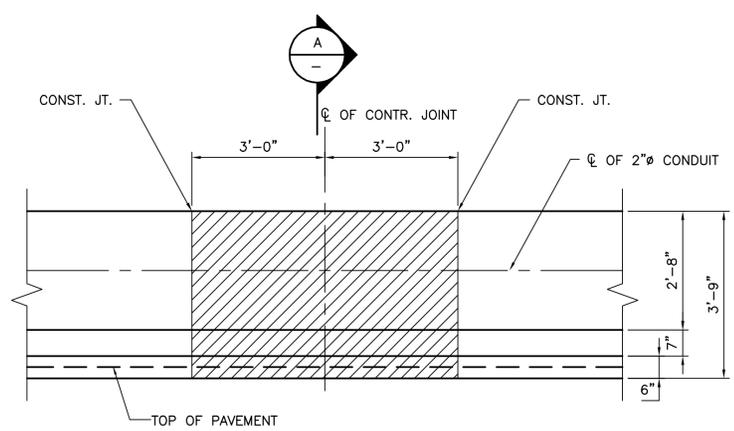
Name of Signatore - Title

Date

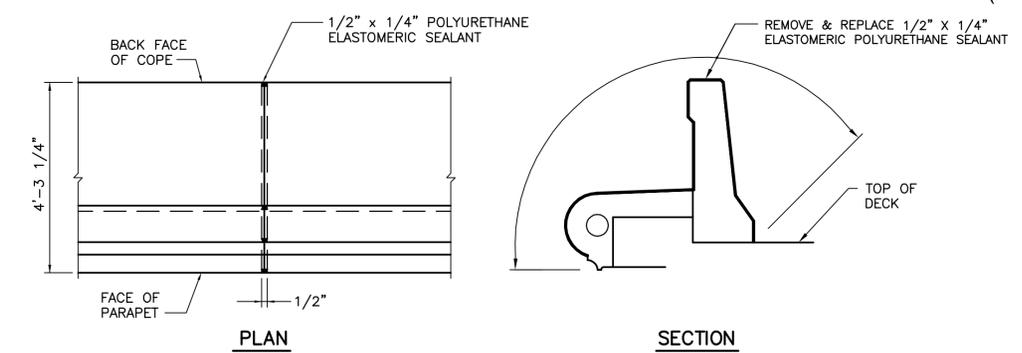
CONTRACT DRAWINGS



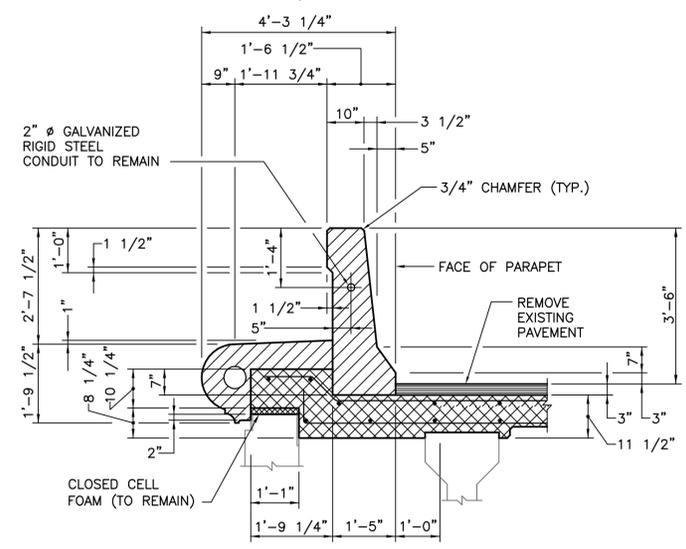
COPE DETAIL
SCALE: 1 1/2" = 1'-0"



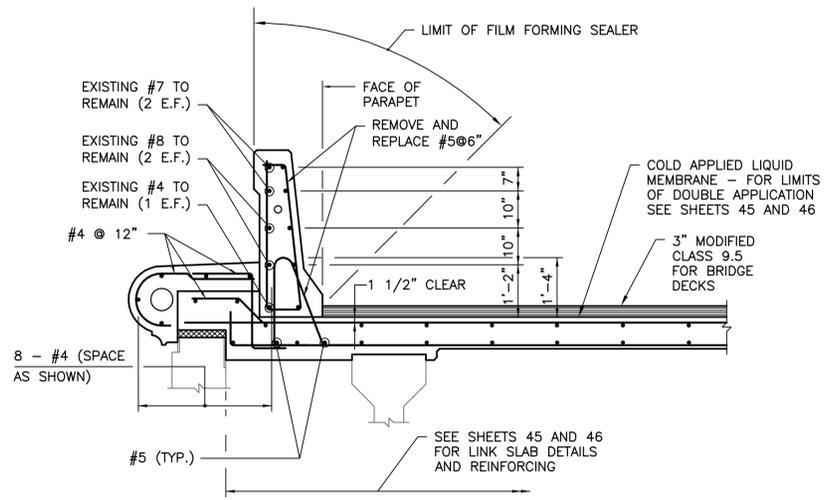
ELEVATION
SCALE: 1/2" = 1'-0"



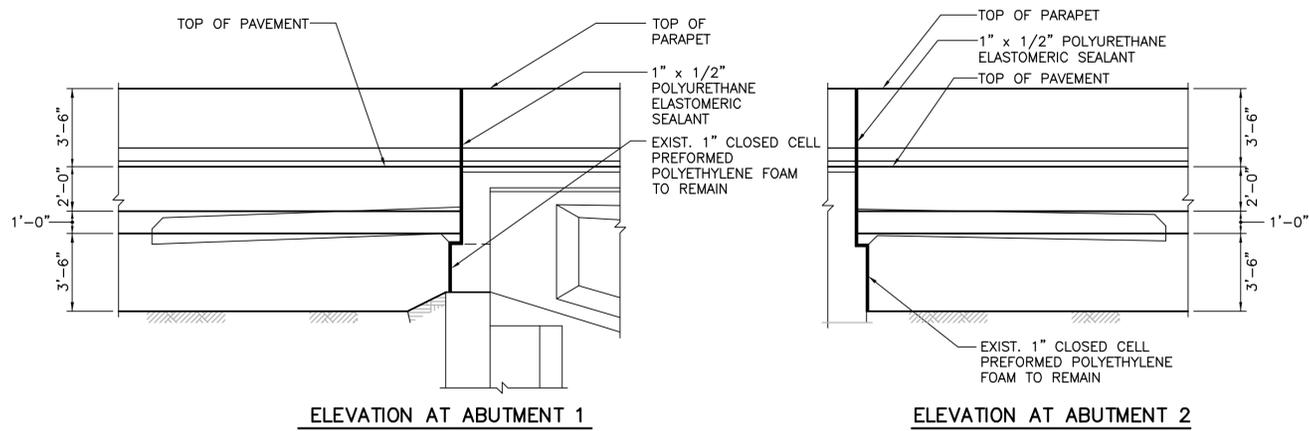
CONTRACTION JOINT IN PARAPET AND COPE DETAILS
SCALE: 1/2" = 1'-0"



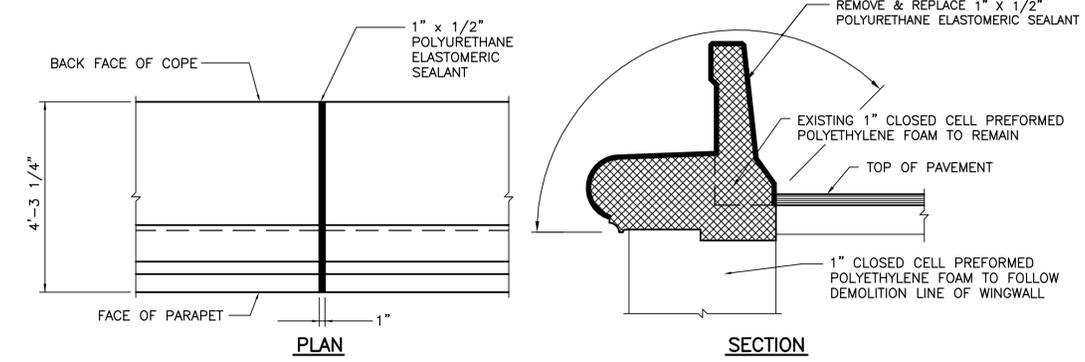
SECTION A



REINFORCING A



NORTH WINGWALL EXPANSION JOINT DETAILS
SCALE: 1/4" = 1'-0"



SPANS 1 TO 14 - EXPANSION JOINT IN PARAPET AND COPE DETAILS
SCALE: 1/2" = 1'-0"

SPANS 1 TO 14 - BRIDGE PARAPET DEMOLITION AND REPLACEMENT AT LINK SLAB LOCATIONS
(NORTH SHOWN, SOUTH SIMILAR)

PARAPET DEMOLITION AND REPLACEMENT NOTES:

- 2" diameter steel conduit and all longitudinal barrier and cope reinforcement to remain.
- 2" diameter steel conduit to be supported during link slab construction.
- FOR LINK SLAB LOCATIONS, SEE SHEET 44.
- PARAPET AND COPE SHALL BE REBUILT, IN KIND, AFTER LINK SLAB CONSTRUCTION HAS BEEN COMPLETED.
- DEMOLITION OF PARAPET AND COPE SHALL BE PAID FOR UNDER ITEM 803.9904. REPLACEMENT OF PARAPET AND COPE SHALL BE PAID FOR UNDER ITEM 808.9902.

JOINT SEALANT REPLACEMENT NOTES:

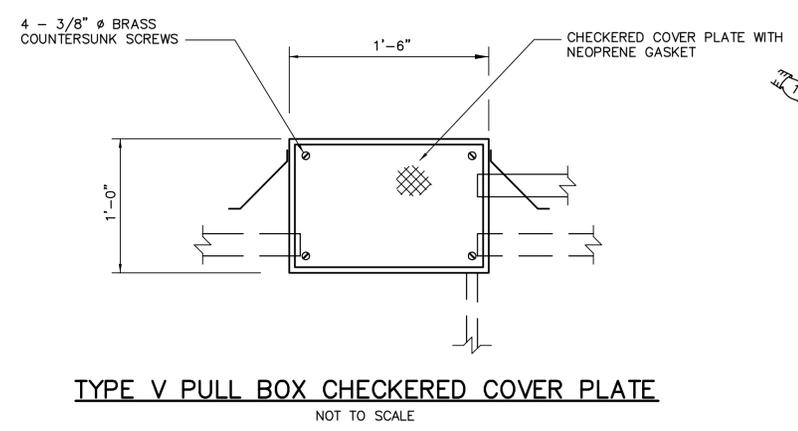
- CONTRACTOR SHALL REMOVE EXISTING POLYURETHANE SEALANT AT ALL EXPANSION AND CONTRACTION JOINTS IN EXISTING NORTH AND SOUTH PARAPETS AND COPES AND REPLACE WITH NEW SEALANT.
- POLYURETHANE SEALANT INSTALLATION SHALL BE IN ACCORDANCE WITH RIDOT STANDARD SPECIFICATION SECTION 808.

PULL BOX NOTES:

- PULL BOX WORK SHALL CONFORM TO RIDOT SPECIFICATIONS SECTION T05 AND SHALL BE PAID FOR UNDER ITEMS T05.0320 AND T05.9901.
- PULL BOXES PB-3, PB-4, PB-7, PB-9, PB-12, PB-23, PB-30, PB-31, PB-44 AND PB-51 SHALL BE REPLACED IN THEIR ENTIRETY UNDER ITEM T05.0320. NEW PULL BOXES SHALL BE TYPE "V" CONFORMING TO RIDOT STANDARD DETAIL 18.6.3.
- PULL BOXES PB-14, PB-21, PB-22, PB-29 AND PB-53 SHALL HAVE ONLY THE COVERS REPLACED UNDER ITEM T05.9901.
- SEE SHEETS 8 - 12 FOR PULL BOX LOCATIONS.

LEGEND:

- PARAPET AND COPE AREA TO BE DEMOLISHED AND REBUILT
- DECK AREA TO BE DEMOLISHED



TYPE V PULL BOX CHECKERED COVER PLATE
NOT TO SCALE



| REVISIONS | | |
|-----------|----------|----|
| NO. | DATE | BY |
| 1 | 10/28/16 | CR |

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

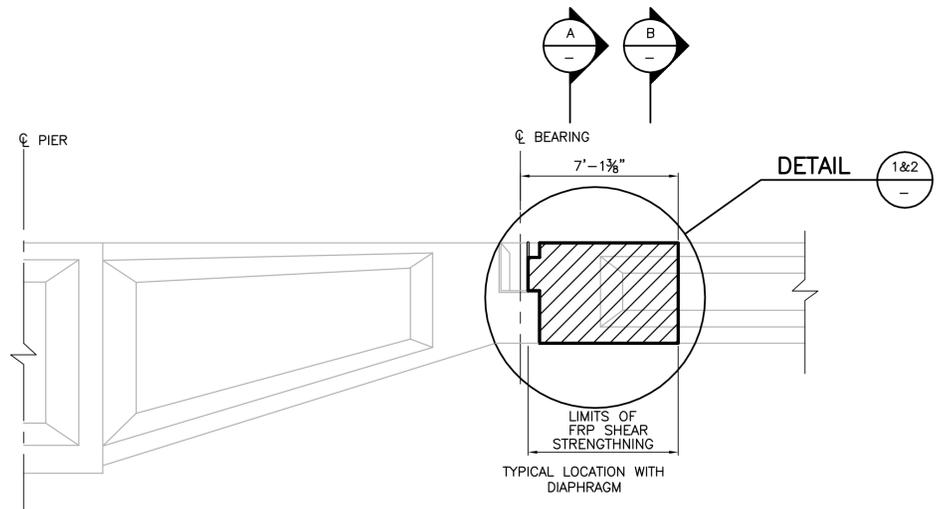
REHABILITATION OF
WASHINGTON BRIDGE
NORTH NO. 700
PROVIDENCE & EAST PROVIDENCE, RHODE ISLAND

PARAPET DEMOLITION
AND REPLACEMENT
DETAILS

CHECKED BY _____ DATE _____ SCALE _____

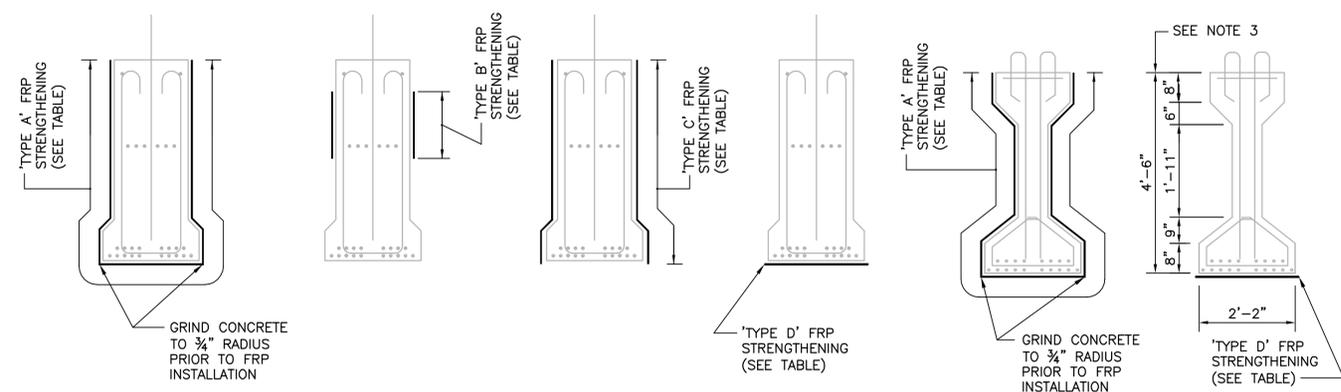
NOTES:

- FRP STRENGTHENING SHALL OCCUR AT BOTH ENDS OF ALL DROP-IN BEAMS IN SPANS 1-6 AND 8-14.
- DESIGN AND DETAILS SHOWN HERE ARE CONCEPTUAL IN NATURE. THE FINAL DESIGN OF THE FRP SYSTEM SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. FINAL DESIGN SHALL BE PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF RHODE ISLAND. THE DESIGN SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE ENGINEER.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO BEGINNING WORK.
- ALL CONCRETE REPAIRS SHALL BE PERFORMED BY THE CONTRACTOR AND ACCEPTED BY THE ENGINEER PRIOR TO STARTING THIS WORK. CONFIRM THAT THE SPECIFIED CONCRETE REPAIR MATERIAL IS COMPATIBLE WITH THE PROPOSED FRP SYSTEM.
- PREPARE SURFACE IN ACCORDANCE WITH SPECIAL PROVISIONS SECTION 817.9902 AND APPROVED SUBMITTAL.
- FRP DESIGN SHALL BE BASED ON THE FOLLOWING MATERIAL PROPERTIES PER EXISTING 1967 PLANS:
 CONCRETE $f'_c = 5,000$ P.S.I.
 STEEL REINFORCING $f_s = 20,000$ P.S.I.
 PRESTRESSING STEEL $f_{pu} = 250$ K.S.I.
 $F_{pe} = 20.16$ KIPS
- FRP ANCHORAGE MAY BE PROVIDED BY MECHANICAL ANCHORS. LOCATION OF ANCHORS TO BE DETERMINED AND ACCEPTED BY ENGINEER PRIOR TO STARTING WORK. ANCHORAGE SHALL BE PROVIDED SO AS TO AVOID ALL EXISTING STEEL REINFORCEMENT AND PRESTRESSING STRANDS.
- PROVIDE AN ULTRAVIOLET LIGHT PROTECTION COATING SYSTEM THAT IS WHITE IN COLOR. THE COATING MUST BE A NON-VAPOR-BARRIER, FLEXIBLE, WATERPROOFING, AND COMPATIBLE WITH THE FRP SYSTEM. THE COATING SHALL BE APPROVED BY THE FRP MANUFACTURER AND DOCUMENTATION OF APPROVAL SHALL BE SUBMITTED TO THE ENGINEER. THE PROTECTION COATING SYSTEM IS AS PER RIDOT STANDARD SPECIFICATION SECTION 820 OF SUPPLEMENT NO. 17.
- FILL ANY SURFACE VOID IN THE EXISTING CONCRETE WITH A DIAMETER LARGER THAN $\frac{1}{2}$ " OR DEPTH GREATER THAN $\frac{1}{8}$ ".
- IN ACCORDANCE WITH THE REPAIR DETAILS, REPAIR CRACKS WITH A WIDTH OF $\frac{1}{16}$ " OR GREATER IN EXISTING CONCRETE PRIOR TO CONSTRUCTING THE FRP STRENGTHENING. EPOXY INJECTION CRACK REPAIR IN ACCORDANCE WITH RIDOT STANDARD SPECIFICATION 836.
- THE MAXIMUM SURFACE ROUGHNESS OF THE CONCRETE SHALL NOT EXCEED CSP-3 AS DEFINED BY CRI/ACI.
- MINIMUM EFFECTIVE LENGTH DOES NOT INCLUDE THE REQUIRED BOND LENGTH. BOND LENGTH SHALL BE PER DESIGN CALCULATIONS SUBMITTED BY THE CONTRACTOR AND APPROVED/PREPARED BY A PROFESSIONAL ENGINEER.
- THE FRP MANUFACTURER SHALL HAVE A TECHNICAL REPRESENTATIVE ON SITE DURING FRP INSTALLATION.



DROP IN BEAM AND CANTILEVER ELEVATION
SCALE: 1/4" = 1'-0"

NOTE: TYPICAL AT BOTH ENDS OF DROP IN BEAM



TYPE 'A' **TYPE 'B'** **TYPE 'C'** **TYPE 'D'** **TYPE 'A'** **TYPE 'D'**

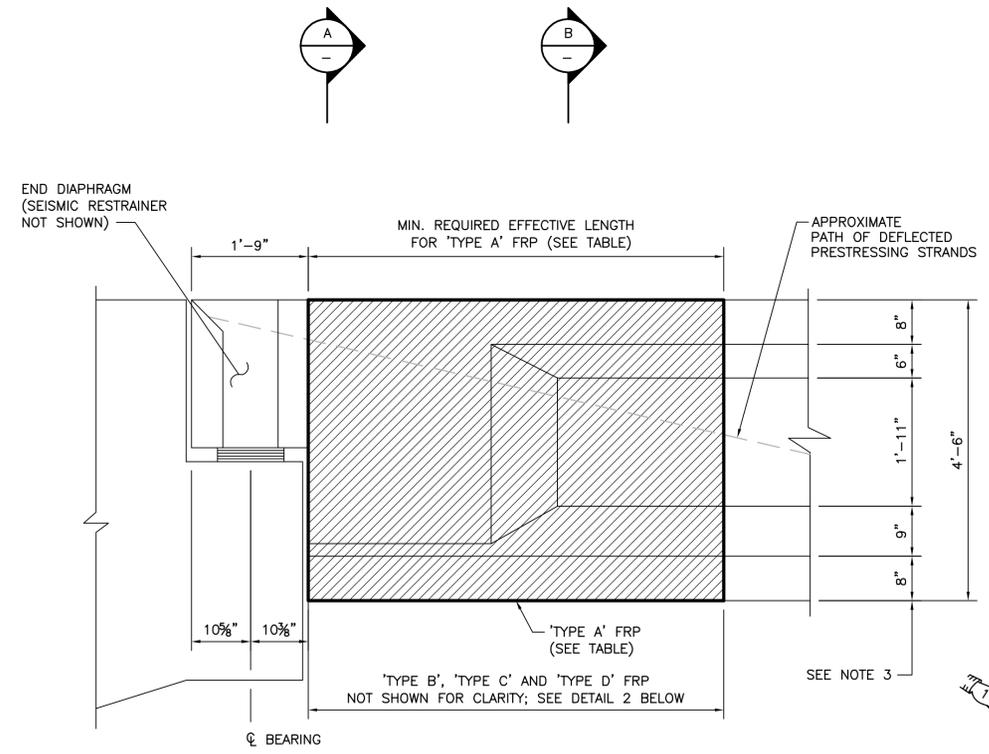
NOTE: FRP TYPES SHOWN SEPARATELY FOR CLARITY. ALL 4 FRP TYPES TO BE INSTALLED AT THE ENDS OF ALL DROP-IN GIRDERS.

END BLOCK A
SCALE: 1/2" = 1'-0"

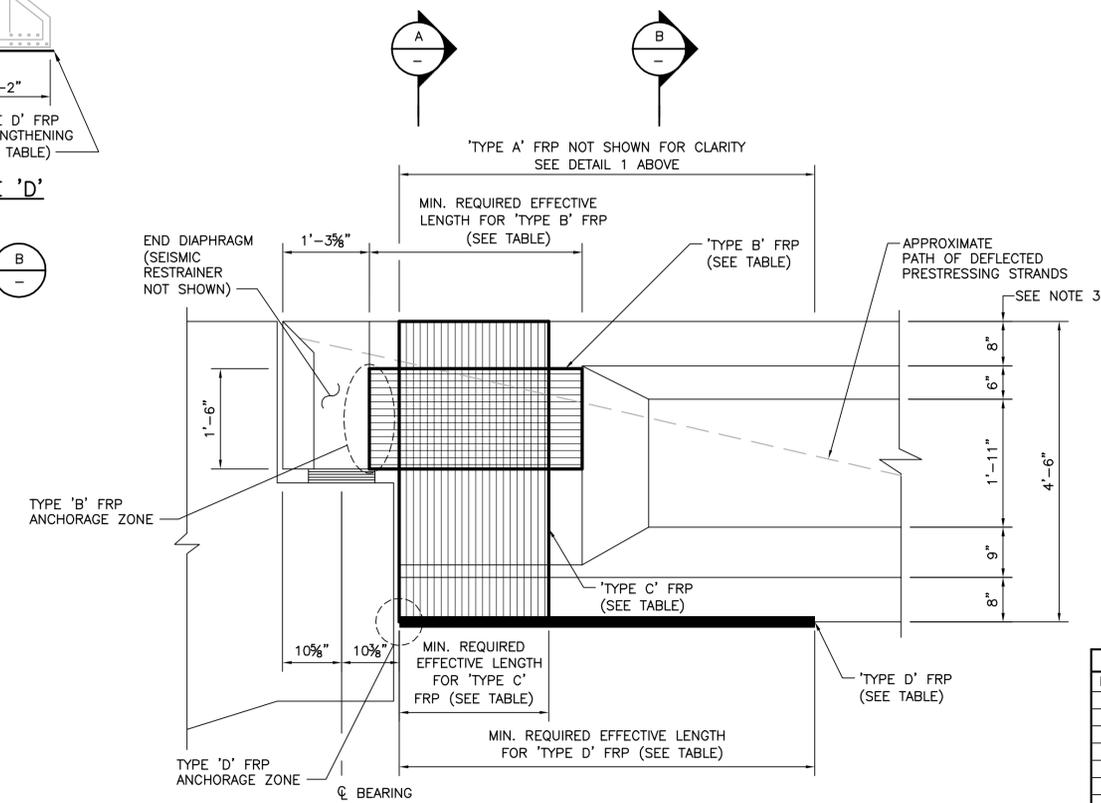
AASHTO IV GIRDER B
SCALE: 1/2" = 1'-0"

| FRP DETAILS | | | | | | |
|-------------|--------------------|---------------------------------|---|--|---|-----------------------------------|
| FRP REF. | FRP TYPE | FAILURE MODE | MINIMUM REQUIRED FACTORED CAPACITY (STRENGTH) (KIP) | EXISTING/ PROVIDED CAPACITY (STRENGTH) (KIP) | MINIMUM REQUIRED STRENGTHENING (STRENGTH) (KIP) | MINIMUM REQUIRED EFFECTIVE LENGTH |
| A | U-WRAP | SHEAR STRENGTH | 287 | 242 | 45 | 6'-3" |
| B | HORIZONTAL STRIP | HORIZONTAL TENSION TIE STRENGTH | 336 | 240 | 100 | 3'-2 3/8" |
| C | VERTICAL STRIP | VERTICAL TENSION TIE STRENGTH | 468 | 320 | 150 | 2'-0" |
| D | LONGITUDINAL STRIP | LONGITUDINAL TENSILE STRENGTH | - | - | 60 | 6'-3" |

NOTE: FRP TYPES 'A' THROUGH 'D' ARE TO BE APPLIED AT ALL DROP-IN GIRDER ENDS



DAPPED END - U-WRAP 1
SCALE: 3/4" = 1'-0"



DAPPED END - ADDITIONAL STRIPS 2
SCALE: 3/4" = 1'-0"

| REVISIONS | | |
|-----------|----------|----|
| NO. | DATE | BY |
| 1 | 10/28/16 | CR |

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION
REHABILITATION OF
WASHINGTON BRIDGE
NORTH NO. 700
PROVIDENCE & EAST PROVIDENCE, RHODE ISLAND

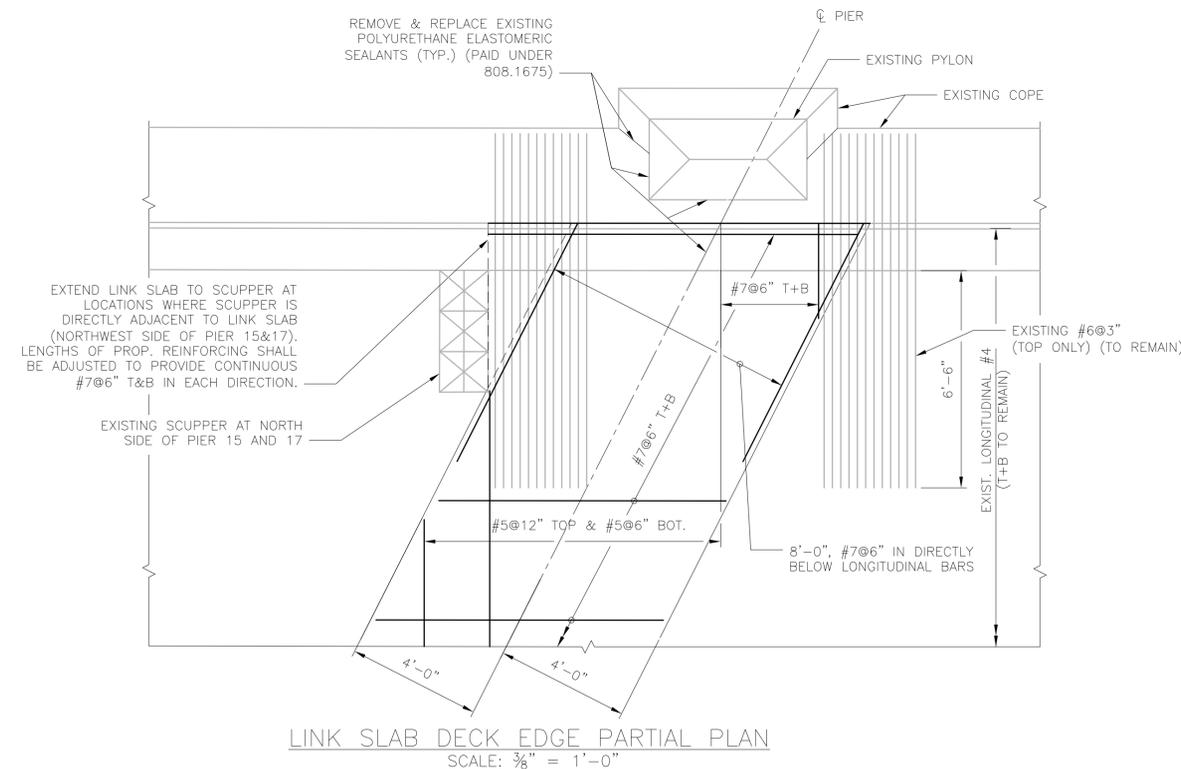
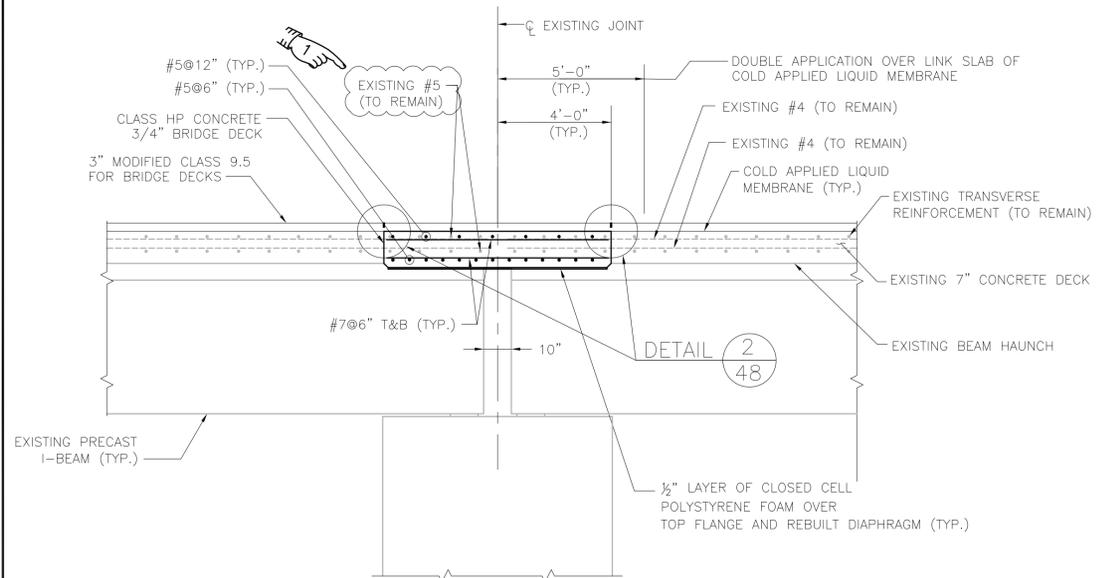
DROP-IN-BEAM REPAIR & STRENGTHENING DETAILS

CHECKED BY _____ DATE _____ SCALE _____



GENERAL NOTES:

1. LIGHTING CONDUITS, SCUPPERS, SCUPPER PIPING AND OTHER UTILITIES AND APPURTENANCES LOCATED IN THE LINK SLAB CONSTRUCTION AREA (INCLUDING THOSE IN THE DECK & PARAPET) SHALL BE PROTECTED AND TEMPORARILY SUPPORTED. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO 803.9901.
2. THE CONCRETE OVERHANG AND COPE SHALL BE TEMPORARILY SUPPORTED IN PLACE. THE EXISTING PYLONS, COPE, SCUPPERS AND OVERHANGS SHALL BE PROTECTED FROM DAMAGE. THIS WORK IS PAID FOR UNDER ITEM 803.9901. ANY DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.
3. 2"Ø STEEL CONDUIT AND ALL LONGITUDINAL BARRIER AND COPE REINFORCEMENT TO REMAIN.
4. PARAPET SHALL BE REBUILT, IN KIND, AFTER LINK SLAB CONSTRUCTION HAS BEEN COMPLETED.
5. CONTRACTOR SHALL REMOVE EXIST. POLYURETHANE SEALANT AT ALL EXPANSION AND CONTRACTION JOINTS IN EXIST. NORTH AND SOUTH PARAPETS AND COPE AND REPLACE WITH NEW SEALANT INSTALLED IN ACCORDANCE WITH RIDOT STANDARD SPECIFICATION SECTION 808.
6. SEE SHEET 24 FOR JUNCTION BOX COVER NOTES.
7. NEW DIAPHRAGM CONCRETE SHALL BE PAID FOR UNDER ITEM 808.9901.

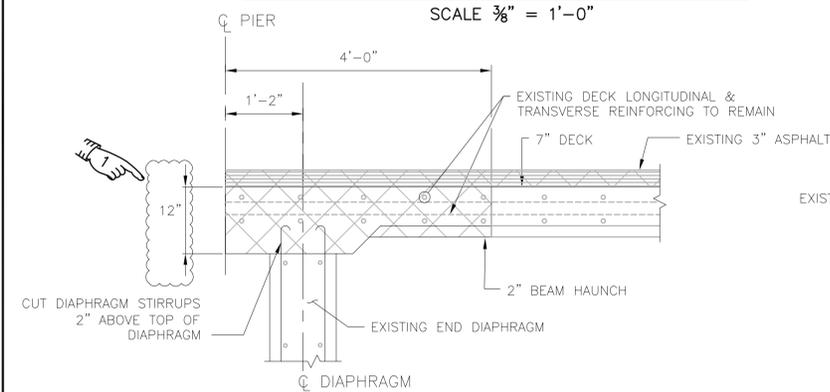


PROPOSED LINK SLAB AT PIERS 15-17

SCALE 3/8" = 1'-0"

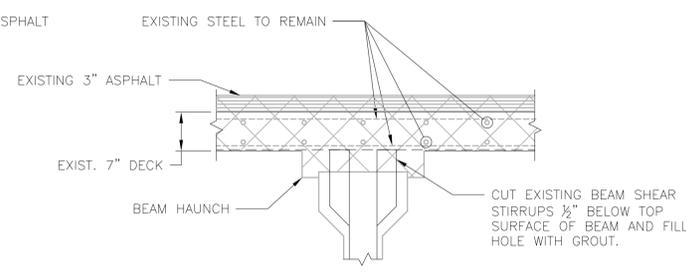
LINK SLAB DECK EDGE PARTIAL PLAN

SCALE: 3/8" = 1'-0"



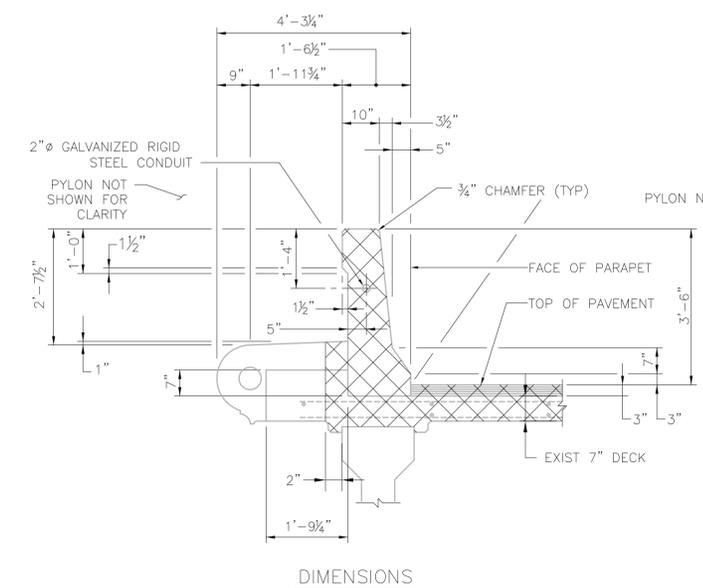
EXISTING TRANSVERSE SECTION THROUGH DIAPHRAGM

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

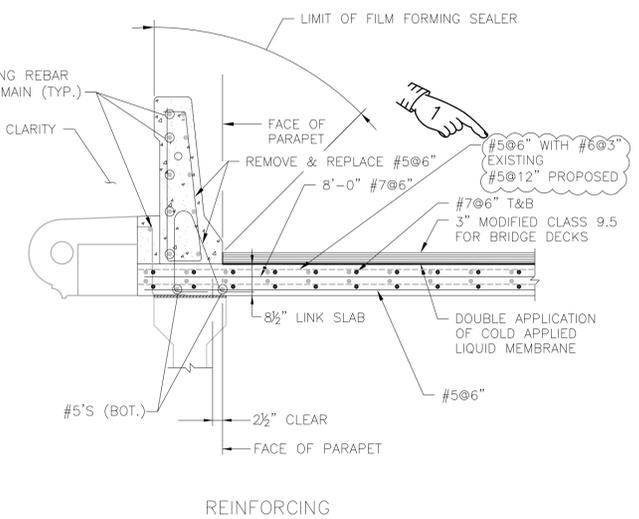


EXISTING LONGITUDINAL SECTION

SCALE 3/4" = 1'-0"



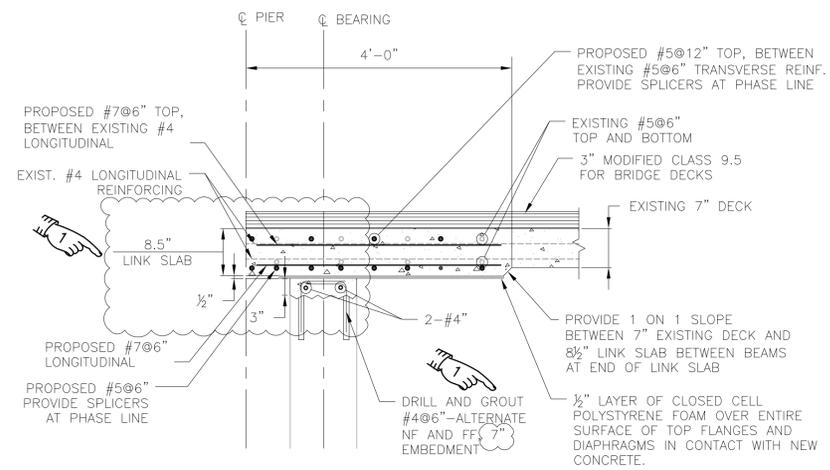
DIMENSIONS



REINFORCING

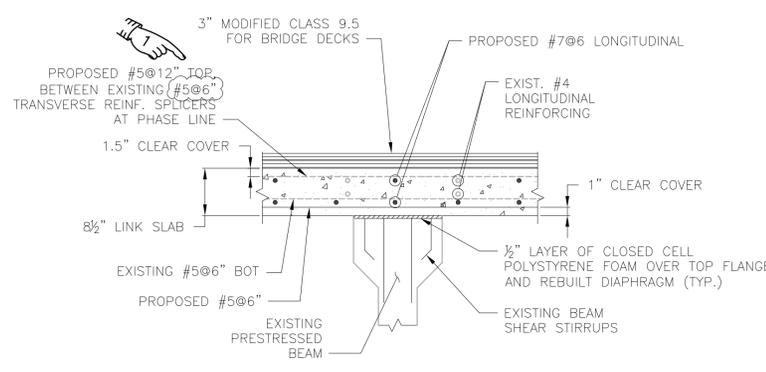
SPAN 15 THRU 18- LINK SLAB SECTION AT PARAPET

SCALE 1/2" = 1'-0"



PROPOSED SECTION THROUGH DIAPHRAGM

SCALE 3/4" = 1'-0"

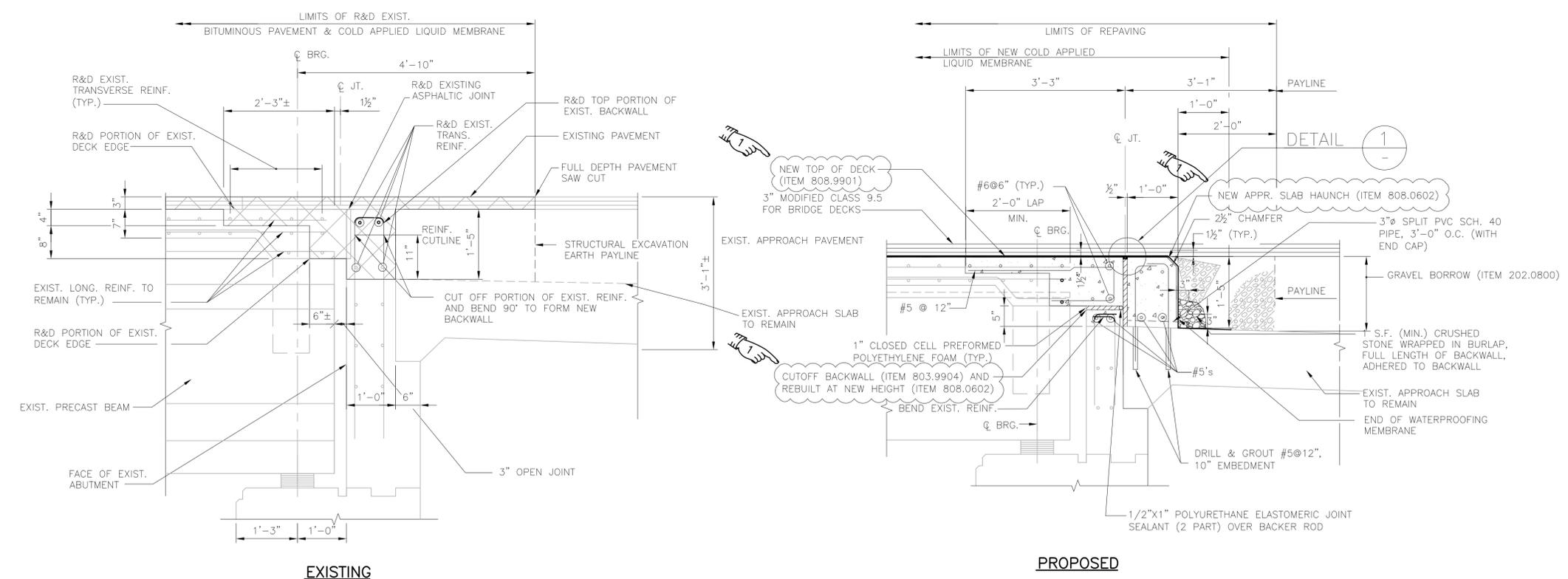


PROPOSED LONGITUDINAL SECTION

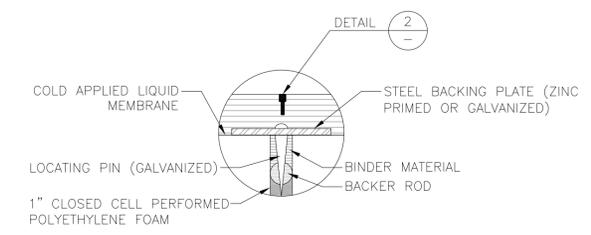
SCALE 3/4" = 1'-0"



| REVISIONS | | | RHODE ISLAND DEPARTMENT OF TRANSPORTATION | |
|-----------|----------|----|---|--|
| NO. | DATE | BY | | |
| 1 | 10/24/16 | MK | | |
| | | | REHABILITATION OF WASHINGTON BRIDGE | |
| | | | NORTH NO. 700 | |
| | | | PROVIDENCE & EAST PROVIDENCE, RHODE ISLAND | |
| | | | LINK SLAB DETAILS-2 | |
| | | | CHECKED BY <u>JA</u> DATE <u>5/6/16</u> SCALE <u>AS NOTED</u> | |

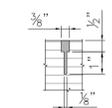


SECTION AT ABUTMENT 2
SCALE: 3/4" = 1'-0"



DETAIL 1
NOT TO SCALE

NOTE:
THE COST OF FURNISHING AND INSTALLING THE BACKING PLATE, LOCATING PIN, AND BACKER ROD SHALL BE CONSIDERED INCIDENTAL TO, AND INCLUDED WITH THE PAYMENT FOR THE CONCRETE BACKWALL (808.0602) AND WILL NOT BE MEASURED SEPARATELY FOR PAYMENT.



SAW AND SEAL IN BITUMINOUS PAVEMENT

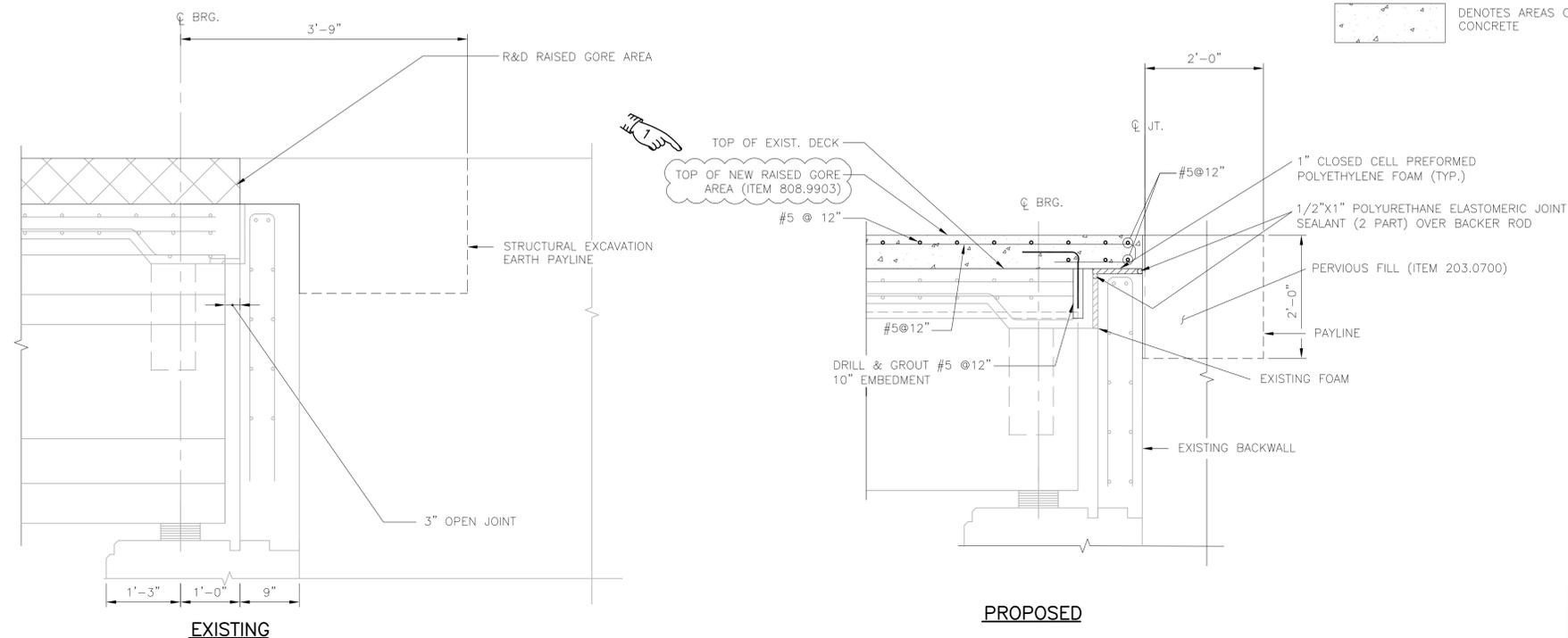
DETAIL 2
NOT TO SCALE

LEGEND

- DENOTES AREAS TO BE REMOVED AND DISPOSED
- DENOTES AREAS OF NEW CONCRETE

NOTES:

- REMOVAL AND DISPOSAL OF EXISTING JOINT AND MISCELLANEOUS HARDWARE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM CODE 803.9904, "REMOVE AND DISPOSE EXISTING CONCRETE SUPERSTRUCTURE".
- REMOVAL AND DISPOSAL OF THE TOP PORTION OF THE EXISTING BACKWALL, DECK AND RAISED GORE AREA SHALL BE INCLUDED FOR PAYMENT UNDER ITEM CODE 803.9904, "REMOVE AND DISPOSE EXISTING CONCRETE SUPERSTRUCTURE". PROPOSED BACKWALLS AND APPROACH SLAB HAUNCH SHALL BE INCLUDED FOR PAYMENT UNDER ITEM CODE 808.0602, CONCRETE BACKWALLS.
- REMOVAL AND DISPOSAL OF EXISTING JOINT MATERIAL IN SAFETY WALK, SIDEWALK, CURBS, AND PARAPETS NECESSARY FOR INSTALLATION OF THE NEW JOINT SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED FOR PAYMENT WITH THE NEW JOINT MATERIAL BEING INSTALLED. THERE WILL BE NO SEPARATE PAYMENT FOR REMOVAL AND DISPOSAL OF EXISTING JOINT MATERIALS.
- REMOVAL AND RESETTING OF GUARD RAIL AND/OR FENCING NECESSARY FOR INSTALLATION OF THE NEW JOINT SHALL BE INCIDENTAL TO AND INCLUDED FOR PAYMENT WITH THE NEW JOINT.
- PAY LIMITS OF ASPHALTIC EXPANSION JOINT IS FACE OF CURB TO FACE OF CURB.
- LIMITS OF DECK EDGE & BACKWALL REMOVAL AND REBUILD AT ABUTMENTS IS CURB TO CURB.
- THE COST OF FURNISHING AND INSTALLING THE CRUSHED STONE, PVC SPLIT PIPE DRAINS, AND ALL OTHER INCIDENTALS SHALL BE CONSIDERED INCIDENTAL TO, AND INCLUDED WITHIN THE PAYMENT FOR THE CONCRETE BACKWALL (808.0602) AND WILL NOT BE MEASURED SEPARATELY FOR PAYMENT.
- REMOVE CURBING AND CONCRETE AT THE RAMP M AND I-195 ABUTMENT JOINTS AS NECESSARY TO MODIFY JOINT. REMOVAL, STOCKPILING, AND RESETTING OF CURB SHALL BE PAID FOR UNDER ITEM 834.9901, REMOVAL OF CONCRETE UNDER ITEM 803.9904, AND RECASTING THE CONCRETE UNDER ITEM 808.9903.
- THE DECK EXTENSION OVER THE EXISTING BACK WALL SHALL BE PAID FOR UNDER ITEM 808.9901 FOR THE ROADWAY PORTION AND 808.9903 FOR THE GORE AREA.



SECTION AT ABUTMENT 2 GORE AREA
SCALE: 3/4" = 1'-0"

| REVISIONS | | | RHODE ISLAND DEPARTMENT OF TRANSPORTATION | |
|-----------|----------|-----|---|--|
| NO. | DATE | BY | | |
| 1 | 10/24/16 | MJK | | |

REHABILITATION OF WASHINGTON BRIDGE NORTH NO. 700
PROVIDENCE & EAST PROVIDENCE, RHODE ISLAND

DECK JOINT DETAILS SHEET 3

CHECKED BY J.A. DATE 5/6/16 SCALE AS NOTED



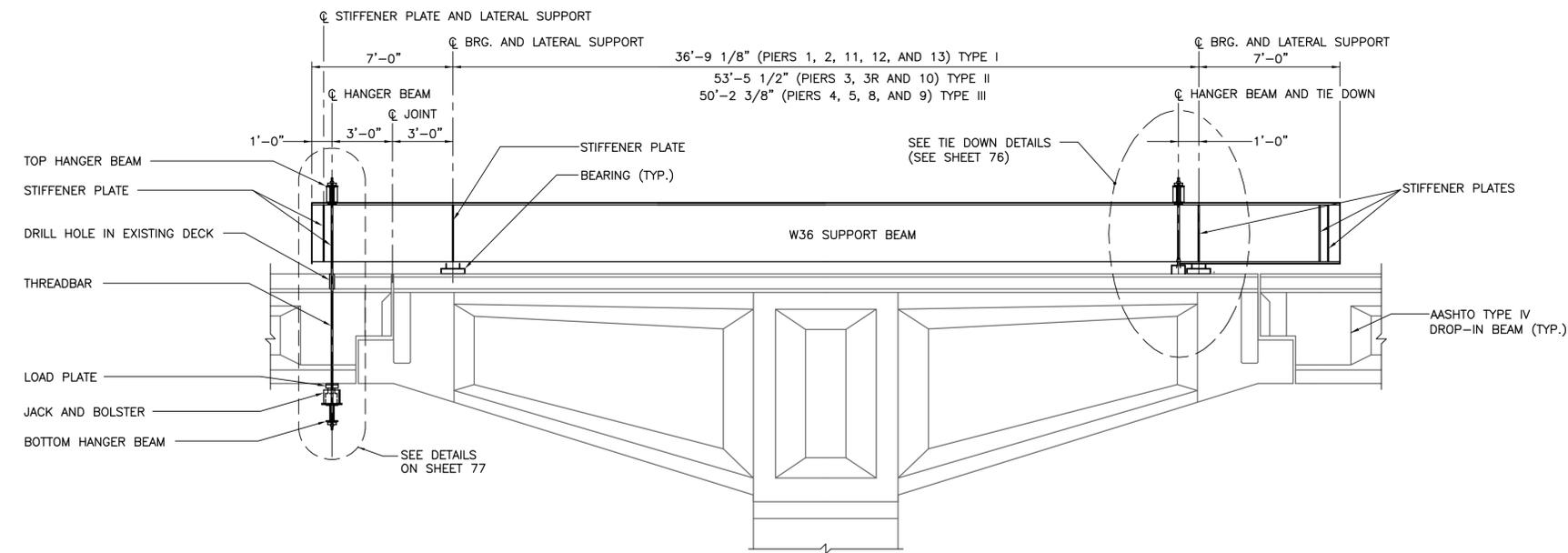
| CANTILEVER/BEAM | BEAM DESIGNATION | | | | | | CONSTRUCTION PHASE | | | SUPPORT BEAM TYPE * | | | NO. OF BEAM JACKS PER SET-UP | | |
|--------------------|------------------|---|---|---|---|---|--------------------|---|---|---------------------|--------|---------|------------------------------|----------------|--------------------------------|
| | BEAM REF | A | B | C | D | E | F | 1 | 2 | 3 | TYPE I | TYPE II | TYPE III | (2) BEAM JACKS | (1) BEAM JACK/ (1) TIE DOWN |
| C-7 | • | | | | | | • | | | | • | | | | • |
| C-8 | | • | | | | | • | | | | • | | | | • |
| C-9 | | | • | | | | • | | | | • | | | | • |
| C-13 | • | | | | | | • | | | | • | | | • | |
| C-19 | • | | | | | | • | | | | | • | | | |
| C-20 | | • | | | | | • | | | | | • | | | • |
| B-21 ^a | AA | | | | | | • | | | | | • | | | • |
| B-21A ^a | A1 | | | | | | • | | | | | • | | | • |
| C-25 | • | | | | | | • | | | | | • | | | • |
| C-26 | | • | | | | | • | | | | | • | | | • |
| C-31 | A1 | | | | | | • | | | | | • | | | • |
| C-31A | AA | | | | | | • | | | | | • | | | • |
| C-37 | • | | | | | | • | | | | | • | | | • |
| C-38 | | • | | | | | • | | | | | • | | | • |
| C-39 | | | • | | | | • | | | | | • | | | • |
| C-43 | • | | | | | | • | | | | | • | | | • |
| C-45 | | | • | | | | • | | | | | • | | | • |
| C-49 | • | | | | | | • | | | | | • | | | • |
| C-50 | | • | | | | | • | | | | | • | | | • |
| C-51 | | | • | | | | • | | | | | • | | | • |
| C-55 | • | | | | | | • | | | | | • | | | • |
| C-61 | • | | | | | | • | | | | | • | | | • |
| C-67 | • | | | | | | • | | | | | • | | | • |
| C-69 | | | • | | | | • | | | | | • | | | • |
| C-73 | • | | | | | | • | | | | | • | | | • |
| C-79 | • | | | | | | • | | | | | • | | | • |
| C-80 | | • | | | | | • | | | | | • | | | • |
| C-81 | | | • | | | | • | | | | | • | | | • |
| C-10 | | | | • | | | | • | | | | • | | | • |
| C-16 | | | | • | | | | • | | | | • | | | • |
| C-34 | | | | • | | | | • | | | | • | | | • |
| C-64 | | | | • | | | | • | | | | • | | | • |
| C-70 | | | | • | | | | • | | | | • | | | • |
| C-76 | | | | • | | | | • | | | | • | | | • |
| C-12 | | | | | | • | | | • | | | • | | | • |
| C-18 | | | | | | • | | | • | | | • | | | • |
| C-23 | | | | | • | | | | • | | | • | | | • |
| C-24 | | | | | • | | | | • | | | • | | | • |
| C-29 | | | | | • | | | | • | | | • | | | • |
| C-30 | | | | | • | | | | • | | | • | | | • |
| C-35 | | | | | • | | | | • | | | • | | | • |
| C-36 | | | | | • | | | | • | | | • | | | • |
| C-42 | | | | | • | | | | • | | | • | | | • |
| C-48 | | | | | • | | | | • | | | • | | | • |
| C-54 | | | | | • | | | | • | | | • | | | • |
| C-60 | | | | | • | | | | • | | | • | | | • |
| C-66 | | | | | • | | | | • | | | • | | | • |
| C-72 | | | | | • | | | | • | | | • | | | • |
| C-77 | | | | | • | | | | • | | | • | | | • |
| C-78 | | | | | • | | | | • | | | • | | | • |
| C-84 | | | | | • | | | | • | | | • | | | • |

NOTES:
 1. BEAM DESIGNATIONS A THRU F REFER TO BEAM LINES A THRU F AS DEPICTED ON SHEETS 26 THRU 29 AND CORRESPOND TO BEAM IDENTIFICATIONS FOUND IN THE ANNUAL AND SPECIAL NBIS BRIDGE INSPECTION REPORTS.

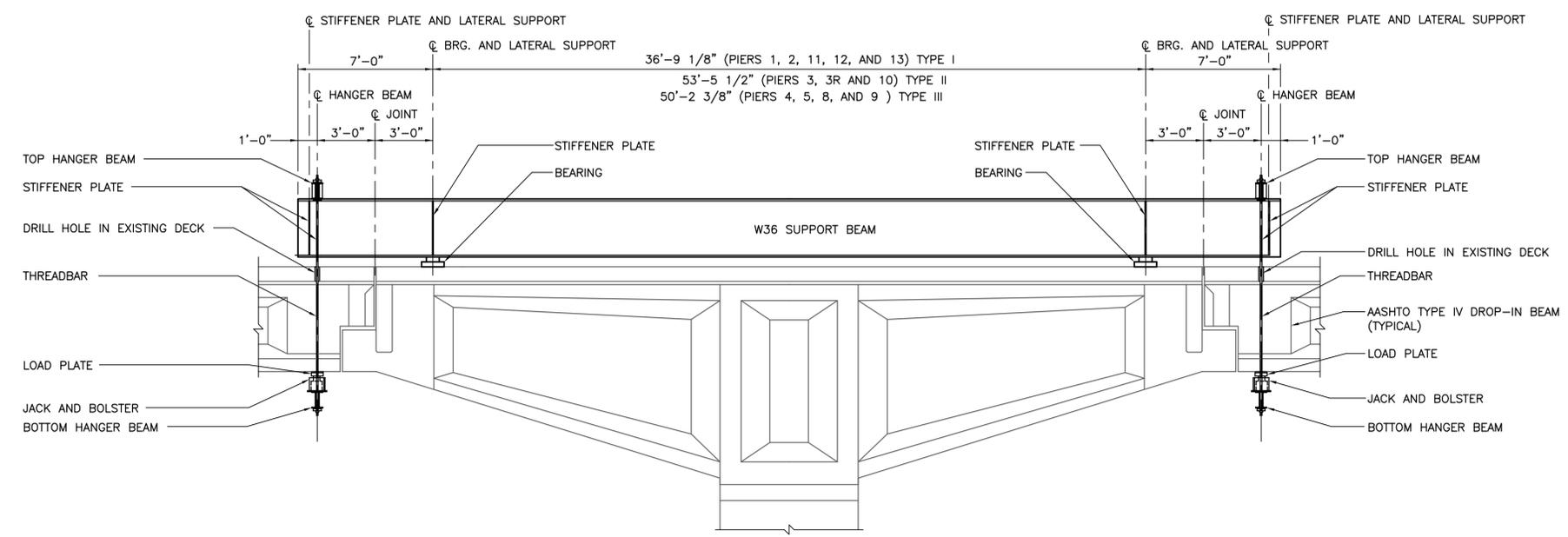
NOTES:
^a DROP-IN BEAMS B-21 AND B-21A WILL USE A REVERSED (1) BEAM JACK / (1) TIE DOWN SCHEME WITH THE TIE DOWN END IN SPAN 3R OF THE GANO STREET RAMP
 * TYPE I = PIERS 1,2,11,12,13; SUPPORT BEAM CL BRG-TO-CL BRG = 36' - 9-1/8"
 * TYPE II = PIERS 3,6,7,10; SUPPORT BEAM CL BRG-TO-CL BRG = 53' - 5-1/2"
 * TYPE III = PIERS 4,5,8,9; SUPPORT BEAM CL BRG-TO-CL BRG = 50' - 2-3/8"

| | | | | |
|-----------|----------|----|--|------------------------|
| REVISIONS | | | RHODE ISLAND | |
| NO. | DATE | BY | DEPARTMENT OF TRANSPORTATION | |
| 1 | 10/21/16 | CR | REHABILITATION OF WASHINGTON BRIDGE | |
| | | | NORTH NO. 700 | |
| | | | PROVIDENCE & EAST PROVIDENCE, RHODE ISLAND | |
| | | | DROP IN SPAN TEMP. SUPPORT AND JACKING SHEET 1 | |
| | | | CHECKED BY _____ | DATE _____ SCALE _____ |





PIERS 1 THRU 5 AND 8 THRU 13 - (1) BEAM JACK/ (1) TIE DOWN LAYOUT



PIERS 1 THRU 5 AND 8 THRU 13 - (2) BEAM JACK LAYOUT

TEMPORARY SUPPORT ELEVATIONS
SCALE: 1/4" = 1'-0"

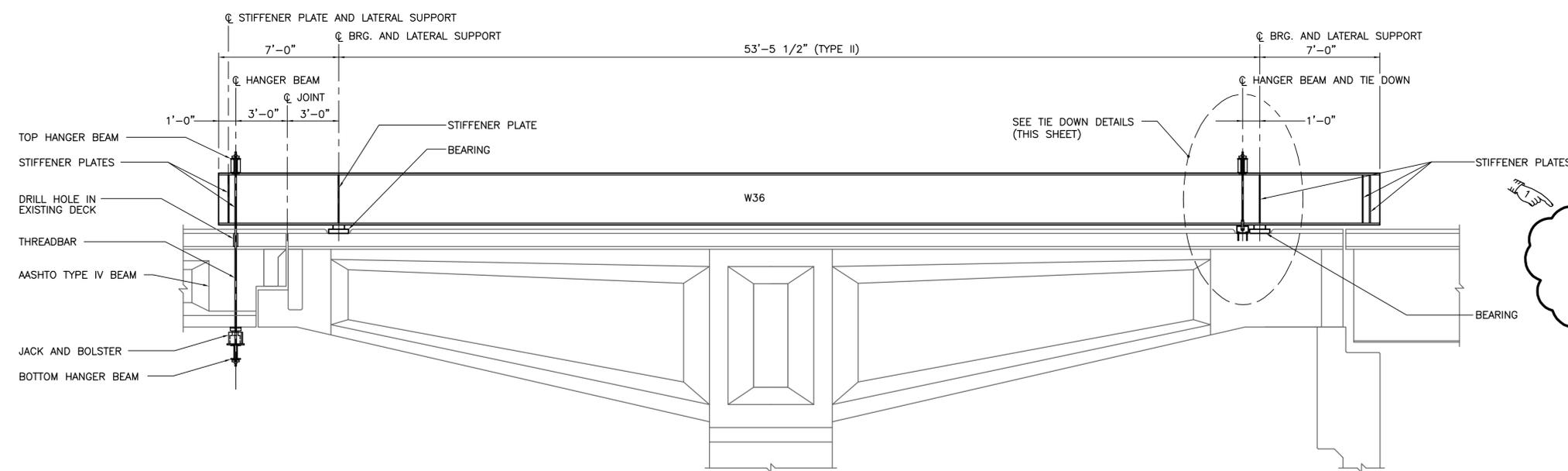
NOTES:

- FOR LOCATION OF BEAM JACKING ASSEMBLIES, SEE SHEETS 73 AND 74.
- ALL MATERIAL, FABRICATION, AND ERECTION PERTAINING TO TEMPORARY SUPPORT AND JACKING OPERATIONS SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION SECTION 800.9901.
- DIMENSIONS AND ELEVATIONS OF THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM THE ORIGINAL DESIGN DRAWINGS ENTITLED BRIDGE NO. 700, WASHINGTON BRIDGE (NORTH), RIFAP. NO. 1-195-4(14)38, DATED 1967.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS REQUIRED FOR THE PROPER PERFORMANCE OF THE WORK. FIELD CONDITIONS MAY EXIST WHICH DEVIATE FROM THE DIMENSIONS SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR FABRICATION AND FIT OF HIS WORK.
- ALL JACKING OPERATIONS SHALL BE COMPLETED PRIOR TO THE REPLACEMENT OR ELIMINATION OF THE DECK JOINTS.
- PRIOR TO TEMPORARY SUPPORT AND JACKING OPERATIONS ALL BITUMINOUS PAVEMENT WITHIN THE WORK ZONE SHALL BE REMOVED AND LONGITUDINAL RESTRAINERS SHALL BE DISASSEMBLED OR REMOVED.
- THE JACKING SYSTEM SHALL BE EQUIPPED WITH APPROPRIATE MANIFOLDS, CONTROL VALVES, GAUGES, ETC. TO ENSURE SIMULTANEOUS JACKING ON EACH SIDE OF THE PIER.
- FOR ALL DROP-IN SPANS EXCEPT B21 AND B75, PRESSURE SHALL BE APPLIED TO THE JACKING SYSTEM UNTIL A MAXIMUM DEAD LOAD REACTION OF 70 KIPS OR A PRESSURE EQUIVALENT TO A MAXIMUM DEAD LOAD REACTION OF 70 KIPS IS READ AT THE JACKING GAUGES. THE MAXIMUM JACK LOAD AT DROP-IN SPANS B21 AND B75 SHALL BE 60 KIPS. THE MINIMUM JACK LOAD FOR ALL DROP-IN SPANS SHALL BE 50 KIPS.
- UPON ATTAINING THE APPROPRIATE PRESSURE/LOAD AT THE JACK, THE BOLSTER SHALL BE SHIMMED BETWEEN BOLSTER AND LOAD PLATE AND THE SHIMS SHALL BE SECURED BY WELDING. THE JACK PRESSURE SHALL BE RELEASED AFTER WELDING OF SHIMS.
- THE CONTRACTOR SHALL CLOSELY MONITOR JACKING OPERATIONS TO ENSURE THAT DIFFERENTIAL DISPLACEMENT OF JACKED BEAMS RELATIVE TO ADJACENT BEAMS (JACKED OR UNJACKED) DOES NOT OCCUR.
- ANY DAMAGE WHICH MAY OCCUR TO THE BRIDGE STRUCTURE AS A RESULT OF ANY DIFFERENTIAL DISPLACEMENT DURING JACKING OR AS A RESULT OF THE CONTRACTOR'S JACKING OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.
- THE JACKING SYSTEM SHALL REMAIN IN PLACE UNTIL CORBEL AND DROP IN BEAM REPAIR OPERATIONS HAVE BEEN COMPLETED. THE SYSTEM SHALL NOT BE REMOVED UNTIL THE CORBEL AND DROP IN BEAM REPAIR CONCRETE HAS REACHED A COMPRESSION STRENGTH OF 3,500 PSI AS DETERMINED BY FIELD-CURED CYLINDERS AND A MINIMUM OF SEVEN (7) DAYS HAVE PASSED SINCE CONCRETE PLACEMENT AND UNTIL DIRECTED BY THE ENGINEER. ONCE COMPLETED, THE MINIMUM JACKING LOAD NECESSARY TO PERMIT REMOVAL OF THE SHIMS WITHOUT ANY DIFFERENTIAL DISPLACEMENT OF BEAMS SHALL BE APPLIED AND SHIMS REMOVED. THE JACKING SYSTEM SHALL BE DISMANTLED AND RELOCATED ACCORDINGLY.
- ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M270 GRADE 50 (ASTM DESIGNATION A709 GRADE 50).
- ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M164 (ASTM DESIGNATION A325).
- ALL STANDARD WASHERS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M293 (ASTM DESIGNATION F436). NUTS SHALL BE HEAVY HEXAGONAL NUTS CONFORMING TO AASHTO DESIGNATION M291 (ASTM DESIGNATION A563).
- ANCHOR BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION A307.
- THREADBARS SHALL BE PRESTRESSING STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO DESIGNATION M275 (ASTM DESIGNATION A722 TYPE II, GRADE 150).
- AFTER JACKING OPERATIONS HAVE BEEN COMPLETED THE TIE-DOWN ANCHOR POINTS AND DRILL HOLES IN THE DECK SHALL BE PATCHED.

JACKING DETAILS SHOWN ARE INTENDED TO BE CONCEPTUAL. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING JACKING DESIGN AND DRAWINGS IN ACCORDANCE WITH SPECIAL PROVISION 800.9901.

| REVISIONS | | | RHODE ISLAND | |
|-----------|---------|----|---|------------------------|
| NO. | DATE | BY | DEPARTMENT OF TRANSPORTATION | |
| 1 | 10/7/16 | CR | REHABILITATION OF WASHINGTON BRIDGE NORTH NO. 700 | |
| | | | PROVIDENCE & EAST PROVIDENCE, RHODE ISLAND | |
| | | | DROP IN SPAN TEMP. SUPPORT AND JACKING SHEET 4 | |
| | | | CHECKED BY _____ | DATE _____ SCALE _____ |





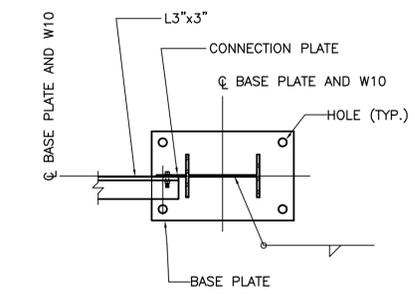
TEMPORARY SUPPORT ELEVATIONS

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

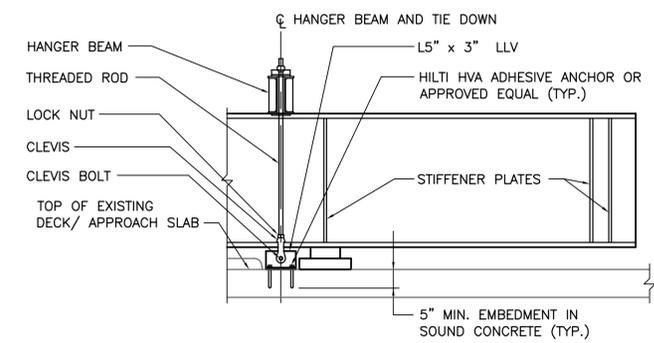
NOTES:

1. FOR LOCATION OF BEAM JACKING ASSEMBLIES, SEE SHEETS 73 AND 74.
2. FOR JACKING NOTES SEE SHEET 75.

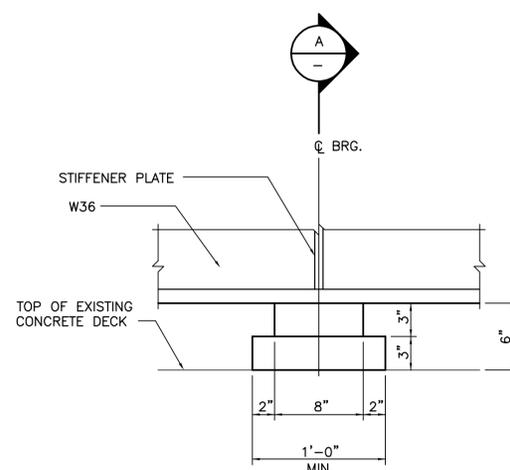
JACKING DETAILS SHOWN ARE INTENDED TO BE CONCEPTUAL. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING JACKING DESIGN AND DRAWINGS IN ACCORANCE WITH SPECIAL PROVISION 800.9901.



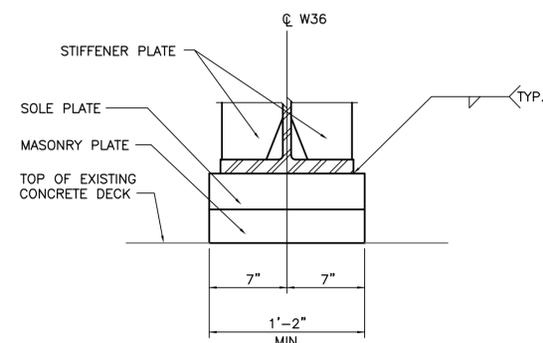
BASE PLATE
SCALE: 1" = 1'-0"



ELEVATION
SCALE: 1/2" = 1'-0"



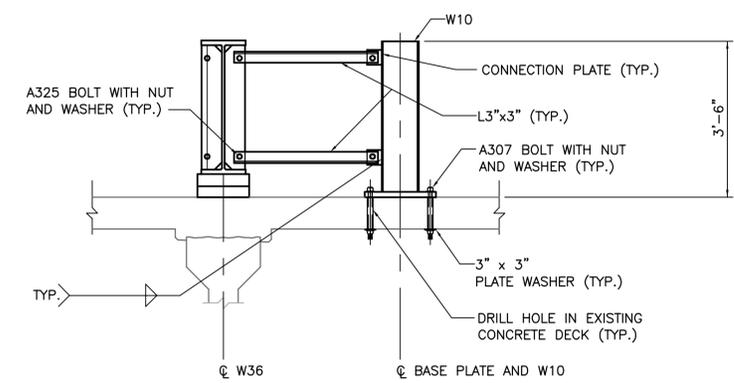
ELEVATION



SECTION A

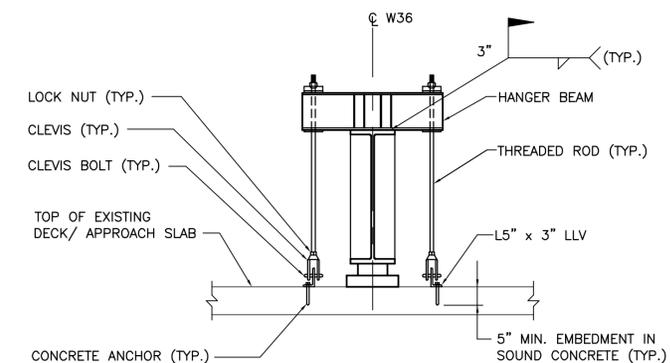
BEARING DETAILS

SCALE: 1 1/2" = 1'-0"



ELEVATION
SCALE: 1/2" = 1'-0"

LATERAL SUPPORT ON DECK DETAILS

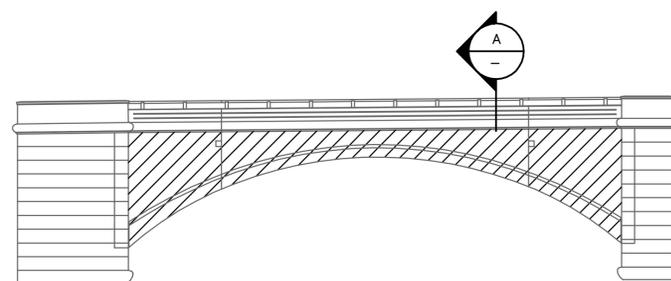


SECTION TIE DOWN DETAILS

SCALE: 1/2" = 1'-0"

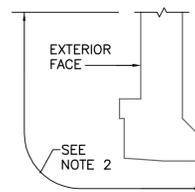
| REVISIONS | | | RHODE ISLAND DEPARTMENT OF TRANSPORTATION | |
|-----------|------|----|---|------------------------|
| NO. | DATE | BY | | |
| | | | REHABILITATION OF WASHINGTON BRIDGE NORTH NO. 700 | |
| | | | PROVIDENCE & EAST PROVIDENCE, RHODE ISLAND | |
| | | | DROP IN SPAN TEMP. SUPPORT AND JACKING SHEET 5 | |
| | | | CHECKED BY _____ | DATE _____ SCALE _____ |





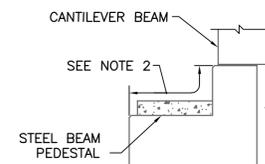
TYPICAL SPANDREL WALL — EXTERIOR ELEVATION

SCALE: N.T.S.



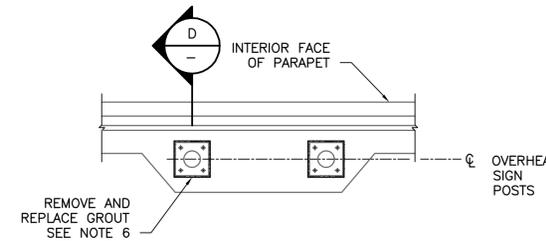
TYPICAL SPANDREL WALL SECTION

SCALE: N.T.S.



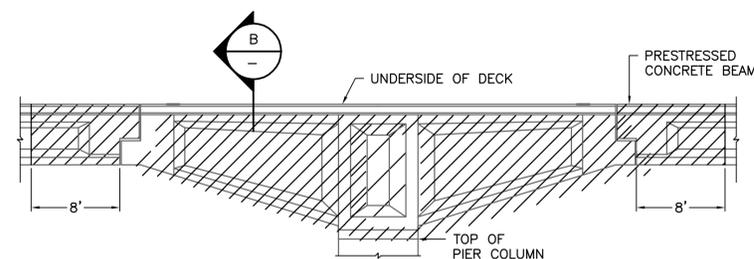
SECTION THRU PIER 6 & PIER 7 CURTAIN WALLS

SCALE: N.T.S.



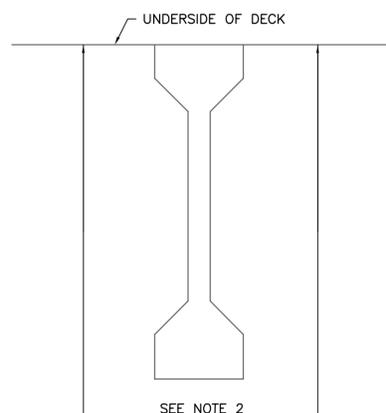
PLAN OF PARAPET AT OVERHEAD SIGN POST

SCALE: N.T.S.



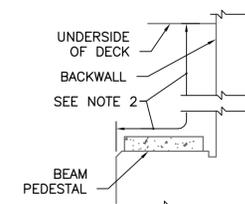
TYPICAL CANTILEVER AND DROP IN BEAM ELEVATION

SCALE: N.T.S.



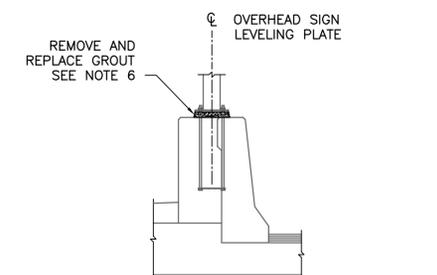
TYPICAL CANTILEVER SECTION

SCALE: N.T.S.



SECTION THRU ABUTMENT 2

SCALE: N.T.S.



SECTION THROUGH PARAPET AT OVERHEAD SIGN POST

SCALE: N.T.S.

NOTES:

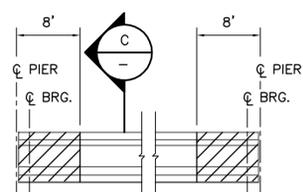
- FILM FORMING SEALER SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION SECTION 820.9901. TOP COAT COLOR SHALL BE WHITE.
- LIMITS OF CONCRETE SURFACE FINISH PROTECTIVE COATING - FILM FORMING SEALER.
- PIERS 4 THRU 9, IN THE RIVER, SHALL NOT BE COATED.
- ANTI GRAFFITI COATING TO BE APPLIED TO ALL EXPOSED FACES OF CURTAIN WALLS FROM EXISTING GRADE TO TOP OF WALL.
- PIERS 3, 10 AND 13 HAVE CURTAIN WALLS WITH DIFFERENT HEIGHTS ON EACH SIDE OF THE COLUMNS. APPLY ANTI GRAFFITI COATING TO THE COLUMNS AT PIERS 3, 10 AND 13 FROM THE TOP OF THE SHORTER CURTAIN WALL TO THE TOP OF THE TALLER CURTAIN WALL. FILM FORMING SEALER SHALL BE APPLIED TO THE REMAINING HEIGHT OF THE COLUMNS.
- NEW GROUT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C1107 SPECIFICATIONS FOR HIGH STRENGTH NON-SHRINK GROUT.

EXISTING MANHOLE REPAIR NOTES:

- REMOVE AND DISPOSE EXISTING COVER, FRAME, AND BRICK RISER TO THE TOP OF EXISTING CONCRETE MANHOLE.
- FORM AND CAST-IN-PLACE A NEW REINFORCED CONCRETE MANHOLE TOP COVER CONFORMING TO RIDOT STANDARD DETAIL 4.7.0. TOP COVER SHALL MATCH THE OUT-TO-OUT DIMENSIONS OF THE EXISTING MANHOLE.
- PROVIDE NEW HEAVY-DUTY SQUARE FRAME AND ROUND COVER CONFORMING TO RIDOT STANDARD DETAIL 6.1.1. FRAME AND COVER SHALL BE ADJUSTED TO GRADE USING MORTARED RED CLAY BRICK AND A 1'-0" WIDE x 9" HIGH CONCRETE COLLAR SHALL BE CAST IN ACCORDANCE WITH RIDOT STANDARD DETAIL 5.4.0.
- SEE SHEET 93 FOR ELEVATION OF MANHOLE COVER UNDER TEMPORARY PAVEMENT WIDENING.
- UPON COMPLETION OF STAGED CONSTRUCTION, RESET FRAME AND COVER TO MATCH PROPOSED FINAL GRADE.

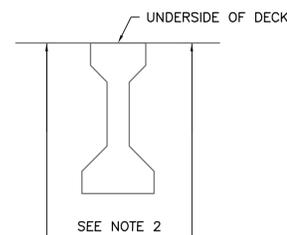
LEGEND:

- FILM FORMING SEALER (ITEM 820.0110)
- ANTI GRAFFITI COATING (ITEM 842.0100)
- TOC TOP OF CONCRETE



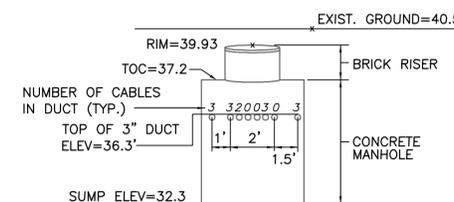
TYPICAL PRESTRESSED CONCRETE BEAM ELEVATION

SCALE: N.T.S.

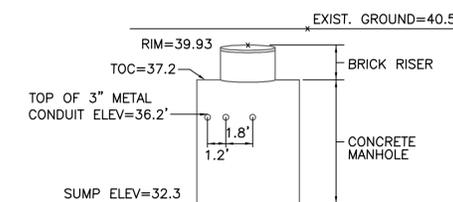


TYPICAL SECTION THRU PRESTRESSED CONCRETE BEAM

SCALE: N.T.S.



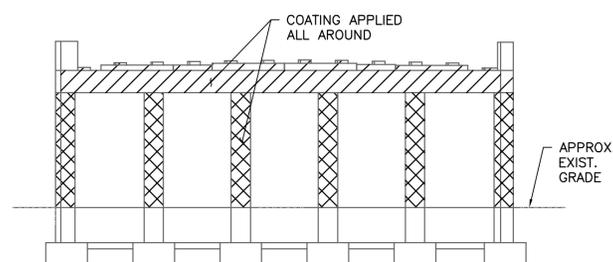
ELEVATION LOOKING WEST



ELEVATION LOOKING SOUTH

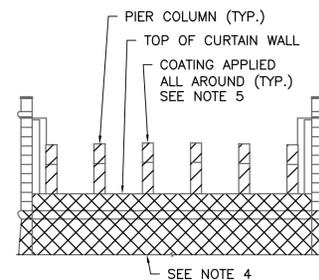
EXISTING MANHOLE OVER EAST ABUTMENT

NOT TO SCALE



TYPICAL PIER ELEVATION PIERS 14 THRU 17

SCALE: N.T.S.



TYPICAL PIER ELEVATION PIERS 1 THRU 3 & 10 THRU 13

SCALE: N.T.S.

NOTE: WEST ABUTMENT SIMILAR

| REVISIONS | | | NO. | DATE | BY | CR |
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| 1 | 10/28/16 | | | | | |

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| RHODE ISLAND DEPARTMENT OF TRANSPORTATION | | | | | | |
| REHABILITATION OF WASHINGTON BRIDGE NORTH NO. 700 | | | | | | |
| PROVIDENCE & EAST PROVIDENCE, RHODE ISLAND | | | | | | |
| MISCELLANEOUS BRIDGE DETAILS - 1 | | | | | | |
| CHECKED BY _____ DATE _____ SCALE _____ | | | | | | |

