RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY

JAMESTOWN, RHODE ISLAND

CONTRACT NO. 18-01

MAIN CABLE INVESTIGATION AND MISCELLANEOUS REPAIRS
NEWPORT/PELL BRIDGE
OVER THE
EAST PASSAGE CROSSING OF NARRAGANSETT BAY

JANUARY, 2018
RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY  
JAMESTOWN, RHODE ISLAND  

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NEWPORT/PELL BRIDGE  
OVER THE EAST PASSAGE CROSSING OF NARRAGANSETT BAY  

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RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY
JAMESTOWN, RHODE ISLAND

NOTICE TO CONTRACTORS

CONTRACT 18-01
MAIN CABLE INVESTIGATION AND MISCELLANEOUS REPAIRS
NEWPORT/PELL BRIDGE
DECEMBER, 2017

Proposals addressed to the Rhode Island Turnpike and Bridge Authority (Authority) for Contract No. 18-01 Main Cable Investigation and Miscellaneous Repairs Newport/Pell Bridge will be received by the Authority at One East Shore Road, Jamestown, Rhode Island 02835, until 4:00 PM on February 19, 2018. Please note that the bidder is responsible for verifying that Federal Express or other mail delivery can be received by the time noted.

This Contract shall consist of an investigation of the main cables and suspenders on the Newport/Pell Bridge. The work to be performed includes the following as outlined in the Contract Drawings and the Contract Specifications:

- Unwrapping main cables from cable band to cable band at thirteen locations, wedging open cable, providing access to the engineer for inspection, taking wire samples for testing, re-splicing wires, splicing broken wires, cleaning, compacting and re-wrapping the cable.
- Repair to existing wrapping system
- Removal and replacement of four suspender ropes for testing
- Cable Band bolt loosening and retightening
- Removal and replacement of ladders at the anchorages
- Removal and replacement of railings at the tower tops
- Installation of a flag deployment system at towers

Work will be performed under restricted daily lane closures only.

Proposal form, Contract Drawings, Supplementary Specifications and other Contract Documents for the work are available in electronic format through the Rhode Island Turnpike and Bridge Authority and can be purchased from the office of the Authority on payment of a non-refundable fee of two hundred and fifty dollars ($250) by cash or money order payable to the Rhode Island Turnpike and Bridge Authority. All Bidders must obtain Contract Documents directly from the Authority and Contract Documents are not transferrable. Prospective bidders must fill out and return to the Authority a Confidentiality Agreement before Contract Documents are made available. To receive the Confidentiality Agreement and arrange for payment of the non-refundable fee please contact Marianne Durgin at mdurgin@RITBA.org and copy Eric Offenberg at eoffenberg@RITBA.org and Debra Moolin at debra.moolin@wsp.com. Provide in the subject line the Contract Number and the name of your firm.

August 2013 Amended State of Rhode Island Standard Specifications for Road and Bridge Construction, with all amendments and supplements through December, 2016 are cited within
the Contract Documents and are available through the Rhode Island Department of Transportation website.

The proposal shall be submitted in hard copy format utilizing the forms included in the Contract Documents. Bidders shall submit two hard copies of the proposal to the Authority. Contract Documents are not transferable to other parties for bidding purposes.

Prospective bidders are notified that there is a mandatory Pre-Bid Meeting at which all bidders must have a representative in attendance. Prospective bidders or their representatives may not contact any employee of the Authority or WSP regarding this Contract from the date of advertisement through the bid date, except in writing. Questions or clarifications concerning the contract documents shall be submitted by e-mail to debra.moolin@wsp.com and copied to eoffenberg@ritba.org no later than 4:00 PM on January 18, 2018.

The Bidder's attention is directed to the fact that the Rhode Island Turnpike and Bridge Authority is soliciting bids from qualified contractors who shall assume the sole responsibility for the quality of materials and workmanship. Statement of Qualifications forms to be completed by each Bidder to enable the Authority to evaluate company and personnel experience, equipment and financial status must be attached to each Proposal.

For joint ventures (JV), all the parties comprising the joint venture shall complete the Statement of Qualifications individually and the JV shall enclose their partnership agreement with the bid. Financial statements of each party shall be submitted with the Statement of Qualifications. Also included shall be the listing of the personnel and their respective responsibilities in the JV. All other bid and Contract forms shall be executed by the JV. A mission or purpose statement indicating breakdown of work, if applicable, shall also be enclosed with the bid. The Authority shall consider the JV and its underlying parties and may evaluate against the JV, if it is in the best interest of the Authority. In such case, this may be a just cause of rejecting such a bid.

Failure of any Bidder to submit completed Statement of Qualifications forms with his Proposal may be a cause for rejection of their bid.

No change shall be made in the phraseology of the Proposal or in the items mentioned therein. Proposals that contain any omissions, erasures, alterations, additions or items not called for in the Proposal or that contain irregularities of any kind, may be rejected as not responsive.

A certified check payable to the Rhode Island Turnpike and Bridge Authority in an amount not less than ten (10) percent of the total amount of the bid price, or a bid bond not less than ten (10) percent of the total amount of the bid price, must accompany each Proposal as a guarantee that the Contract will be entered into, if awarded. Proposal guarantees will be returned after the Contract has been executed.

Each Proposal shall be addressed as previously given and delivered through the mail, or otherwise delivered to that address. Proposals, with accompanying check or bid bond, shall be enclosed in an opaque sealed envelope that will be suitably marked.

Any bond required under the provisions of this Contract and Proposal shall only be issued by and originate with an agent lawfully constituted, licensed and registered in the State of Rhode Island.
A Contract Performance Bond of one hundred (100) percent of the Contract price with a surety company that is satisfactory to the Authority will be required of the successful Bidder.

The Authority reserves the right to reject any or all bids or to waive any informality in bids received. The Authority will consider only those bids received from parties who have obtained contract documents directly from the Authority. Bids received from firms whose names are not recorded by the Authority as having secured documents for this Contract will be rejected.

The Authority intends to award the Contract, if an award is made, as soon as practicable after receipt and evaluation of bids. The Authority will not be obligated to make the award to the low bidder but may select the bidder it deems most qualified based on its review of the proposal materials. The successful Bidder shall execute and deliver the Contract and the required Contract Performance Bond and evidence of specified insurance coverage, upon receipt of Notice of Intent to Award. Notice to Proceed and execution of the Contract will be given upon approval of contractor’s insurance and bonds; and Contractor shall start work within three (3) week days after receipt of Notice to Proceed but may not start the work before the required bonds and insurance policies have been submitted and approved, or as otherwise stated herein, and shall complete the work on or before the date indicated in the Proposal.

Contractors wishing to submit a proposal on this work are required to have a representative present at the prebid meeting to be held at 1:00 PM on January 12, 2018 at the RITBA offices at the Newport Bridge.

The Authority intends to adhere to the following schedule:

1. Drawings Available to Contractors – January 8, 2018
2. Mandatory Pre-Bid Meeting at 1:00 PM on January 12, 2018
3. Deadline for written questions by Contractors – 4:00 PM on January 18, 2018
4. Answers to Contractors Questions and any Addendum Distribution – Close of Business January 23, 2018
5. Receive proposals by 4:00 PM on February 19, 2018
6. Review and evaluate proposals with Notice of Intent to Award February 23, 2018
7. Contractor to submit required insurance and Contract Bond by March 1, 2018
8. Presentation of recommendation for award at March 7, 2018 Board Meeting.
9. Execute Contract and issue Notice to Proceed March 7, 2018
10. Contractor to start work on March 12, 2018
11. Contractor shall complete the work on or before October 26, 2018 and according to Contract Milestones

RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY
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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 Drawings, the Specifications, which consist of the Rhode Island Standard Specifications for Road and Bridge Construction, Amended 2013 Edition, including subsequent corrections and addenda through May, 2016 and Special Provisions of the Rhode Island Turnpike and Bridge Authority, the Proposal form, the form of Contract Agreement, and the form of Contract Bond, which are acknowledged to be a part of this Proposal, and he 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 the 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 upon receipt of Notice of Award the required Contract Agreement, the required Contract Performance Bond, and certificates of required insurance, of which Contract this Proposal, the Drawings 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 the materials of the specified requirements that are necessary to complete the work in accordance with the Proposal, the Drawings, and the Specifications and agrees to accept therefore, as payment in full, the Contract Unit Price for the actual quantities of work described in the Specifications as set forth in this Proposal.

Any "Extra Work" or "Force Account Work" will be paid for as set forth in the Standard Specifications Subsections 104.05 and 109.04, and the undersigned Bidder hereby agrees to accept payment therefore as stated therein.

There is a Minority/Disadvantaged/Woman-Owned Business Enterprise Program for this project. The percentage goal for this project is 5% of the overall bid price (excluding Optional Pay Items).
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<td>Lump Sum</td>
<td></td>
</tr>
<tr>
<td>20A. Optional Tower Flag Support and Deployment System – East Tower</td>
<td>1</td>
<td>LS</td>
<td>$_________________</td>
<td>$___________</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lump Sum</td>
<td></td>
</tr>
<tr>
<td>Item Description and Written Bid Prices</td>
<td>Estimated Quantity</td>
<td>Unit</td>
<td>Unit Price/Unit (Figures)</td>
<td>Total</td>
</tr>
<tr>
<td>----------------------------------------</td>
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</tr>
<tr>
<td>21. Tower Flag Optional Enlarging of Existing Ventilation Opening</td>
<td>2</td>
<td>EA</td>
<td>$____________ Each</td>
<td>$____________</td>
</tr>
<tr>
<td>22. Tower Flag Procurement Allowance</td>
<td>1</td>
<td>LS</td>
<td>$15,000 Lump Sum ALLOWANCE</td>
<td>$15,000</td>
</tr>
<tr>
<td>23. Tower Railing Removal and Replacement</td>
<td>2</td>
<td>EA</td>
<td>$____________ Each</td>
<td>$____________</td>
</tr>
<tr>
<td>25. Engineer’s Field Office</td>
<td>8</td>
<td>MO</td>
<td>$____________ Month</td>
<td>$____________</td>
</tr>
<tr>
<td>26. Mobilization</td>
<td>1</td>
<td>LS</td>
<td>$____________</td>
<td>$____________</td>
</tr>
<tr>
<td>A. Optional Miscellaneous Repairs</td>
<td>1</td>
<td>LS</td>
<td>$150,000 Lump Sum ALLOWANCE</td>
<td>$150,000</td>
</tr>
</tbody>
</table>

TOTAL

P-5
The attached Drawings and these Specifications indicate the work to be performed.

All work shall comply with all Federal Wage Rates as applicable, union wage rates, and applicable regulations.

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 Proposal Guaranty consisting of a certified check in the amount of $___________ or a Proposal Bond in the amount of $___________ and agrees and consents that the Proposal Guaranty shall be forfeited to the Authority as liquidated damages if the required Contract Agreement and Contract Bond are not executed within seven (7) calendar days from the date of the Notice of Award.

The undersigned Bidder further agrees, if awarded the Contract on this Proposal, to begin work within three (3) calendar days after the date of receipt of Notice to Proceed unless otherwise specified under Special Provisions or permitted by the Engineer, and further agrees to complete the work as per the milestones included in the Contract with all work completed on or before October 26, 2018.
The undersigned hereby acknowledges receipt of the following addenda:

<table>
<thead>
<tr>
<th>Addenda No.</th>
<th>Dated</th>
</tr>
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<tbody>
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</tbody>
</table>

______________________________________  Contractor

By: _____________________________________

By: _____________________________________

Address: ______________________________________

______________________________________

{corporation incorporated under the laws {composed of  
{of the State of _________  } Officers,
{    } partners, or
{partnership  } owner
{individual

______________________________________  Title

______________________________________  Title

______________________________________  Title

______________________________________  Title
RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY
CONTRACT NO. 18-01

MAIN CABLE INVESTIGATION AND MISCELLANEOUS REPAIRS
NEWPORT/PELL BRIDGE
OVER THE EAST PASSAGE CROSSING OF NARRAGANSETT BAY

STATEMENT OF QUALIFICATIONS – PRIME CONTRACTOR

BUSINESS REFERENCES

AND EQUIPMENT AVAILABLE
(for attachment to Proposal form)

NAME OF BIDDER__________________________________________________________

PRINCIPAL OFFICE__________________________________________________________

(Street or P.O. Box) (City) (State) (Zip)

1. Are you an individual ☐, a partnership ☐, a corporation ☐, or a joint venture ☐?
   (Check as applicable).

   If a corporation, list names of officers and directors and state of incorporation; if a
   partnership or a joint venture, list names and addresses of partners or ventures; if any
   partner or venturer is a corporation, partnership or joint venture, list the information
   requested above for each such corporation, partnership and joint venture.

   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

2. How many years has your organization been in business as a contractor under your
   present business name?__________________________________________
3. How many years of experience has your organization had in construction work similar to the work you are interested in bidding?

(a) As a general contractor?

(b) As a subcontractor?

4. List below construction projects of a value of over $2,000,000, involving work similar to that required under this Contract, that your organization has completed in the last ten years.

<table>
<thead>
<tr>
<th>Location of Work</th>
<th>Year</th>
<th>Contract Price</th>
<th>Kind of Construction</th>
<th>Name of Owner</th>
<th>Address</th>
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</thead>
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</table>

(Use blank sheet if additional space is needed)
5. List below present projects of all types under way for each company or each venturer, on this date.

6. References: Name only the engineers or owners including the public agencies for whom you have performed work:

7. Reference is hereby made to the following bank or banks as to the financial responsibility of the Bidder:

7A. Name of Project Manager or Construction Superintendent who will be responsible for operations under this Contract.

8B. Home Address

8C. Total years experience in field general contracting including structural steel bridge work.

8D. Total years experience as Project Manager in general contracting including structural steel bridge work.

8E. Project Manager’s total experience with this company.

8F. Project Manager’s total experience with this company as project manager.
8G. **Project Manager's previous employers and nature of work done during ten (10) years prior to employment with this firm.**

<table>
<thead>
<tr>
<th>Employer</th>
<th>Position</th>
<th>Industry</th>
<th>Years of Experience</th>
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<tbody>
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</table>

9. **Detailed description of proposed project manager's experience as project manager during past ten (10) years.**

<table>
<thead>
<tr>
<th>Completion Date</th>
<th>Location</th>
<th>Description of Project</th>
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<tbody>
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</table>

(Use blank sheet if additional space is needed)

10. **Financial statement of the firm bidding for the job, of the last two (2) years.**

(Insert separate sheet)

11. **List of equipment proposed to be used on this Project.**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Capacity</th>
<th>Condition &amp; Age</th>
<th>Owner Leased or to be Purchased New</th>
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<tbody>
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</table>
The undersigned represents and warrants that the foregoing information is true and accurate to the best of his knowledge and the undersigned intends that the Rhode Island Turnpike and Bridge Authority rely thereon in awarding this Contract.

Bidder: ________________________________

By: ________________________________
    (Title)

Address: ________________________________

_______________________________

Date______________________________
RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY
CONTRACT NO. 18-01

MAIN CABLE INVESTIGATION AND MISCELLANEOUS REPAIRS
NEWPORT/PELL BRIDGE
OVER THE EAST PASSAGE CROSSING OF NARRAGANSETT BAY

STATEMENT OF QUALIFICATIONS – MAIN CABLE REHABILITATION CONTRACTOR

BUSINESS REFERENCES

AND EQUIPMENT AVAILABLE

(for attachment to Proposal form)

NAME OF CONTRACTOR________________________________________________________

PRINCIPAL OFFICE ____________________________________________________________

(Street or P.O. Box) (City) (State) (Zip)

1. Are you an individual ☐, a partnership ☐, a corporation ☐, or a joint venture ☐? (Check as applicable).

If a corporation, list names of officers and directors and state of incorporation; if a partnership or a joint venture, list names and addresses of partners or ventures; if any partner or venturer is a corporation, partnership or joint venture, list the information requested above for each such corporation, partnership and joint venture.

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2. How many years has your organization been in business as a contractor under your present business name?_____________________

Statement of Qualifications
Main Cable Rehabilitation Contractor

Page 1 of 4
3. How many years of experience has your organization had in construction work similar to the work you are interested in bidding?

(a) As a general contractor?

(b) As a subcontractor?

4. List below construction projects of a value of over $1,000,000, involving work similar to that required under this Contract that your organization has completed in the last ten years.

<table>
<thead>
<tr>
<th>Location of Work</th>
<th>Year</th>
<th>Contract Price</th>
<th>Kind of Construction</th>
<th>Name of Owner</th>
<th>Address</th>
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</table>

(Use blank sheet if additional space is needed)
5. List below present projects of all types under way for each company or each venturer, on this date.

6. References: Name only the engineers or owners including the public agencies for whom you have performed work:

7A. Name of Project Manager or Construction Superintendent who will be responsible for operations under this Contract.

7B. Home Address________________________________________________

7C. Total years experience in the rehabilitation of suspension bridge main cables.

7D. Total years experience as Project Manager in the rehabilitation of suspension bridge main cables.

7E. Project Manager’s total experience with this company.

7F. Project Manager’s total experience with this company as project manager.

7G. Project Manager’s previous employers and nature of work done during ten (10) years prior to employment with this firm.
8. Detailed description of proposed project manager's experience as project manager during past ten (10) years.

<table>
<thead>
<tr>
<th>Completion Date</th>
<th>Location</th>
<th>Description of Project</th>
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(Use blank sheet if additional space is needed)

9. List of equipment proposed to be used on this Project.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Capacity</th>
<th>Condition &amp; Age</th>
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The undersigned represents and warrants that the foregoing information is true and accurate to the best of his knowledge and the undersigned intends that the Rhode Island Turnpike and Bridge Authority rely thereon in awarding this Contract.

Bidder: ______________________________________

By: ______________________________________

(Title)

Address: ______________________________________

__________________________________________

Date__________________

Statement of Qualifications
Main Cable Rehabilitation Contractor
RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY
CONTRACT NO. 18-01

MAIN CABLE INVESTIGATION AND MISCELLANEOUS REPAIRS
NEWPORT/PELL BRIDGE
OVER THE EAST PASSAGE CROSSING OF NARRAGANSETT BAY

STATEMENT OF QUALIFICATIONS – INVESTIGATIVE LABORATORY CONTRACTOR

BUSINESS REFERENCES

AND EQUIPMENT AVAILABLE

(for attachment to Proposal form)

NAME OF CONTRACTOR ____________________________________________________________

PRINCIPAL OFFICE _________________________________________________________________

(Street or P.O. Box)          (City)        (State)       (Zip)

1. Are you an individual ☐, a partnership ☐, a corporation ☐, or a joint venture ☐? (Check as applicable).

If a corporation, list names of officers and directors and state of incorporation; if a partnership or a joint venture, list names and addresses of partners or ventures; if any partner or venturer is a corporation, partnership or joint venture, list the information requested above for each such corporation, partnership and joint venture.

__________________________________________________________________________

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2. How many years has your organization been in business under your present business name? _______________
3. How many years of experience has your organization had in consulting work similar to the work you are interested in bidding? ________________________________
   
   (a) As a general consultant? ________________________________
   
   (b) As a subconsultant? ________________________________

4. List below construction projects of a value of over $10,000 involving work similar to that required under this Contract that your organization has completed in the last ten years.

   Location of Work______________________________________________
   
   Year _________________________________________________________
   
   Contract Price______________________________________________
   
   Kind of Laboratory Investigation________________________________
   
   Name of Owner______________________________________________
   
   Address_____________________________________________________
   
   (Use blank sheet if additional space is needed)
5. List below present projects of all types under way for each company on this date.

6. References: Name only the engineers or owners including the public agencies for whom you have performed work:

7A. Name of Project Manager who will be responsible for operations under this Contract.

7B. Home Address

7C. Total years experience in the investigation of chemical and biological corrosion and testing and examination of structural materials.

7D. Total years experience as Project Manager in the investigation of chemical and biological corrosion.

7E. Project Manager’s total experience with this company.

7F. Project Manager’s total experience with this company as project manager.

7G. Project Manager’s previous employers and nature of work done during ten (10) years prior to employment with this firm.
8. Detailed description of proposed project manager's experience as project manager during past ten (10) years.

<table>
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<tr>
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(Use blank sheet if additional space is needed)

9. List of laboratory equipment proposed to be used on this Project.

<table>
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<tr>
<th>No.</th>
<th>Description</th>
<th>Capacity</th>
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</table>

The undersigned represents and warrants that the foregoing information is true and accurate to the best of his knowledge and the undersigned intends that the Rhode Island Turnpike and Bridge Authority rely thereon in awarding this Contract.

Bidder: ______________________________________

By: ______________________________________
   (Title)

Address: ______________________________________

____________________________________________

Date __________________________
RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY
CONTRACT NO. 18-01

MAIN CABLE INVESTIGATION AND MISCELLANEOUS REPAIRS
NEWPORT/PELL BRIDGE
OVER THE EAST PASSAGE CROSSING OF NARRAGANSETT BAY

STATEMENT OF QUALIFICATIONS – TEST LABORATORY CONTRACTOR

BUSINESS REFERENCES

AND EQUIPMENT AVAILABLE

(for attachment to Proposal form)

NAME OF CONTRACTOR
____________________________________________________________________

PRINCIPAL OFFICE
(Street or P.O. Box) (City) (State) (Zip)

1. Are you an individual ☐, a partnership ☐, a corporation ☐, or a joint venture ☐? (Check as applicable).

   If a corporation, list names of officers and directors and state of incorporation; if a partnership or a joint venture, list names and addresses of partners or ventures; if any partner or venturer is a corporation, partnership or joint venture, list the information requested above for each such corporation, partnership and joint venture.

____________________________________________________________________
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____________________________________________________________________

2. How many years has your organization been in business under your present business name?________________________
3. How many years of experience has your organization had in consulting work similar to the work you are interested in bidding? 

(a) As a general consultant? 

(b) As a subconsultant? 

4. List below projects of a value of over $10,000 involving work similar to that required under this Contract that your organization has completed in the last ten years.

<table>
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<tr>
<th>Location of Work</th>
<th>Year</th>
<th>Contract Price</th>
<th>Kind of Laboratory Work</th>
<th>Name of Owner</th>
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(Use blank sheet if additional space is needed)
5. List below present projects of all types under way for each company on this date.

6. References: Name only the engineers or owners including the public agencies for whom you have performed work:

7A. Name of Project Manager who will be responsible for operations under this Contract.

7B. Home Address

7C. Total years experience in the testing of large-scale structural members.

7D. Total years experience as Project Manager in the testing of large-scale structural members.

7E. Project Manager’s total experience with this company.

7F. Project Manager’s total experience with this company as project manager.

7G. Project Manager’s previous employers and nature of work done during ten (10) years prior to employment with this firm.
8. Detailed description of proposed project manager's experience as project manager during past ten (10) years.

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(Use blank sheet if additional space is needed)

9. List of laboratory equipment proposed to be used on this Project.

<table>
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<tr>
<th>No.</th>
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</table>

The undersigned represents and warrants that the foregoing information is true and accurate to the best of his knowledge and the undersigned intends that the Rhode Island Turnpike and Bridge Authority rely thereon in awarding this Contract.

Bidder: ______________________________________

By: ______________________________________

(Title)

Address: ______________________________________

____________________________________

Date_______________________________
KNOW ALL MEN BY THESE PRESENTS, that we ________________________________

hereinafter called the Principal, as Principal, and the ________________________________, of ________________________________, a corporation duly

organized under the laws of ________________________________, hereinafter called the Surety, as Surety, are held and firmly bound unto the Rhode Island Turnpike and Bridge Authority, hereinafter called the Obligee, in the sum of ________________________________ Dollars ($_________)

______), for the payment of which sum will and truly be made, the said Principal and the said

Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly

and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for RITBA Contract 18-01, Main Cable Investigation and Miscellaneous Repairs Newport/Pell Bridge Over the for the East Passage Crossing of Narragansett Bay.

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or, in the event of failure of the Principal to enter such contract and give such bond or bonds, if the Principal shall pay to the Obligee the full amount of this Proposal Bond as liquidated damages, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

SIGNED AND SEALED this __________ day of __________, 20__

In the presence of: __________________________(Seal)

PRINCIPAL

______________________________

WITNESS

______________________________

TITLE

(Seal)

SURETY

______________________________

WITNESS

______________________________

TITLE
RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY

CONTRACT AGREEMENT

This Contract Agreement, executed in the Town of Jamestown in the State of Rhode Island, this ______________________ day of ______________________, 20__, between the Rhode Island Turnpike Authority, hereinafter called the Authority, and _______________ ________________, hereinafter called the Contractor.

WITNESSETH:

That for and in consideration of payments hereinafter mentioned to be made by the Authority, the Contractor agrees to furnish all equipment, machinery, tools, and labor; to furnish and deliver all materials required to be furnished and delivered in and about the improvement, to assume sole responsibility for the quality of materials and workmanship, and to do and perform all work in the performance of Contract No. 18-01 Main Cable Investigation and Miscellaneous Repairs Newport/Pell Bridge Over the East Passage Crossing of Narragansett Bay, in strict conformity with the provisions of this Contract Agreement, the Notice to Contractors, the Proposal, the Specifications, and the Drawings, as defined in the Specifications. The said Notice to Contractors, Proposal, Specifications, and Drawings are hereby made a part of this Contract Agreement as fully and to the same effect as if the same had been set forth at length in the body hereof.

As security for the full and faithful performance of this Contract and all the incidents thereto, the Contractor has made and furnished a Contract Bond with _______________ _______________ as Surety, which is accepted by the Authority and made a part of this Contract.

In consideration of the foregoing premises, the Authority agrees to pay the Contractor such price for the work actually done as set out in the accompanying Proposal, in the manner provided in the said Specifications.

Contractor shall be prepared to begin work to be performed under this Contract as set forth in the Proposal within three (3) calendar days after receipt of Notice to Proceed.

The Authority shall have the right to repudiate this Contract, terminate the right of the Contractor to attempt further performance thereof, and require the surety on the bond of the Contractor to pay the penalty thereof, if the Contractor becomes insolvent, is adjudicated as bankrupt, made an assignment for the benefit of creditors, suffers a petition in bankruptcy to be filed against it, has a receiver appointed for it or its property, or assigns this Contract without the written consent of the Authority thereto being first had and obtained; or if the Authority’s Engineer shall certify in writing that for a period of three days or more, the Contractor has neglected or refused unreasonably to provide a sufficiency of properly skilled workmen or a sufficient quantity of material of proper quality, or that it has otherwise unreasonably delayed the performance of the contract.
No Contractor, subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this Contract on account of race, creed, color, national origin, or ancestry.

There may be deducted from the amount payable to the Contractor, by the Authority, under this contract, a penalty of fifty dollars ($50.00) for each person for each calendar day during which such a person is discriminated against or intimidated in violation of the provisions of the Contract.

For a second or any subsequent violation of the provisions of this Contract relating to discrimination or intimidation, this Contract may be cancelled or terminated by the Authority, and all money due, or to become due hereunder, may be forfeited, at the option of the Authority.

The Contractor shall deliver a Performance Bond and a Payment Bond to the Authority each in the amount of this Contract, executed upon forms approved by the Authority, by itself and a surety company or companies acceptable to the Authority, and qualified to do business under the laws of the State of Rhode Island, insuring the faithful performance of all the terms of this Contract and the settlement of claims or other liabilities caused by or incident to the execution of said Contract as well as such other items as may be required by the laws of the State of Rhode Island.

Insurance policies provided by the Contractor in which the Authority shall be named as the insured, shall be deemed to be the property of the Rhode Island Turnpike and Bridge Authority so long as any work under the Contract remains in performance and no cancellation of any such policy will be permitted. No changes in any insurance coverages in which the Contractor shall be named as the insured and covering the risk involved in the doing of the work shall in any way be altered during the progress of the work except to renew any such policy the term of which may expire during the performance of the work. In the event of the expiration of any such policy during the performance of the work, a renewal policy shall be provided to the Authority at least ten (10) days in advance of such expiration.

The work shall be prosecuted from as many different points, in such part or parts and at such times as may be directed by the Engineer, and shall be conducted in such a manner and with such materials, equipment, and labor as are considered necessary by the Engineer to insure its completion within the time set forth in the Proposal.
Should the prosecution of the work for any reason be discontinued by the Contractor, with the consent of the Engineer, the Contractor shall notify the Engineer at least twenty-four (24) hours before again resuming operations.

This Contract has been executed in duplicate and is binding upon the parties hereto, their respective heirs, executors, administrators, successors and assigns.

This Contract or any interest therein shall not be assigned by the Contractor without the written consent of the Authority, first had and obtained, which consent shall be effective only if given by a duly adopted resolution of the Authority.

IN WITNESS WHEREOF, the parties to these presents have hereunto set their names this ______ day of __________, 20__.

RHODE ISLAND TURNPIKE & BRIDGE AUTHORITY

In the Presence of:

______________________________
by: __________________________
   (Title)

______________________________
by: __________________________
   (Title)

______________________________
by: __________________________
   (Title)
NON-COLLUSION AFFIDAVIT AND VERIFICATION

Contract No. 18-01
Main Cable Investigation and Miscellaneous Repairs
Newport/Pell Bridge
Over the
East Passage Crossing of Narragansett Bay
Jamestown, Rhode Island

STATE OF }
COUNTY OF }

I, ___________________________________________ in the County of __________
___________________________________________ and the State of ____________ and of
full age, being duly sworn according to law on my oath, depose and say that:

I am ________________________________ of the firm (or
corporation or joint venture) of ________________________________, the
Contractor for the above named project, and that I executed the said Contract with full
authority so to do; that said Contractor has not, directly or indirectly, entered into any
agreement, participated in any collusion, or otherwise taken any action beyond the free
submittal of a Proposal in connection with the above named project; and that all statements
contained in the Contract and in this affidavit, are true and correct, and made with full
knowledge that the RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY relies upon the
truth of the statements contained in this affidavit in executing the Contract for the said project.

I further warrant that I or the firm, corporation or other entity
that I represent has not employed or retained any company or person, other than a bonafide
employee working solely for me or said entity, to solicit or secure this Contract, and that I have
not, nor has the entity I represent paid or agreed to pay any company or person, other than a
bonafide employee working solely for me or the aforesaid entity I represent, any fee,
commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or
resulting from the award or making of any contract connected with the above named project.

(Also type or print name
of affiant under signature)

Subscribed and sworn to before me this ________________day of ____________, 20__.

______________________________________________
Notary Public

My commission expires __________________________, 20__________
MINORITY/DISADVANTAGED/WOMEN-OWNED BUSINESS ENTERPRISE
AFFIDAVIT AND VERIFICATION
Contract No. 18-01
Main Cable Investigation and Miscellaneous Repairs
Newport/Pell Bridge
Over the
East Passage Crossing of Narragansett Bay
Jamestown, Rhode Island

STATE OF { } ss}
COUNTY OF { }

I, _______________________________ in the County of _______________________
________________________ and the State of ___________________________ and of
full age, being duly sworn according to law on my oath, depose and say that:

I am _______________________________ of the firm (or corporation or joint venture)
of _______________________________ the Contractor for the
above named project, and that I executed the said Contract with full authority so to
do; that said Contractor certifies that the organization shall affirmatively seek out
and consider Minority/Disadvantaged/Woman-Owned Business Enterprises to
participate in the project; that said Contractor shall develop and submit for approval
to the Authority, within ten days of the receipt of bids, a
Minority/Disadvantaged/Woman-Owned Business Enterprise Program; that said
Contractor shall affirmatively strive for a minimum participation goal of 5% of the
overall bid price of the above-named project (excluding Optional/On-Call Pay Items)
for Minority/Disadvantaged/Woman-Owned Business Enterprises; that, should less
than the 5% minimum participation goal be achieved, said Contractor shall
document for the Rhode Island Turnpike and Bridge Authority’s sole review and
approval, demonstrated attempts to achieve the minimum participation goal; and
that all statements contained in the Contract and in this affidavit, are true and
correct, and made with full knowledge that the Rhode Island Turnpike and Bridge
Authority relies upon the truth of the statements contained in this affidavit in
executing the Contract for the said project.

(Also type or print name
of affiant under signature)

Subscribed and sworn to before me this _________________ day of ____________, 20___.

Notary Public

My commission expires ___________________, 20___
RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY
INSPECTION AFFIDAVIT

Contract No. 18-01
Main Cable Investigation and Miscellaneous Repairs
Newport/Pell Bridge
Over the
East Passage Crossing of Narragansett Bay
Jamestown, Rhode Island

STATE OF
{ ss
COUNTY OF

I, ________________________________ of the City of ____________________________ in the County of _______________ and the State of _______________ and of full age, being duly sworn according to law on my oath, depose and say that:

I am ________________________________ of the firm (or corporation or joint venture) of ________________________________, the Contractor for the above named project, and that I do hereby declare that I, or my duly authorized representative(s) did adequately inspect the Bridge and the bridge site on the ___________ day of _______________, 20__, and, I, hereby acknowledge that I have satisfied myself with regard to the characteristics of the site and the structure involved, and the general nature, quantity and extent of the work to be performed and materials furnished under this Contract.

(Also type or print name of affiant under signature)

Subscribed and sworn to before me this ________________ day of _______________, 20__.

______________________________
Notary Public

My commission expires ________________ , 20________

END OF INSPECTION AFFIDAVIT
WAGE RATES - STATE OF RHODE ISLAND

WAGES OF LABOR: Title 37, Chapter 13, Section 6, of the General Laws of Rhode Island 1956, requires in part that the Contractor to whom the Contract is awarded and any subcontractor under him shall have ordinarily paid the prevailing rate of per diem wages and shall continue to pay the prevailing rate for holiday, regular, overtime, and other working conditions to all workmen needed to execute the Contract or work. Section 14 of said Chapter 13 also requires that Rhode Island citizens be given preference in employment.

The schedule of prevailing wage rates of per diem wages in the locality in which the work is to be performed for each craft, painter, mechanic, teamster, laborer, or type of worker needed to execute the Contract or work has been established on a minimum hourly basis and is on file in the office of the State Department of Labor. The Contractor shall pay not less than said minimum hourly wage rates and not less than the general prevailing rates for holiday, overtime, and other working conditions.

Copies of the Wage Rates are available at the office of the State Department of Labor. Positions not listed, as well as apprentice schedules and rates, will be allocated in accordance with the findings of the State Department of Labor. The Contractor shall obtain the latest rates as ascertained by the Rhode Island Department of Labor.

The Contractor shall provide certified payroll with the first payment requisition and with additional payment requisitions as directed by the Engineer. Certified payrolls will be reviewed by the Engineer for verification that prevailing wage requirements are met. Any payments to the Contractor shall be held by the Engineer if certified payrolls are not made available or if they do not verify compliance with prevailing wage requirements.
CONTRACT PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: THAT __________________________

_________________________________________________________ of

______ hereinafter called the "Contractor", and __________________________

hereinafter called the "Surety, a corporation authorized to execute surety bonds under the laws of the State of Rhode Island and Providence Plantations are held and firmly bounded unto the Rhode Island Turnpike and Bridge Authority, hereinafter called the "Authority", in the penal sum of _______________________________________________ Dollars ($ ___________

_____ ) lawful money of the United States of America, to the payment of which sum, well and truly to be made, Contractor and Surety herein firmly bind themselves and their respective heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT,

WHEREAS, Contractor did on the _______________ day of _______________ 2018, enter into a written Contract with the Authority, being Contract No.-18-01 Main Cable Investigation and Miscellaneous Repairs Newport/Pell Bridge Over the East Passage Crossing of Narragansett Bay for approximately the sum of ___________________________ Dollars ($ ______________________

_____ )

NOW, THEREFORE, if Contractor, his or its executors, administrators, successors, shall in all things well and truly keep and perform the covenants, conditions, and agreements in the Contract and in any alterations thereof made as therein provided, on his or its part to be kept and performed, at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the Authority, and all of its officers, agents, employees, as therein stipulated, and shall also promptly pay for all such labor performed or furnished and for all such materials and equipment furnished, (which as to equipment shall mean payment of the reasonable rental value, as determined by said Authority through its Engineer for its use during the period of its use), as shall be performed or furnished for, and used in, the carrying on of the work covered by the Contract, or shall see that they are promptly paid for, whether or not said labor is directly performed for or furnished to Contractor or is even directly performed upon the work covered by the Contract, and whether or not said materials are furnished to Contractor or become component parts of said work, and whether or not said equipment is furnished to Contractor or even directly used upon said work; and shall also pay for all Worker's Compensation, Public Liability, Fire Insurance, Federal and State Unemployment, Social Security and Compensation Taxes; then this obligation shall become and be null and void; otherwise it shall remain in full force and virtue.

This Bond is subject to all such rights and powers of said Authority and such other provisions as set forth in the Contract, Drawings, Specifications, and Proposal incorporated by reference in the Contract; and is subject also to all the rights of the Authority and others which are set forth with respect to such a bond in Chapter 12 of Title 37 of the General Laws of 1956

CPB-1
as amended; and is subject to the provisions that no extension of the time of performance of the Contract or delay in the completion of the work thereunder or any alteration thereof, made as therein provided, shall invalidate this Bond or release the liability of the Surety hereunder.

IN WITNESS WHEREOF said Contractor and Surety have hereunto set their respective names this __________________________ day of ________________________, 20__.

WITNESSES:

By:
__________________________

(Title)

__________________________

Surety

By
__________________________

Attorney-in-Fact
RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that we the undersigned

______________________________
as PRINCIPAL, and ________________________________

with underwriting office at ________________________________

to which all communication in regard to this bond should be addressed, a corporation
organized and existing under the laws of the State of ________________________________ and
duly authorized to do business in the State of Rhode Island, as SURETY, are hereby held and
firmly bound unto the Rhode Island Turnpike and Bridge Authority in the penal sum of _______
______________________________ Dollars ($__________), (not less than one hundred percent of Total Contract Price bid) for the payment of which well and truly
to be made, we hereby jointly and severally bind ourselves, our heirs, executors,
administrators, successors and assigns.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT,

WHEREAS, the above named Principal did on the ________________ day of _______
______________________________, 20__, enter into a written Contract with the Authority, being Contract
No. 18-01 for Main Cable Investigation and Miscellaneous Repairs Newport/Pell Bridge Over
the East Passage Crossing of Narragansett Bay for approximately the sum of ___________
______________________________ Dollars ($__________)  

NOW, THEREFORE, if said Principal shall pay all lawful claims of subcontractors,
materialmen, laborers, persons, firms or corporations, for labor performed or materials,
provisions, or other supplies, or fuels, oils, implements or machinery furnished, used or
consumed in the carrying forward, performing or completing of said Contract, or any changes
or modifications therein made as therein provided; we agreeing and assenting that this
undertaking shall be for the benefit of any subcontractor, materialman, laborer, person, firm or
corporation having a just claim, as well as for the Rhode Island Turnpike and Bridge Authority;
and shall further indemnify and save harmless the Rhode Island Turnpike and Bridge Authority
and ENGINEER, their officers, agents and servants and each and every one of them from any
and all suits, actions and costs of any kind, character or description whatsoever which may be
brought or instituted by any subcontractor, materialman, laborer, person, firm or corporation
who (which) has performed work or furnished materials in or about the work required to be
done pursuant to the said contract; then this obligation shall be void; otherwise the same shall
remain in full force and effect, it being expressly understood and agreed that the liability of the
Surety for any and all claims hereunder shall in no event exceed the penal amount of this
obligation as herein stated.
The said Surety hereby stipulates and agrees that no modifications, omissions or additions in or to the terms of the said contract, or in or to the plans or specifications therefore, shall in anywise affect the obligations of said Surety on its bond.

IN WITNESS WHEREOF said Principal and Surety have hereunto set their respective names this ___________________________ day of ______________________, 20__.

WITNESS OR ATTEST:

__________________________
Secretary
(also print or type name and title)

__________________________
Principal
(also print or type name and title)
(affix corporate seal of Principal)

WITNESS OR ATTEST:

(also print or type name and title)

__________________________
Surety

By __________________________
Attorney-in-Fact

Certification to the authority of the attorney in fact to commit the surety company, and a true and correct statement of the financial condition of said surety company must accompany this payment bond.

END OF PAYMENT BOND
RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY
EAST PASSAGE CROSSING OF NARRAGANSETT BAY
(NEWPORT/PELL BRIDGE)

CONTRACT NO. 18-01

MAIN CABLE INVESTIGATION AND MISCELLANEOUS REPAIRS

PROJECT SPECIFICATIONS

SPECIAL PROVISIONS

DIVISION I

PART 100 - GENERAL REQUIREMENTS AND COVENANTS

SECTION 101 – DEFINITIONS AND TERMS

101.01 ABBREVIATIONS

Supplement this Section as follows:

R.I.T.B.A. or RITBA – Rhode Island Turnpike and Bridge Authority.

101.03 AWARD

Delete in its entirety and replace with the following:

The written acceptance by the Authority of the successful proposal consisting of the executed Contract Agreement.

101.11 CONTRACT

Delete the text and substitute the following:

The agreement between the Rhode Island Turnpike and Bridge Authority and Contractor for the performance of the prescribed work and consisting of the following:

a. Contract Agreement: The written statement, executed by the Authority and Contractor; and approved by the Director of Engineering of the Rhode Island Turnpike and Bridge Authority, setting forth obligations of the parties for the performance of the work.


C. One Instrument: The executed Contract Agreement and the Contract Documents constitute one instrument; i.e., “the Contract.”
101.20  DEPARTMENT
Delete the text and substitute the following:
The Rhode Island Turnpike and Bridge Authority

101.22  DIVISION OF PURCHASES
Delete the text and substitute the following:
Rhode Island Turnpike and Bridge Authority

101.23  ENGINEER
Delete "Chief Engineer of the Division of Public Works" and substitute the following:
The Director of Engineering of the Rhode Island Turnpike and Bridge Authority

101.42  NOTICE OF TENTATIVE AWARD
Delete the second sentence, “This communication…” and replace with the following:
This communication instructs the successful bidder to submit within three (3) business days of the receipt of this Notice of Intent to Award the duly executed Contract Agreement, Contract Bonds and the required Certificate of Insurance.

101.51  PURCHASE ORDER
Delete in its entirety without replacement.

101.64  SPECIFICATIONS
(e) Federal Wage Rates
Delete the text and substitute the following:
Prevailing Wage Rates for all trades as determined by the Rhode Island Department of Labor will be the applicable wage rates for all trades employed on this Project.

101.68  STATE
Delete the text and substitute the following:
The Rhode Island Turnpike and Bridge Authority

101.71  SUBSTANTIAL COMPLETION
Delete the text and substitute with the following:
The term “Substantial Completion” means the point at which the performance of all work on the Project has been completed except final cleanup, and repair of
unacceptable Work, and provided the Engineer has determined, in his sole discretion, that:

a. The Project is safe and convenient for use by the public, and,

b. Failure to complete the work and repairs excepted above would not result in the deterioration of other completed work; and, provided further, that the value of work remaining to be performed, repairs and cleanup, is less than 2 percent of the Total Adjusted Contract Price.

101.80 WINTER SHUTDOWN

No Winter Shutdown is anticipated for this project.

101.84 AUTHORITY (Add this new Subsection)

The Rhode Island Turnpike and Bridge Authority acting through its authorized representatives.

101.85 CONSTRUCTION ORDER (Add this new Subsection)

This term shall include Field Orders, Change Orders and Supplementary Agreements.

END OF SECTION 101
102.01 QUALIFICATION OF BIDDERS

Each bidder shall complete and attach to his Proposal, the Statement of Qualifications forms setting forth information concerning company and personnel experience, status of work on hand, references, financial statement, and list of equipment proposed for the project. The Bidder is alerted to the fact that Statements of Qualification forms are required for the Prime Contractor; the Main Cable Rehabilitation Contractor; the Investigative Laboratory Contractor performing chemical and biological corrosion investigation and individual wire strength testing; and the Test Laboratory Contractor performing suspender strength tests. Forms for each of these are included in the Proposal and shall be completed by the bidder and attached to his Proposal. Failure of a Bidder to submit completed forms with his Proposal may be cause for rejection of his bid.

The Authority shall consider the qualifications of the Prime Contractor and the Qualifications submitted for the main cable rehabilitation contractor, laboratory and test facility and may evaluate against the Prime Contractor, if it is in the best interest of the Authority. In such case, this may be a just cause of rejecting the Prime Contractors' bid.

For joint ventures (JV), all the parties comprising the joint venture shall complete the Statement of Qualifications individually and the JV shall enclose their partnership agreement with the bid. Financial statements of each party shall be submitted with the Statement of Qualifications. Also included shall be the listing of the personnel and their respective responsibilities in the JV. All other bid and Contract forms shall be executed by the JV. A mission or purpose statement indicating breakdown of work, if applicable, shall also be enclosed with the bid. The Authority shall consider the JV and its underlying parties and may evaluate against the JV, if it is in the best interest of the Authority. In such case, this may be a just cause of rejecting such a bid.

102.02 CONTENTS OF PROPOSAL FORMS

Upon request, the Authority will furnish the prospective Bidder with Contract Documents. The Documents will state the location and description of the contemplated work to be performed, a set of drawings, and will have a schedule for which a Contract bid price is invited. The Documents will state the time in which the work must be completed, the amount of the Proposal Guaranty, and the date, time and place of the opening of Proposals. The Documents will also include any Special Provisions or requirements which vary from or are not contained in the Standard Specifications.

All papers bound with or attached to the Contract Documents are considered a part thereof and may be detached when the Proposal is submitted, except as otherwise required.
The Drawings, Specifications and other documents designated in the Proposal form will be considered a part of the Proposal whether attached or not.

Contract Documents are non-transferable. Any prospective Bidder who has been issued Documents and transfers them to any other individual, firm, or corporation may be barred from future bidding. The Proposal of the Bidder who has not been issued the Proposal form directly by the Authority or its Engineer may be rejected.

Contractors are advised of Sales and Use Tax regulations re: Contractors and Subcontractors "Regulation C" which may be obtained from the Rhode Island Department of Administration, Division of Taxation, One Capitol Hill, Providence, Rhode Island 02908-5800.

102.04 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND SITE OF WORK

Delete the 2nd and 3rd paragraph and add the following to this Subsection:

The bidder further warrants, agrees, and acknowledges by submitting a bid that he:

Has taken steps reasonably necessary to ascertain the nature and location of the work;

Has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to:

a. Conditions bearing upon acquisition, transportation, disposal, handling, and storage of materials.

b. The availability of labor, materials, water, electric power, and roads.

c. Uncertainties of weather, tides, or similar physical conditions at the site.

d. Environmental permits, restrictions, requirements including but not limited to the removal and disposal of materials and compliance with local noise ordinances

e. The confirmation and condition of the ground, and

f. The character of equipment and facilities needed preliminary to and during work performance;

Has satisfied itself as to the adequacy of time allowed for the completion of the contract.

Any failure of the bidder to take that action described and acknowledged in this clause shall not relieve the bidder from responsibility for estimating properly the difficulty and cost of successfully performing the work without additional expense to the Authority.
The bidder agrees that the Authority shall not be liable to it on any claim for additional payment or additional time or any claim whatsoever if the claim directly or indirectly results from the bidder’s failure to investigate and familiarize itself sufficiently with the conditions under which the contract is to be performed.

The bidder shall be familiar and comply with all Federal, State and local laws, ordinances, and regulations which might affect those engaged in the work. The Authority will not consider any plea of misunderstanding or ignorance of such requirements.

Bid prices shall reflect what the bidder anticipates to be the cost of completing the work, including methods, materials, labor and equipment. Except as the contract may provide, the bidder shall receive no payment for any costs that exceed those in the bid prices.

No claim shall be allowed because of any ambiguity in the contract if:

1. The bidder discovers any ambiguity, but fails to notify the Authority or
2. The bidder failed to discover an ambiguity that would be discovered by a reasonably prudent contractor in preparing the bid.

Any prospective bidder desiring an explanation or interpretation of the bid documents, must request the explanation or interpretation in writing 4:00 PM on January 18, 2018 in order to allow a written reply to reach all prospective bidders before the submission of their bids. Oral explanations, interpretations, or instructions given by anyone before the award of a contract will not be binding on the Authority. Any information given a prospective bidder concerning any of the bid documents will be furnished to all prospective bidders as an addendum if that information is deemed by the Authority to be necessary in submitting bids or if the Authority concludes that the lack of the information would be prejudicial to other prospective bidders.

Before submitting the proposal, it shall be the Bidder’s responsibility to determine that the complete set of Contract Documents has been received.

Existing Design Plans for the Newport/Pell Bridge are on file in the Office of the Authority. The above described plans may be examined by prospective bidders at the Office of the Authority but may not be removed.

Prints of necessary plans will be furnished to the successful bidder as may be required. The Authority assumes no responsibility for the completeness of these plans or for the accuracy of dimensions that may be shown on these plans. The Contractor shall verify dimensions of the existing construction as they may affect the work of this Contract. It should be noted that revisions and changes have been made to the bridge and any other elements included in this contract since the preparation of original construction drawings. It is the Contractor’s responsibility to confirm current conditions versus those shown on any reference drawings made available to the Contractor. Important examples of this is the addition of a median barrier to the bridge, the re-wrapping of some main cable panels with a neoprene wrapping, the installation of necklace lighting on the main cables, and the installation of various cameras and communication
systems, and navigation systems within the towers and attached to various bridge elements.

Each bidder will be required to adequately inspect the Newport/Pell Bridge structure as needed at any time during the bidding period in order to fully ascertain for itself the condition of the existing structure and project site, possible means of access to and egress from different portions of the structure, and to gather other information relative to the proposed work, by making advance arrangements with the Authority.

Each bidder shall execute a sworn Inspection Affidavit, bound with the Contract Documents, to affirm that it has inspected the project site and existing bridge structure. Failure to inspect the project site and submit such Affidavit, complete and executed, with the Proposal may be a just cause for rejecting the bid.

When Addenda, letters or other forms of notice, giving revisions and interpretations of the Plans, Specifications, Proposal and other Contract Documents, are mailed or otherwise sent to prospective bidders, acknowledgement thereof must be made by the Bidder, if an individual, by an officer of the company, or a partner. Each bidder is strongly advised to immediately acknowledge the receipt of such revisions on the form provided with each such revision. The acknowledgement shall also be made on the Proposal form as provided there for, and submitted with the proposal.

102.06 PROPOSAL GUARANTY

Delete the First paragraph and substitute by the following:

The Proposal when submitted shall be accompanied by a certified check payable to the order of the Rhode Island Turnpike and Bridge Authority or by a Proposal Bond satisfactory to the Authority bound with these Supplementary Specifications. The certified check, or the Proposal Bond, shall be for a sum of not less than ten percent (10%) of the total Contract Price bid for the Project, and such bond shall be issued only by and originate only with an agent lawfully licensed and registered in the State of Rhode Island.

Add the following at the end of the Second paragraph:

The power of attorney shall set forth the authority of the attorney-in-fact who has signed the bond on behalf of the surety company to bind the company and shall further certify that such power is in full force and effect as of the date of the bond.

102.07 IRREGULAR PROPOSALS

Rename the title of paragraph ‘a’ and delete the first sentence to insert the following

a. Reasons for Disqualification. The Authority reserves the right to declare a proposal non-responsive and may disqualify a bidder for any of the following irregularities:
102.08 DELIVERY OF PROPOSALS

Delete this entire Section of the Standard Specifications and substitute the following:

Bids shall be enclosed in a sealed envelope addressed to the Director of Engineering, Rhode Island Turnpike and Bridge Authority, Administration Building, Newport Bridge, One East Shore Road, P.O. Box 437, Jamestown, Rhode Island, with FRONT of envelope plainly marked with name and address of bidder and “BID FOR MAIN CABLE INVESTIGATION AND MISCELLANEOUS REPAIRS NEWPORT/PPELL BRIDGE – CONTRACT 18-01”. Two (2) copies of bid forms properly signed are required to be submitted. Official bid forms are enclosed and MUST BE USED when submitting the proposal. Enclosed in the sealed envelope with the Proposal shall be submitted the following:

(a) The proposal Guaranty, as described in Section 102.06;
(b) The proposal bid sheets
(c) The Statement of Qualifications on the attached forms;
(d) A Manpower and Equipment Statement on a form furnished by the Contractor enumerating the plant and equipment that is owned or definitely controlled by the Bidder and available for the Project;
(e) Minority/Disadvantaged/Women-Owned Business Enterprise Affidavit and Verification
(f) A Non-Collusion Affidavit and a warranty concerning solicitation of the Contract by others, both on the same form;
(g) A completed Inspection Affidavit on the attached form;
(h) Financial statements of the firm bidding for the job, of last two years;

By submitting a Proposal, the bidder covenants and agrees that it has satisfied itself from its own investigation of the conditions to be met, that it fully understands its obligations and that it will not make any claim for, or have right to cancellation or relief, without penalty of the Contract, because of any misunderstanding or lack of information.

102.09 WITHDRAWAL OR REVISION OF PROPOSALS

Delete the last sentence of the last paragraph [“Such revisions will be…purchasing.ri.gov] and substitute the following:

Such revisions will be made by addendum e-mailed to the address provided by the representative present at the mandatory Pre-Bid Meeting, duly numbered and dated,
and/or Notices. Bidders are required to provide notice of receipt by return e-mail. Revisions must also be acknowledged on Proposals. Failure to acknowledge receipt of addendum on Proposal may be just cause for rejecting the bid.

102.14 NON-COLLUSIVE BIDDING CERTIFICATION

Delete subparagraph a. Non-Collusive Bidding Certification and substitute the following:

a. The Affidavit. Every proposal submitted to the Authority must contain the Non-Collusion Affidavit and Verification duly subscribed to and affirmed by the bidder as true under the penalties of law. The Non-Collusion Affidavit and Verification must be on the prescribed form attached with the other Proposal Documents.

Delete subparagraph b. and substitute the following:

b. The Minority/Disadvantaged/Woman-Owned Business Enterprise Affidavit. Every proposal to the Authority shall contain the Minority/Disadvantaged/Woman-Owned Business Enterprise Affidavit duly subscribed to and affirmed by the bidder as true under the penalties of law. The Minority/Disadvantaged/Woman-Owned Business Enterprise Affidavit must be on the prescribed form attached with the other Proposal Documents.

By submission of a Proposal, each bidder and each person signing a Proposal that includes the Minority/Disadvantaged/Woman-Owned Business Enterprise Affidavit certifies that the organization shall affirmatively seek out and consider Minority/Disadvantaged/Woman-Owned Business Enterprises to participate in the contract, and develop and submit for approval to the Authority, within ten days of the receipt of bids, a Minority/Disadvantaged/Woman-Owned Business Enterprise Program in accordance with the provisions of the Minority/Disadvantaged/Woman-Owned Business Enterprise Affidavit.

The percentage goal for this Contract is 5% of the overall bid price.

102.15 MANDATORY PRE-BID CONFERENCE (Add this new Subsection)

The Rhode Island Turnpike and Bridge Authority will hold a mandatory pre-bid conference concerning this contract, titled, Contract 18-01 Main Cable Investigation and Miscellaneous Repairs Newport/Pell Bridge, The conference will be held at the Office of the Authority, Administration Building Newport Bridge, Route 138, Jamestown, Rhode Island at 1:00 PM on January 12, 2018. All bidders are required to attend this meeting. Bidders may be disqualified for failure to attend the Pre-Bid Meeting.

END OF SECTION 102
SECTION 103 – AWARD AND EXECUTION OF CONTRACT

103.02 POST-QUALIFICATION REQUIREMENTS OF AWARD OF CONTRACT

Delete subparagraph a. without replacement.

103.05 CONTRACT BOND

Delete the subsection in its entirety and substitute by the following:

The successful bidder shall provide an executed performance bond and payment bond within three (3) business days of the date of Notice of Intent to Award, for a sum not less than the full Contract amount. These bonds shall:

1. Be on Authority furnished form, as attached in these specifications.

2. Be signed by surety (or sureties) that is (are) listed in the current U.S. Treasury circular 570 and authorized to do business in the State of Rhode Island and Providence Plantations and accompanied by a certification as to authorization of the attorney-in-fact to commit the surety company (or companies) and a true and correct statement of the financial condition of the said surety company (or companies).

3. Be conditioned upon the faithful performance of the contract by the Contractor within the prescribed time.

4. Guarantee that the surety shall indemnify, defend, and protect the Authority, its representatives, agents and Engineer against any claim of direct or indirect loss resulting from the failure:

   a. Of the Contractor (or any of the employees, subcontractors, or agents of the Contractor) to faithfully perform the contract, or

   b. Of the Contractor (or the subcontractors or agents of the Contractor) to pay all laborers, mechanics, subcontractors, agents, material man, or provisions for carrying out the work.

The Authority may require sureties or surety companies on the contract bond to appear and qualify themselves. Whenever the Authority deems the surety or sureties to be inadequate, it may, upon written demand, require the Contractor to furnish additional surety to cover any remaining work. Until the added surety is furnished, payments on the contract will stop.

In the event of insolvency of the surety, the Contractor shall forthwith furnish and maintain, as above provided, other surety satisfactory to the Authority.
All alterations, extensions of time, extra and additional work, and other changes authorized by the Contract Documents may be made without securing the consent of the surety or sureties of the bonds.

Payment will be made under:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Performance Bond</td>
<td>Lump Sum</td>
</tr>
<tr>
<td>2</td>
<td>Payment Bond</td>
<td>Lump Sum</td>
</tr>
</tbody>
</table>

Payment for the bonds will be made at the lump sum prices bid or the actual cost, whichever is lower, and will be made only upon delivery of a receipted bill or bills.

103.06 EXECUTION AND APPROVAL OF THE CONTRACT

Delete this subsection in its entirety and substitute the following:

The Contract shall be executed by the successful bidder, hereinafter referred to as the Contractor, and submitted along with the required Certificate of Insurance, and Payment and Performance Bonds in the form satisfactory to the Authority within three (3) business days of the Notice of Intent to Award.

Receipt by the Contractor of the fully executed Contract Agreement will constitute the Award of the Contract.

103.07 FAILURE TO EXECUTE CONTRACT

a. Failure of RITBA to Execute Contract

Modify the first sentence as follows:

…not executed within forty-five (45) calendar days following execution….

b. Failure of the Bidder to Execute Contract

Modify the first sentence (line 3) as follows:

…other stipulations within three (3) business days of the Notice of Intent to Award shall be considered revocation of…

END OF SECTION 103
SECTION 104 – SCOPE OF WORK

104.01 INTENT OF CONTRACT

Add the following to this subsection:

Omissions from the Contract of details of work which are necessary to carry out the intent of the contract, or which are customarily performed, shall not relieve the Contractor from performing the omitted work, but they shall be performed as if fully and correctly set forth and described in the contract. The Contract bid prices (Unit and/or Lump Sum) shall be full payment for all work and materials required to complete the work.

The Contractor shall include all costs of doing the work within the bid prices (Unit and/or Lump Sum). If the contract plans, contract provisions, addenda, or any other part of the contract requires work that has no Unit and/or Lump Sum price in the proposal form, the cost of such work shall be incidental and included within the bid prices (Unit and/or Lump Sum) in the contract.

104.02 CHANGES IN THE CONTRACT

Add the following to this subsection:

c. All changes will be included in a Change Order that specifies, in addition to the work to be done, an adjustment of Contract Time, if any, and the basis of compensation for such work.

Upon receipt of a Change Order, the Contractor shall proceed with the ordered work. Where the changes involved require a Change Order, and a Change Order has not yet been issued, the Engineer may direct, by Field order, that the Contractor proceed with the desired work and the Contractor shall comply. In such cases, the Engineer will, as soon as practicable, issue a Change Order for such work.

d. No claim for additional compensation shall be made because of any such alteration, deviation, addition to or omission from the Work required by the Contract, by reason of any variation between the approximate quantities in the Proposal and the quantities of Work as done, by reason of Extra Work, by reason of elimination of Pay Items, or by reason of changes in the character of Work except as allowed in this Section 104.

No claim for additional compensation or extension of Contract Time within the scope of this Section 104 will be allowed if asserted after Acceptance.
104.05 EXTRA WORK

Delete the subsection in its entirety and substitute the following:

a. The Authority reserves the right to require Extra Work as needed for the satisfactory completion of the Project. Such work will be designated as Extra Work when it is determined by the Engineer that such work is not covered in any of the various items for which there is a bid price or by combination of such items. In the event portions of such work are determined by the Engineer to be covered by some of the various items for which there is a bid price or combinations of such items, the remaining portion of such work will be designated as Extra Work.

The Contractor shall do such Extra Work and furnish labor, material and equipment therefore upon receipt of a Change Order, Field Order, or Supplementary Agreement and in the absence of such it shall not perform, and not be entitled to payment for, such Extra Work.

Payment for Extra Work required pursuant to the provisions in this subsection will be made as provided in Subsection 109.04 or as agreed to in a Supplementary Agreement.

If the Contractor and the Engineer cannot agree on a Supplementary Agreement for Extra Work, and the Engineer, in his sole discretion, deems it inadvisable to have such work completed on a Force Account basis as provided in Subsection 109.04, the Authority may elect to have such work completed by others. Under these circumstances, the Contractor shall not interfere therewith nor have any claim for additional compensation as the result of such election.

104.07 SIGNIFICANT CHANGES IN THE CHARACTER OF THE WORK

a. Circumstances for Significant Change

Delete the text of the second paragraph “When a major item of work…..” and replace with the following:

In most cases, as determined by the Authority, when a major item of work, as defined elsewhere in the Contract, is increased in excess of 200%, or decreased below 50%, of the original Contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 200% of the original Contract item quantity, or in the case of a decrease below 50%, to the actual amount of work performed.
104.08 MAINTENANCE OF TRAFFIC:

Add the following:

The Contractor shall conduct his work in such a manner as not to interfere, under any conditions or circumstances, with navigation by vessels under the bridge.

It is the Contractor’s responsibility to maintain the safety of the work site and the components of any lane closure at all times. The Contractor must provide oversight of the work site at all times and be able to respond immediately to any damage to the lane closure components caused by the elements or by a vehicle, while providing temporary safety measures until such time that the Engineer approves the condition of the lane closure.

Lane Closures will be allowed only as outlined below:

Pay Item 10 Removal and Replacement of Wire Rope Suspenders Assemblies
Pay Item 11 Rehabilitate Cable Band (for Cable Band 72SW only)
Pay Item 17 Fabricate and Deliver Suspenders Rope Dampers

The work on the items listed immediately above will be performed under single lane closures from 9AM to 3PM. The Authority has anticipated a maximum of 10 days of single lane closures for these work items. The Contractor must submit a schedule of single lane closures to the Engineer with the initial project schedule for approval by the Engineer and the Authority. If the Contractor anticipates more than 10 days of single lane closures for these work items, the additional lane closures must be justified by the Contractor and approved by the Engineer and the Authority. The Contractor shall schedule multiple work items to be performed to minimize the total number of daily lane closures.

Pay Item 3 Removal and Replacement of Main Cable Wrapping System
Pay Item 5 Main Cable Wedging
Pay Item 6 Main Cable Wire Sampling and Splicing
Pay Item 7 Splicing Broken Main Cable Wires
Pay Item 9 Main Cable Recompaction
Pay Item 11 Rehabilitate Cable Band (for Anchorage Cable Bands)
Pay Item 13 Main Cable Band Bolt Loosening and Retightening
Pay Item 14 Removal and Replacement of Handrope Stanchions
Pay Item 16 Repair Main Cable Wrapping
Pay Item 18 Clean and Paint Existing Cable Safety Line Anchors
Pay Item 19 Main Cable Band Clean, Paint, and Caulk
Pay Item 24 Anchorage Exterior Ladders Removal and Replacement

All work on the items listed immediately above is to be performed without lane closures. Single lane closures from 9AM to 3PM will be provided only on a limited basis to allow necessary mobilization and demobilization for this work. The Contractor must submit a schedule of single lane closures to the Engineer with the initial project schedule for approval by the Engineer and by the Authority. The Authority has anticipated a maximum of 35 days of single lane closures for mobilization and demobilization for these items. If the Contractor anticipates more than 35 days of single lane closures for these work items, the additional lane closures must be justified by the Contractor and approved by the Engineer and the RITBA. The Contractor shall schedule multiple work items to be performed to minimize the total number of daily lane closures.
Daily drop offs and pick ups of workers with hand carried items will be permitted to allow access to the work areas during the prosecution of this work. The daily drop offs will be coordinated with the Engineer and the Authority and performed escorted by stake-body trucks with either mounted or pulled flashing arrow boards/signs and shall consist of traffic stoppage no longer than necessary for workers to exit the vehicle with their hand carried tools and move to the safety walk. Daily drop offs are not intended for longer stoppages required to offload tools, equipment and materials.

Temporary single lane closures of a maximum of one hour will be permitted on a limited basis as approved by the Engineer and RITBA for short term interim mobilization requirements by the Contractor for the delivery of tools, equipment and materials. These temporary lane closures must be scheduled with the Authority and the Engineer one week in advance and will be limited to a maximum of one lane closure in each direction per week unless otherwise approved.

**Pay Item 20 Tower Flag Support and Deployment System – West Tower**
**Pay Item 20A Optional Tower Flag Support and Deployment System – East Tower**
**Pay Item 21 Tower Flag Optional Enlarging of Existing Ventilation Opening**
**Pay Item 23 Tower Railing Removal and Replacement**

All work on the items listed immediately above is to be performed with limited lane closures to support mobilization and protection to traffic below during specific work items.

Single lane closures from 9AM to 3PM will be provided only on a limited basis to allow necessary mobilization and demobilization for this work. The Contractor must submit a schedule of single lane closures to the Engineer with the initial project schedule for approval by the Engineer and by the Authority. The Authority has anticipated a maximum of 5 days of single lane closures for mobilization and demobilization for these items. If the Contractor anticipates more than 5 days of single lane closures for these work items, the additional lane closures must be justified by the Contractor and approved by the Engineer and the RITBA.

The Contractor shall submit a work plan for these items that addresses performance of work above the roadway and protection to traffic below that includes a detailed schedule of lane closures necessary during specific work items. If half bridge closures or other lane closure configurations that are determined by the RITBA to require performance at night and/or on weekends, the Contractor shall perform the work at the times required by the RITBA. No additional payment will be made for this requirement and the Contractor shall provide for this possibility in the bid prices. See Specification Section 955 Steel Repairs for additional requirements.

Daily drop offs and pick ups of workers with hand carried items will be permitted to allow access to the work areas during the prosecution of this work. The daily drop offs will be coordinated with the Engineer and the Authority and performed escorted by stake-body trucks with either mounted or pulled flashing arrow boards/signs and shall consist of traffic stoppage no longer than necessary for workers to exit the vehicle with their hand carried tools and move to the safety walk. 

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walk. Daily drop offs are not intended for longer stoppages required to offload tools, equipment and materials.

Temporary single lane closures of a maximum of one hour will be permitted on a limited basis as approved by the Engineer and RITBA for short term interim mobilization requirements by the Contractor for the delivery of tools, equipment and materials. These temporary lane closures must be scheduled with the Authority and the Engineer one week in advance and will be limited to a maximum of one lane closure in each direction per week unless otherwise approved.

Pay Item 4  Main Cable Wrapping Testing in Laboratory
Pay Item 8  Main Cable Wire Testing in Laboratory
Pay Item 12  Suspender Rope Testing
Pay Item 15 Optional Fabrication of New Cable Band (as directed)
Pay Item 22 Tower Flag Procurement Allowance

All work on the items listed immediately above is to be performed without lane closures. No lane closures will be allowed for this work.

All Lane Closures
The Contractor is alerted that a protected species of Falcon nests at Pier 4W and frequents other locations in and around the bridge. See Subsection 108.07 of the specifications for restrictions regarding work adjacent to this area.

The Contractor is advised that short duration halts to work on the bridge may be directed by the State Police for security reasons. The Contractor shall comply with any requests by the State Police or the RITBA or their agents to temporarily halt work and have all personnel leave the bridge site.

This Contract is intended to be performed with single lane closures provided only when absolutely necessary. Wherever possible, the Contractor shall provide for the prosecution of work items that require lane closures concurrently to reduce the number of total lane closures. The RITBA has anticipated a total maximum of fifty (50) days of single lane closures. It is the Contractor's responsibility to schedule the work items to ensure that the maximum of 50 days of single lane closures is not exceeded. If the Contractor anticipates more than 50 days total of single lane closures, the additional lane closures must be justified by the Contractor and approved by the Engineer and the RITBA.

The RITBA will permit the Contractor to utilize a single traffic lane for his equipment and to provide access as required to perform the work included in the contract under the restrictions noted in the above paragraphs, the Contract Drawings, and other sections of the Specifications. These lane closures are subject to approval by the Engineer and the Authority and are strictly restricted to between the hours of 9AM and 3PM. No set-up work on the roadway will be allowed before 9AM and all pick up work on the roadway must be complete by 3PM. If night or weekend work is required by the RITBA or requested by the Contractor, and approved by the RITBA, the night time or weekend hours will be at the discretion of the RITBA but will provide at least eight hours of closure. The Contractor is not permitted to leave daily lane closures up overnight or at any time that the area is not attended by Contractor personnel equipped to maintain the work site and the maintenance and protection of traffic.
The Contractor may not store any equipment or materials on the bridge roadway or safety walk without the benefit of an adjacent lane closure and under no circumstances may equipment or materials be stored on the safety walk overnight for work being performed under daily lane closures.

The Contractor shall install adequate warning lights, guide barriers, and signage in accordance with the Contract Drawings, applicable provisions of Sections 922 through 928 and Section 937 of these Specifications, the Standard Specification, MUTCD standards and all State and Local laws and regulations. The Contractor shall supply and install at locations identified by the Engineer a minimum of three portable variable message signs to be used prior to lane closures to provide travel advisories to the traveling public. These signs shall be provided for seven days prior to the start of lane closures, and provision shall be made by the Contractor to procure the signs for two other seven day periods to provide additional travel advisories as required and as directed by the Engineer.

The Contractor shall provide the following additional elements in all Daily lane closures:

1. Traffic Mounted Attenuator
2. At least one Flagman
3. At least one radar speed display
4. Signs prior to the taper encouraging utilization of both lanes approaching the merge – the Zipper Merge approach

These above requirements shall be identified on the Maintenance of Traffic Plans submitted by the Contractor to the Engineer for approval. These items are required regardless of whether these items are called out on the Contract Drawings, recommended by the Contractor's Engineer, or required by any applicable standard or guideline.

The Contract Drawings show a suggested scheme for maintenance of traffic; however the responsibility remains with the Contractor to conform and comply with all RIDOT specifications, MUTCD, and state and local laws. The Contractor must submit for approval by the Engineer his proposed Maintenance of Traffic Plan for all daily lane closures to be implemented. The Maintenance of Traffic drawings shall include but not be limited to information regarding the days and hours of lane closures, the signage, warning lights, and guide barriers to be used. The drawings shall be prepared by and stamped by a Professional Traffic Engineer licensed and registered in the State of Rhode Island. The Maintenance of Traffic Plan and the hours and locations of the lane closures are subject to the approval of the Engineer and the Authority. The Contractor shall obtain approval from the Authority for weekend work.

Holiday and Special Event Lane Closure Embargos:

No lane closures will be permitted on Holidays or during Special Events and on the day before and the day after a Holiday or Special Event unless otherwise approved by the Authority. In addition, four days, at the discretion and schedule of the RITBA will have lane closure embargos – with notice given to the Contractor at least two weeks before these discretionary embargos. No lane closures will be permitted on the Friday before a Holiday unless otherwise approved by the Authority. Lane Closure embargos associated with Holidays and Special Events anticipated to be within the schedule of this Contract are as listed below:

- Volvo Ocean Race – Friday May 18 through Sunday May 20, 2018
- Memorial Day – Friday May 25 through Monday May 28, 2018
Fourth of July – Tuesday July 3 through Thursday July 5, 2018
Victory Day – Monday, August 13, 2018
Labor Day – Friday August 31 through Monday September 3, 2018
Newport Boat Show – Thursday September 13 through Sunday September 16, 2018
Columbus Day – Monday October 8, 2018

Care shall be exercised at all times to protect the traveling public, and the Contractor shall take all necessary precautions, as the Engineer may approve, to accomplish such protection. Contractor shall not dump any object from the bridge.

Contractor shall obey all town, city, state, and federal laws and regulations during the conduct of the work.

Any daily lane closure that begins eastbound from Pier 1W to Pier 7E must have the beginning of the taper located a minimum of 100 feet west of Pier 1W due to the lack of sight distance over the crown of the vertical roadway curve. Likewise, any daily lane closure that begins westbound from Pier 1E to Pier 7W must have the beginning of the taper located a minimum of 100 feet east of Pier 1E.

The Contractor shall coordinate daily lane closures on a daily basis with the Resident Engineer. The Contractor is alerted that other repair contracts and/or maintenance work by the RITBA may be under construction concurrently with this contract, including, but not limited to deck patching, deck joint repairs, and anchorage repairs. Contract 18-01 work and maintenance work have priority regarding lane closures, and any lane closures requested by others for work must be coordinated with the lane closures for maintenance work and the work under this contract. The Contractor shall submit a construction schedule to the Engineer in order to allow coordination with any other work that will be performed under lane closures. The Contractor shall also submit rolling three week look ahead lane closure schedules to the Engineer for coordination and posting of lane closures to the RITBA lane closure calendar. For any lane closures not previously scheduled and coordinated by the Contractor for Contract 18-01 work, or for any revision to the scheduled lane closures, other previously scheduled contract or maintenance work will take priority over this Contract at the determination of the Engineer.

Any lane closures that are performed concurrent with lane closures for any other work on the bridge by the Contractor or by any other party are subject to the following requirements:

1. Daily lane closures in the eastbound and westbound directions of the bridge must be located a minimum of 1000 feet away from each other.
2. Separate daily lane closures in the same lane on the bridge are prohibited unless authorized by the Engineer.
3. Whenever possible, the daily lane closures shall be coordinated so as to have both contractors working in the same lane on the bridge with a single extended pattern. The Contractor is responsible for the safety of his work area. In the event that the Contractor utilizes an extension of a lane closure for other work on the bridge, the Contractor shall provide all necessary warning signs and barricades to protect his work area and the traveling public in the event that the upstream lane closure is dismantled or otherwise compromised.

The above requirements apply also to the Contractor’s use of multiple lane closures on the bridge in the performance of this Contract.
It is also the Contractor’s responsibility to ensure and maintain the safety of any workers, or the public, below or adjacent to his work area on the bridge including providing means to catch any falling debris or other material. See Subsection 107.08 Public Convenience and Safety.

**Method of Measurement and Basis of Payment**

The cost of maintenance of traffic will not be paid for under any specific item, but the cost thereof including all labor, tools, material, equipment, maintenance of traffic, and all other incidentals required to complete the work shall be deemed included in the Contract bid prices in the Proposal.

104.13 **CONSTRUCTION OVER OR ADJACENT TO NAVIGABLE WATERWAY**

Add the following paragraph:

The Contractor’s operation shall in no way hinder the safe navigation of the waterway. See additional US Coast Guard requirements in Section 107.19.

104.16 **PROCEDURE AND PROTEST BY THE CONTRACTOR (Add this new Subsection)**

If in disagreement with anything required in a change order, another written order, or an oral order from the Engineer, including any direction, instruction, interpretation, or determination by the Engineer, the Contractor shall:

1. Immediately give a signed written notice of protest to the Engineer or the Engineer’s field inspectors before doing the work.

2. Supplement the written protest within fifteen (15) calendar days with a written statement providing the following:

   a. The date of the protested order,
   b. The nature and circumstances which caused the protest,
   c. The contract provisions that support the protest,
   d. The estimated dollar cost, if any, of the protested work and how that estimate was determined, and
   e. An analysis of the progress schedule showing the schedule change or disruption if the Contractor is asserting a schedule change or disruption; and

3. If the protest is continuing, the information required above shall be supplemented as requested by the Engineer. In addition, the Contractor shall provide the Engineer, before final payment, a written statement of the actual adjustment requested.

Throughout any protested work, the Contractor shall keep complete records of extra costs and time incurred. The Contractor shall permit the Engineer access to these and any other records needed for evaluating the protest.

The Engineer will evaluate all protests provided the procedures in this section are followed. If the Engineer determines that a protest is valid, the Engineer will recommend to the Authority payment for work or time by an equitable
adjustment. Extensions of time will be evaluated in accordance with Section 108.07, Determination and Extension of Contract Time. The Authority will exercise its option to accept or overrule the Engineer’s recommendation. The decision of the Authority shall prevail. No adjustment will be made for an invalid protest.

In spite of any protest, the Contractor shall proceed promptly with the work as the Engineer orders.

The Contractor accepts all requirements of a change order by: (1) endorsing it, (2) writing a separate acceptance, or (3) not protesting in the way this section provides. A change order that is not protested as provided in this section shall be full payment and final settlement of all claims for contract time and for direct, indirect and consequential costs, including costs of delays, related to any work either covered or affected by the change.

By not protesting as this section provides, the Contractor also waives any additional entitlement and accepts from the Engineer any written or oral order (including directors, instructions, interpretations, and determinations).

By failing to follow the procedures of this section and Section 109.04, the Contractor completely waives any claims for protected work.

END OF SECTION 104
SECTION 105 – CONTROL OF WORK

105.01 AUTHORITY OF THE ENGINEER

Add the following:

Any approval by the Engineer of any materials, workmanship, plant, equipment, drawings, program, methods of procedure, or of any other act or thing done or furnished, in or in connection with the performance of the work, shall be construed merely to mean that at the time the Engineer knows of no good reason for objecting thereto; and no such approval shall release Contractor from his responsibility for the accurate and complete performance of the work in accordance with the Drawings and Specifications or from any duty, obligation, or liability imposed upon him by the provisions of the Contract.

The Engineer’s decisions will be final on the questions regarding measurement of unit price work, payments under the contract including equitable adjustment, acceptance of working drawings and determination as to the existence of changed or differing site conditions.

105.02 PLANS AND SHOP DRAWINGS

Delete the first sentence of the third paragraph “All shop drawings will be …” and replace with the following:

Shop drawings for structures shall be furnished by the Contractor within twenty (20) calendar days after the award of the Contract.

Delete the first sentence of the fifth paragraph “Within forty-five (45) calendar days...” and replace with the following:

Within fourteen (14) calendar days of submission to the Engineer, all shop drawings shall be reviewed by the Engineer and returned to the Contractor for appropriate action.

105.03 CONFORMITY WITH PLANS AND SPECIFICATIONS

Add the following to this subsection:

Although measurement, sampling and testing may be considered evidence of conformity, the Engineer will determine whether the Work deviates from the Contract Documents.

Neither the observations of the Engineer in his inspection of the Work nor inspections, tests or approvals by persons other than the Contractor relieves the Contractor from his obligations to perform the Work in accordance with the Contract Documents.

105.05 COOPERATION BY CONTRACTOR

Revise subparagraph a. Causes for Removal as follows:

The Engineer may remove the Superintendent or any other key Contractor staff positions included in the Proposal Qualifications Questionnaire at any time if the
performance is unsatisfactory or the staff member is uncooperative in their relationship with the Engineer.

Add the following to this subsection:

The Contractor shall provide the staff indicated in the Proposal Qualification Questionnaires. If staff identified in the Proposal is no longer in the employ of the Contractor during the performance of work under this Contract, then the Contractor shall submit for approval by the Engineer the qualifications of a replacement.

**105.06 COOPERATION WITH UTILITIES**

Delete the first paragraph and substitute the following:

Within the site of the Project there may be public utility structures, and notwithstanding any other clause or clauses of this Contract, the Contractor shall not proceed with his Work until it has made diligent inquiry at the offices of the Engineer, the utility companies and municipal authorities or other owners to determine their exact location. The Contractor shall notify, in writing, the utility companies and municipalities or other owners involved of the nature and scope of the Project and of his operations that may affect their facilities or property. Two copies of such notices shall be sent to the Engineer.

Add the following to this subsection:

All costs for protection and preservation of utilities and cooperation and coordination with their owners shall be included in the prices bid for the various Pay Items scheduled in the Proposal.

**105.07 COOPERATION BETWEEN CONTRACTORS**

Add the following to this subsection:

The Contractor shall coordinate all work on a daily basis with the Resident Engineer. The Contractor is alerted that other repair contracts and/or maintenance work by the RITBA may be under construction concurrently with this contract, including, but not limited to deck patching, deck joint repairs, and anchorage repairs. For Lane Closure coordination between Contractors see Subsection 104.08.

The Contractor shall submit a construction schedule to the Engineer in order to allow coordination with other work. Other work will include repairs to the anchorages that may include access and platforms that may interfere with platforms and access to the cable for work on this Contract. The work by others on the anchorage is scheduled to be completed by June 4, 2018. The 18-01 Contractor shall not schedule work within the backstays or at the anchorage ladders or cable safety line anchors before June 4, 2018.

It is also the Contractor’s responsibility to ensure and maintain the safety of any workers (including the Contractor’s workers, workers performing other contract or maintenance work, and the RITBA maintenance staff), or the public, below or adjacent to his work area on the bridge including providing means to catch any falling debris or other material. See Subsection 107.08 Public Convenience and Safety.
Section 104.08 Maintenance of Traffic contains further requirements for coordinating lane closures with other work on the bridge.

105.08 CONSTRUCTION STAKES, LINES AND GRADES

Add the following to this subsection:

The Contractor shall field verify all the dimensions and data provided by the Engineer. Elevations in the Contract Drawings are for reference purposes only and are from the record original design drawings of the East Passage Crossing of Narragansett Bay. No stakes or marks, other than the existing ones shall be provided by the Engineer. Full compensation for the work shall be considered as included in the payment for the pay items to which the work relates, and no additional compensation will be allowed.

105.11 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK

Add the following to this subsection:

If the Contractor does not remedy, remove and replace unacceptable Work that has been paid for in part or in full under a previous progress payment, the Engineer may, at his sole discretion, delete an amount equal to that which was previously paid from a subsequent progress payment until such time that the unacceptable Work is remedied, removed and replaced.
SECTION 106 – CONTROL OF MATERIAL

106.03 SAMPLES, TESTS, CITED SPECIFICATIONS

Add the following

Contractor shall submit a material certification for all materials delivered to the site. The certification shall indicate conformance with the manufacturer’s specification for quality requirements.

106.10 SUBSTITUTES OR “OR EQUAL” ITEMS

Add this new Subsection:

Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other suppliers may be accepted if sufficient information is submitted by the Contractor to allow the Engineer to determine that the material or equipment proposed is equivalent or equal to that named. Requests for review of substitute items of material or equipment will not be accepted from anyone other than the Contractor. If the Contractor wishes to furnish or use a substitute item of material or equipment, the Contractor shall make written application to the Engineer for consideration thereof certifying that the proposed substitute:

1. performs adequately the functions and achieves the results called for by the general design,

2. is similar and of equal substance to that specified and

3. is suited to the same use as that specified.

The application shall state that the evaluation and acceptance of the proposed substitute does not prejudice the Contractor’s achievement of completion on time. It shall also state whether or not acceptance of the proposed substitute for use in the Work requires a change in any of the Contract Documents (or in the provisions of any other direct contract with the State for Work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified shall be identified in the application and available maintenance, repair and replacement service shall be indicated. The application shall also contain an itemized estimate of all costs or savings that result directly or indirectly from approval of such substitute, including costs of redesign, all of which will be considered in evaluating the proposed substitute. The Engineer may require the Contractor to furnish additional data about the proposed substitute. The Engineer may also require that any savings resulting from the substitution shall be credited to the Authority.

If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, the Contractor may propose a
substitute means, method, technique, sequence or procedure of construction. Said substitution may be found acceptable if the Contractor submits sufficient information to allow the Engineer to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The review procedure is to be similar to that described in the previous paragraph.

The Engineer is to be allowed a reasonable time within which to evaluate each proposed substitute. The Engineer will be the sole judge of acceptability, and no substitute shall be ordered, installed or utilized without either a Construction Order or an accepted working drawing. If acceptance is given, it is on the condition that the Contractor is fully responsible for producing work in conformity with Contract requirements. If, after trial use of the substituted material, equipment, means, method technique or sequence or procedure of construction, the Engineer determines that the Work produced does not meet Contract requirements, the Contractor shall discontinue the use of the substitute and shall complete the remaining Work with the specified materials, equipment, means, method technique, or sequence or procedure of construction. The Contractor shall remove the deficient Work and replace it with Work as specified, or take such other corrective action as the Engineer may direct. Changes will not be made in the basis of payment for the pay items involved nor in the Contract Time as a result of authorized substitutes.

The Engineer may require the Contractor to furnish at no cost to the Authority a special performance guarantee or other surety with respect to any substitute. The Engineer will document the time required by the Authority in evaluating proposed substitutions and in making changes in the Contract Documents. When the Engineer determines that a proposed substitute is unacceptable, it shall also determine whether the Contractor shall reimburse the Authority for the cost of evaluating each proposed substitute.

When the Contract Documents permit the use of more than one type of material, equipment or product, only one type is to be used throughout the Project.

END SECTION 106
SECTION 107 – LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

107.01 LAW TO BE OBSERVED

Modify the first line of the first paragraph as follows:

…of Federal and State of Rhode Island and Providence Plantations laws, local laws,…

Modify the fourth line of the first paragraph as follows:

The Contractor at all times shall observe and comply with all such laws, ordinances…

Modify the sixth line of the first paragraph as follows:

…the State, R.I.T.B.A., Engineer and their representatives against…

In the second paragraph, read the work ‘State’ as State of Rhode Island and Providence Plantations.

Add the following to this subsection:

The Authority hereby reserves the right to elect to settle all claims, disputes and other matters in question between the Authority and the Contractor arising out of, or relating to the Contract Documents, or the breach thereof, by either litigation or arbitration at its sole option.

Litigation, if any, brought against the Authority, the members thereof and their successors, all officers, agents and servants of the Authority and the Engineer, PB Americas, Inc. and their agents, shall only be instituted in a court within the State of Rhode Island.

107.03 PERMITS, LICENSES AND TAXES

Add the following to this subsection.

The Contractor shall adhere to the requirements and stipulations of the Coastal Resources Management Council (CRMC). RITBA will provide the CRMC Maintenance Assent to the Contractor prior to the start of work.
Add the following to this subsection:

Caution shall be exercised at all times for the protection of persons and property. The safety provisions of applicable laws, OSHA regulations, building and construction codes, and the rules and regulations of the Rhode Island Department of Labor shall be observed.

The Contractor shall provide at the site such equipment and medical facilities as are necessary to supply first aid service to any person who may be injured in the progress of the work.

If death, serious injuries or serious damages are caused, the Contractor shall report the accident immediately to the Engineer and to the Director of Engineering of the Authority at the main office of the Rhode Island Turnpike and Bridge Authority. In addition, the Contractor must promptly report in writing to the Engineer and the Authority, all accidents whatsoever arising out of or in conjunction with the performance of the work, whether on or adjacent to the site, which cause death, personal injury or property damage, giving full details and statements of witnesses.

If any claim is made by any third person against the Contractor or any Subcontractor on account of any accident, the Contractor shall promptly report the fact in writing to the Engineer, giving full details of the claim.

It is the Contractor’s responsibility to ensure and maintain the safety of all workers (including the Contractor’s workers, workers performing other contract or maintenance work, and the RITBA maintenance staff), and the public—below or adjacent to his work area on the bridges and roadways.

The Contractor’s safety measures shall include the necessary means to catch and retain any falling debris, materials and/or equipment. Additionally, the Contractor’s safety measures shall include the necessary means to protect adjacent traffic, property, pedestrians from flying debris during demolition work and damage from uncontrolled applications of repair materials, chemicals, and blast media. Any event of debris, material or equipment falling from the Contractor’s work areas or flying debris not being contained within the work area will result in the Engineer issuing an immediate stop work order to the Contractor. This stop work order will remain in effect until the Authority, in their sole opinion, finds the Contractor to have corrected any unsafe conditions. Any costs associated with delays or otherwise associated with such a stop work order shall be borne solely by the Contractor without any cost to the Authority and Liquidated Damages of $8,000 per day that the stop work order remains in effect will be deducted from any money owed the Contractor. In addition, Liquidated Damages of $10,000 per occurrence of any safety incident that resulted in either exposure to or actual injury or damage to property will be deducted from any money owed to the Contractor.

The Engineer has the authority to issue an immediate stop work order to the Contractor if, in the sole opinion of the Authority, any work area is deemed to be unsafe or any work is being performed in an unsafe manner, or if the Contractor’s work or work site in any way is a hazard to workers or the public. Any costs associated with delays or
otherwise associated with such a stop work order shall be borne solely by the Contractor without any cost to the Authority and Liquidated Damages of $5,000 per day that the stop work order remains in effect will be deducted from any money owed the Contractor. In addition, Liquidated Damages of $10,000 per occurrence of any safety incident that resulted in either exposure to or actual injury or damage to property will be deducted from any money owed the Contractor.

For any early start in the set up of a daily lane closure prior to stipulated start time or removal of a daily lane closure (including sign removal) after stipulated end time, Liquidated Damages will be deducted from any money owed to the Contractor at the amounts shown below:

- First Occurrence $1,000
- Second Occurrence $2,000
- Third Occurrence $3,000
- Fourth Occurrence $4,000
- Fifth or Greater Occurrence $5,000

107.13 RESPONSIBILITY FOR DAMAGE CLAIMS

Delete the text and substitute the following:

(a) Indemnification
Contractor and the Surety shall indemnify and save harmless the Rhode Island Turnpike and Bridge Authority, its members and their successors, and all of its officers, agents, and employees, and the Consultant, WSP USA, and his agents, from all suits, actions, or claims of any character, name, and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of the operations under this Contract of the said Contractor or his subcontractors, whether or not the same be due to the use of defective materials, defective workmanship, neglect in safeguarding the work, or by or on account of any act, omissions, neglect, or misconduct of the said Contractor or his subcontractors, or otherwise, or by or on account of any claims or amount recovered for any infringement of patent, trademark, or copyright, or from any claims or amounts arising or recovered under the Worker's Compensation Law or any other law, by-law, ordinance, order, or decree, and so much of the money due the said Contractor under any by virtue of this Contract as shall be considered necessary by the Authority shall be retained for the use of the Authority, or in the case no money is due, his surety shall be held until such suit or suits, action or actions, or claim or claims for injury or damages, as aforesaid, shall have been settled and suitable evidence to that effect furnished to the Authority.

Any extension of time granted Contractor in which to complete the Contract shall not relieve him or his surety from this responsibility.

(b) Accidents

(1) Contractor shall provide at the site such equipment and medical facilities as are necessary to supply first aid service to any person who may be injured in the progress of the work.

Contractor shall promptly report in writing to the Authority all accidents whatsoever arising out of or in connection with the performance of the work, whether on or adjacent to the site, which cause death, personal injury, or property damage, giving full details and statements of
witnesses. In addition, if death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone to the Authority.

(2) If any claim is made by a third person against Contractor or any subcontractor on account of accident, Contractor shall promptly report the fact in writing to the Authority, giving full details of the claim.

(c) Insurance

(1) Contractor shall not perform any work under this Contract until he has provided insurance of such character and in such amounts as will provide adequate protection for all officers, agents, and employees of the Rhode Island Turnpike and Bridge Authority, and of the consulting firm of WSP USA, and others lawfully on the property of the Authority, and for Contractor against all claims, liabilities, damages, and accidents, that may arise both out of and during work under this Contract, whether such work be by Contractor himself, or by any subcontractor, or by anyone directly or indirectly employed by either of them, or under the supervision of either of them.

(2) Contractor shall procure such insurance from companies authorized to do business in the State of Rhode Island; and such insurance shall only be issued by and originate with an agent lawfully licensed and registered in the State of Rhode Island. Except as provided otherwise herein, Contractor shall maintain such insurance in force and effect during the life of this Contract. Neither approval by the Authority nor a failure to disapprove insurance furnished by Contractor shall relieve Contractor of full responsibility for all claims, liabilities, damages, and accidents as set forth herein.

(3) The minimum amounts and kinds of insurance coverage to be carried by Contractor shall be as follows:

a. Worker’s Compensation Insurance, with any necessary endorsement to include Longshoreman’s and Harbor Workers’ coverage and Admiralty coverage, shall be in accordance with the laws of the State of Rhode Island and applicable Federal statutes and shall be sufficient to secure the benefits of the Rhode Island Workmen’s Compensation Law and the Federal Longshoreman’s and Harbor Workers’ Compensation Act and Admiralty Law for all employees of Contractor, and of all subcontractors unless the subcontractors carry their own workers’ compensation insurance. The Federal Longshoreman’s and Harbor Workers’ coverage and Admiralty coverage shall include an endorsement to cover Employer’s Liability in the limits of $1,000,000.

b. Contractor’s Commercial or Comprehensive General Liability Insurance, covering liability for loss resulting from injury to persons or damage to property arising out of or caused by the operations, acts, or omissions of Contractor or those of his agents or employees in prosecuting the work, with specific coverage, by endorsement or otherwise, as applicable for other special risks, contractual liability for any liability assumed by Contractor under the Contract, Contractor’s
Protective Liability covering operations, acts, or omissions of subcontractors in prosecuting the work, and Completed Operations coverage, with liability limits as follows:

1) Bodily Injury: One person in any one occurrence - $5,000,000.

2) Property Damage: Each occurrence - $2,000,000.
   Aggregate - $5,000,000.

The certificate for Contractual Liability Insurance shall indicate the acceptance by the insurance carrier of the indemnification clause set forth in Paragraph (a) of this Subsection.

c. **Automobile and Truck Insurance**, covering vehicles owned and/or operated by Contractor, and vehicles operated for Contractor, including those of employees when so operated.

   1) Bodily Injury: One person in any one occurrence - $5,000,000. Two or more persons in any one occurrence - $10,000,000.

   2) Property Damage: Each occurrence - $2,000,000.

The insurance requirements of Paragraphs (b) and (c) of this Subsection may be satisfied by a combination primary and excess umbrella liability insurance, provided the total required coverage limits are in effect.

d. **Subcontractor’s Insurance.** If any part of the work is sublet, insurance shall be provided by or on behalf of the subcontractor(s) to cover that part of the work each has contracted to perform and shall be maintained during the life of each subcontract for Worker’s Compensation with any necessary endorsements, Public Liability and Property Damage including coverage, as applicable, for marine risks, and other special risks, and Automobile and Truck Insurance. The minimum amounts of coverage for the above types of insurance shall be the same as are specified in Paragraphs (a), (b), and (c) above, except that if the Authority is of the opinion that said minimum amounts of coverage appear excessive because of the extent and nature of the work to be performed by the subcontractor, insurance coverage of lesser amounts may be approved by the Authority.

e. **Owner’s Protective Liability and Property Damage Insurance.** A separate, original policy designating the Authority, its members and their successors, its Consultant, WSP USA, and their and each of their officers, agents, and employees as the named insured, both officially and personally, and covering their contingent liability with respect to all operations performed by Contractor or by its subcontractors under the Contract, and to include, by specific endorsement, coverage for omissions of the Authority and coverages for acts of the Engineer in technical inspection of construction.
The minimum amounts of coverage to be carried shall be as specified in Paragraph (b) above.

f. General: Contractor shall indemnify and save harmless the Authority, its officers, agents and servants and the Consultant, the firm of WSP USA, and each and every one of them against and from all suits and cost of every kind and description and from all damages to which the Authority or any of its officers, agents, or servants and Consultant may be subjected by reason of injury to the person or property of others resulting from the performance of the project, or through the negligence of Contractor, or through any improper or defective machinery, implements or appliances used by Contractor in the performance of the project, or through any act or omission on the part of Contractor, or his act or omission on the part of Contractor, or his agents, employees or servants; and he shall further indemnify and save harmless the Authority, its officers, agents, servants and the Consultant from all suits and actions of any kind or character whatsoever which may be brought or instituted by any subcontractor, material man or laborer who has performed work or furnished materials in or about the project, or by, or on account of, any claim or amount recovered for any infringement of patent, trademark or copyright. The cost of such indemnification shall be included in the Unit Prices bid in the Proposal. So much money due to Contractor under and by virtue of the Contract as shall be considered necessary by the Authority may be retained by the Authority and held until such suits, actions, claims or amounts shall have been settled, and suitable evidence to that effect furnished to the Authority.

Contractor shall furnish the Authority, at least three (3) certificates as evidence of insurance coverage and no modification, change in status, or cancellation of such insurance shall be made without thirty (30) days prior written notice to the Authority by registered mail. All insurance policies and certificates shall carry a statement to the above effect.

Satisfactory certificates of the required insurance coverage for Contractor, the Authority, and the consulting firm of WSP USA, shall be forwarded to the Consultant in New York for approval before the Contract will be executed by the Authority, and certified copies of the policies shall be forwarded to the consultant in New York promptly thereafter, if required. Satisfactory certificates for the required insurance coverage for subcontractors shall be submitted to the Authority for approval before any subcontractor will be permitted to start work at the site.

Whenever the estimated aggregate of losses covered by a property damage policy equals or exceeds fifty (50) percent of the aggregate policy limit, as determined by the Authority, the said policy shall, if required by the Authority, upon ten (10) days written notice by the Authority, be endorsed to restore unencumbered the initial aggregate policy limit or be replaced by another policy having the same limit.

Contractor shall pay or cause his subcontractors to pay the premium for all insurance required by this Contract or subcontracts let pursuant thereto.
The prospective Bidder shall note all the provisions of this Subsection 107.13 and shall ascertain the cost to him of all the required insurance policies before submitting his bid. The cost of insurance shall be included in the Total Contract Bid Price in the Proposal.

107.14 THIRD PARTY BENEFICIARY CLAUSE

Add the following to this subsection:

It is further the intent of the Authority and the Contractor in executing this Contract, that no individual, firm, corporation or any combination thereof, that supplies material, labor, services or equipment to the Contractor for the performance of the Work becomes thereby a third party beneficiary of this Contract. The Authority and the Contractor understand that such individual, firm, corporation, or combination thereof, has not right to bring an action in the courts of the State of Rhode Island and Providence Plantations, or any other court against the Authority by virtue of this lack of standing.

107.16 NO WAIVER OF LEGAL RIGHTS

Add the following to this subsection:

Notwithstanding any other provision of this Contract, for a period of three years after Acceptance, all estimates and payments made pursuant to Section 109, including the Final Certificates and Final Payment, are subject to correction and adjustment for clerical or other errors in the calculations involved in the determination of quantities and payments. The Contractor and the Authority agree to pay to the other any sum due under the provisions of this subsection, provided, however, if the total sum to be paid is less than $100, payment will not be made.

107.19 COAST GUARD REQUIREMENTS  (Add this new Subsection)

The Contractor shall, during the bidding period, determine by his own means and to his own satisfaction any and all other Coast Guard requirements for the performance of the work of this Contract. The Contractor shall determine all costs of compliance with Coast Guard requirements and shall include said costs in the price bid for the scheduled items in the Proposal.

The construction work specified by the Contract Documents shall comply with the following conditions:

1. Two copies of the Contractor’s Plan, Schedule and Sequence of Operations, reviewed and accepted by the Engineer shall be submitted to the US Coast Guard Office for approval prior to commencement of any work. The plan, schedule and sequence of operation shall include: a sketch of the waterway; the bridge; the location of any restrictions that will be placed in the waterway such as barges, anchors and anchor lines; the location and height above mean high water of any scaffolding or netting; details of all bridge equipment and navigation aids that may require temporary relocation in order to remain in operation and the durations of their temporary relocation, including but not limited to: RaCon navigation unit,
maintenance and light post luminaires, weather sensing equipment, navigation lights, cameras, foghorns, access lifelines, etc.; and a projected set of dates and length of time each operation will take. The schedule should also include the hours of operation and whether or not the equipment is removed at night. The Contractor's operation shall in no way hinder the safe navigation of the waterway without express written approval from the US Coast Guard. The Contractor will be required to comply with all provisions of the U.S. Department of Transportation, United States Coast Guard publication titled, Navigation Rules International-Inland. Copies of the latest publication may be obtained from http://www.navcen.uscg.gov/mwv/navrules/navrules.htm or from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20401. Refer to Stock Number COMDTINST M16672.2D or latest version available.

2. One copy of the plan and schedule approved by the US Coast Guard Office will be returned to the Contractor with their approved stamp and/or comments as appropriate.

3. The proposed Plan, Schedule and Sequence of Operation shall first be submitted to the Engineer for review and approval. Upon acceptance by the Engineer, submittal shall be made to the US Coast Guard.

4. The submittal to the US Coast Guard shall be made to:

   Commander (OBR)
   First Coast Guard District
   408 Atlantic Avenue
   Boston, MA 02110
   Attention of: Mr. John McDonald, Bridge Administrator
   A copy of the submittal shall be sent to:

   Edward G Leblanc
   Commander, USCG (Retired)
   Chief, Waterways Management Division Coast Guard Sector Southeastern New England 408 Atlantic Avenue
   Boston, MA 02110
   United States of America

The US Coast Guard requirements include, but may not be limited to the requirements specified hereinafter:

1. Scaffolding, rigging and associated supports shall not interfere with the normal operation of the bridges. No existing bridge navigation lights shall be blocked during darkness. The existing RaCon equipment shall be operational and unaffected by rigging and associated supports. Security cameras shall be operational and unaffected by rigging and associated supports.

2. During the progress of work, should any materials, machinery or equipment be lost, dumped, thrown overboard, sunk or misplaced that may be dangerous to or obstruct navigation, immediate notice shall be given to the US Coast Guard Office and the object must be removed with utmost dispatch. Until removal can be effected, the objects shall be properly marked in order to protect navigation. Notice to the US Coast Guard Office shall give a description and location of any such object and the action taken or being taken to protect navigation.
3. It shall be the responsibility of the Contractor to insure that channel depths are not affected by the work. Should it be suspected that the channel depths may have been impaired or that an obstruction may exist from the work, the Contractor shall, upon request of the US Coast Guard Office or Corps of Engineers, provide the necessary equipment and personnel to undertake a survey to determine the presence of any obstruction, objects or silting that may have occurred during the work. The cost of this work shall be borne by the Contractor at no additional cost to the Authority.

4. Placement of floating equipment, if any is employed on the project, shall be done so as to provide the minimum horizontal clearance as determined by the US Coast Guard.

5. Floating equipment shall be lighted in accordance with the provisions as outlined in the Navigation Rules International-Inland.

   If barges are used, and held in place by anchors, each anchor line shall be marked by a lighted anchor buoy.

   Floating equipment shall have a radio telephone capable of operation from its main control station in accordance with Part 26 of Title 33, Code of Federal Regulations and shall be monitored during all periods the floating equipment is on station.

6. Spillage of oil and hazardous substances is specifically prohibited by Section 311 of the Federal Water Pollution Control Act, as amended in 1972. Measures including proper maintenance of construction equipment; arrangement of the fuel handling areas so as to permit spills to be contained before reaching a waterway; instructing personnel not to dispose of oil and other such materials into drains or into the waterway directly, as well as other procedures should be planned to prevent spillage. If, in spite of such planning, oil is spilled into the waterway, the US Coast Guard is to be notified immediately at 1-800-424-8802 at all times. A supply of solvent should be retained so that it may be rapidly deployed to soak up any possible spillage, pending US Coast Guard arrival on the scene. The use of chemical dispersing agents and emulsifiers is not authorized without prior specific Federal approval.

7. No deviation from the approved plan and schedule of operation may be made unless the modification has previously been submitted to and approved by the Authority.

8. The US Coast Guard Office shall be notified immediately upon completion of the subjected work being performed on this contract.

9. The Authority and their Engineer assume no responsibility for any damages sustained or caused by the Contractor’s equipment. Approval shall not act as waiver of liability for any damage that may result from the Contractor’s operation.

10. The Authority has no control over the US Coast Guard and the Authority is not responsible for any delays associated with the approval of the material submitted to the US Coast Guard.

11. Should the Contractor fail to comply with these requirements and should the Federal Government be required to take action for the protection of navigation, or
for the protection of the environment, the Authority reserves the right to recover costs for any such action from the Contractor, at no cost to the Authority.

Note: Where US Coast Guard Office is indicated it shall mean Department of Transportation, United States Coast Guard, Commander of the First Coast Guard District.

107.20 GRATUITIES (Add this new Subsection)

The Contractor shall not extend any loan, gratuity, or gift of money in any form whatsoever to any employee or officer of the Authority; nor will the Contractor rent or purchase any equipment or materials from any employee or officer of the Authority.

107.21 STATE TAXES (Add this new Subsection)

Bidders are advised that the Rhode Island Turnpike and Bridge Authority is a tax exempt entity. Bidders shall not include amounts for Rhode Island State sales, use, or other form of taxes, excise, or other levies in the prices bid for the Items in the Proposal.

The tax exempt number issued to the Authority by the State of Rhode Island, Department of Treasury, Division of Taxation, is: 984.

The Authority is also exempt from Rhode Island State taxes on material and services purchased in other states on its behalf and delivered within the State of Rhode Island.

107.22 MEDIA AND PUBLIC RELATIONS (Add this new Subsection)

The Contractor shall not make statements to any media or provide visual records by photograph or video recording of the project site or work being performed under this contract to any media without the prior approval of the Authority.

END SECTION 107
SECTIO N 108 – PROSECUTION AND PROGRESS

108.01 SUBLETTING OF CONTRACT

Add the following to this subsection:

No subcontracts or transfers of Contract shall relieve the Contractor of liability under the Contract and Bonds. A copy of written agreements with subcontractors must be submitted when making application to sublet any work under the Contract. Furthermore, no agreements between the Contractor and its subcontractors or vendors shall create any “third party” relationships between said subcontractors or vendors and the Authority.

The Contractor shall provide a written application to the Engineer, and obtain prior written consent from the Engineer for any subcontracting of work under this Contract. The Contractor shall also provide a written application to the Engineer, and obtain prior written consent from the Engineer before allowing any subcontractor to sublet any portion of its work to a lower-tier contactor. The application for subcontracting by the Contractor or subcontractor shall be accompanied by a statement showing that the subcontractor or lower tier contractor to whom the work is proposed to be sublet is particularly qualified, experienced and equipped for the proposed subcontract.

After review of the application, the consent of the Authority to, or its rejection of, the subcontracting will be provided to the Contractor by letter. Prior to the receipt of this written consent, if any, from the Authority, no work shall be performed on the Project under the subcontract.

The subcontractor shall provide insurance coverage as specified in Subsection 107.13 of the Contract Specifications except when the value of the subcontract as determined by the Authority, warrants lower limits of coverage. In this case, after accepted by the Authority lower limits of coverage shall be afforded.

The Authority, their offices, employees, consultants, the Engineer, their officers, employees, and others lawfully on the property shall be also named as additional insured on the Commercial General Liability and Owner and Contractors Protective policies.

108.05 CHARACTER OF WORKERS

Add the following to this subsection:

The Contractor shall perform national criminal background checks on all workers to be employed on the Project. Background checks shall be performed no earlier than 6 months prior to the worker's anticipated start date. The Contractor shall provide the Engineer with a list of all workers that will be on-site and the background check for each worker. The background check shall verify that there is a match between the social security number and the worker employed on the project. The list and background check shall include at a minimum the following information for each worker; name, address, telephone number, birth date, social security number, driver's license state
and number and the results of the criminal background check and social security match check. Any proposed worker with a Felony will be rejected for work on this Contract. Proposed workers with multiple Misdemeanors will be approved for work on the Contract at the discretion of the Engineer. The Contractor shall also provide the Engineer with a list of all vehicles that will be on the job site including the vehicle type, color and license plate number.

The Contractor shall require that any subcontractors or vendors provide national background checks for all workers on the project to the same requirements listed above for the Contractor. The Contractor is responsible for including subcontractor and vendor personnel and vehicle information on the lists provided to the Engineer.

This information shall be provided to the Engineer a minimum of two days before the start of work, and shall be updated as required to reflect additional vehicles and/or personnel. A worker shall not commence work on-site before approval of this information by the Authority.

No separate payment will be made for providing national background checks and lists of personnel and vehicles. All costs associated with performing background checks and providing lists of personnel and vehicles shall be considered incidental costs included in the bid prices of contract work items.

The Contractor and his subcontractors shall also comply with Rhode Island General Law (RIGL) 42-35-3(a) (“E-Verify”) and use a federally authorized worker verification program to ensure that all newly-hired employees have complied with all applicable federal immigration laws. The Contractor and his subcontractors shall submit to the Engineer for approval their verification of compliance with this requirement for each newly-hired employee throughout the duration of the project.

The Contractor shall provide the staff indicated in the Proposal Qualification Questionnaires. If staff identified in the Proposal is no longer in the employ of the Contractor during the performance of work under this Contract, then the Contractor shall submit for approval by the Engineer the qualifications of a replacement. Should the Contractor fail to provide the proposed staff or approved and suitable replacements for proposed staff, the Engineer may withhold Progress Payments and/or deduct Liquidated Damages of $3,000 per day during the period of time that the Contractor fails to comply from any money owed the Contractor.

108.07 DETERMINATION AND EXTENSION OF CONTRACT TIME

Delete this subsection in its entirety and substitute the following:

The Contractor is advised that short duration halts to work on the bridge may be directed by the State Police for security reasons. The Contractor shall comply with any requests by the State Police or the RITBA or their agents to temporarily halt work and have all personnel leave the bridge site.

All work shall be completed no later than October 26, 2018. The following additional milestones/requirements shall be met by the Contractor:
No work may be performed on the anchorages or cable backstays prior to June 4, 2018. Work by another Contractor on the anchorages will be ongoing that will utilize the backstays for access, and the anchorages for access and a work area.

Test deployment and retrieval of the flat at each tower shall be performed no later than May 18, 2018. See Specification Section 955.

Deployment of the flag at each tower shall be final and accepted by the Engineer no later than May 26, 2018. See Specification Section 955.

The Contractor is advised that there is a protected species of Falcon that nests at Pier 4W and frequents other areas of the bridge site. The Contractor is not to disturb the nesting Falcons at Pier 4W or any new nesting site discovered during this Contract. Work at the cable level at the anchorages is not included in this embargo, such that the work is performed only at the deck, cable and anchorage level with no access provided or work performed at the top of Pier 4W.

Where appropriate under the provisions of this subsection, extensions or reductions to the Contract Time may be provided by Change Order, however, such extensions or reductions will be allowed only to the extent that the increase or decrease in the Work or delays of the types indicated herein affect current controlling operations and the overall Completion. Increases or decreases in Work or such delays that do not affect the overall completion are not to be the basis for reduction or extension of Contract Time. Extensions of Contract Time will not be granted under this subsection where it is determined by the Engineer that the Contractor could have avoided the circumstances which give rise to his requesting such extensions.

If the Contractor is delayed in completion of the Work by reason of changes made under Subsection 104.02, or by any act of the Contractor consistent with Subsection 105.10, or due to the discovery of archaeological finds consistent with Subsection 107.11, or the discovery of hazardous substances, or by any act of the Engineer or of the Authority not contemplated by the Contract, any extension of Contract Time commensurate with the delay in overall completion of the Contract thus caused will be granted and the Contractor is relieved from any claim for liquidated damages or engineering and inspection charges.

The Contractor’s plea that insufficient time was specified is not a valid reason for extension of time.

The Authority, in determining an extension of time, may, at its discretion, take into consideration any delay or delays caused by conditions beyond its control, and without the fault of the Contractor, such conditions including, but not limited to the order, decree, or judgment of any court of judge thereof, fire, other casualty, strikes, lockouts or acts of God.

The extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.
108.08 FAILURE TO COMPLETE ON TIME

Add the following to this Subsection:
In addition to Liquidated Damages for the period of time that work remains uncompleted after the time established for completion of work, Liquidated Damages will be deducted from any money owed the Contractor for any safety incidents or suspension of work due to safety issues as specified in Subsection 107.08, and for any suspension of work due to issues with the character of the workers as specified in Subsection 108.05.

108.10 TERMINATION OF CONTRACT

Add the following to this Subsection:

The Authority also reserves the right to terminate the Contract or any portion thereof, at any time, upon a determination by the Director of Engineering of the Authority, in his sole discretion, that such termination is in the best interest of the Authority.

END OF SECTION 108
109. 06 PARTIAL PAYMENTS

a. Amount

Delete the first paragraph in its entirety, and insert the following:

The amount of the monthly payment shall be One Hundred (100) percent of the contract price for the work as estimated and accepted by the Engineer, subject to 5% retainage for performance of the work and an additional 3% retainage for State of Rhode Island tax compliance (applicable to out-of-state contractors), pursuant to Title 44, Chapter 1, Section 6 of the General Laws of Rhode Island (44-1-6). The Contractor, even if based in Rhode Island, is advised to include these terms in subcontracts with nonresident subcontractors.

b. Conditions

Add the following to this subparagraph:

4. The materials have been inspected and appear to be acceptable based upon available suppliers' certification or material test reports.

5. The Contractor has provided the Authority with an invoice or bill or sale sufficient to show the price paid for the material, and a "Notarized Statement" from the Supplier indicating that there are no liens for said materials stored for incorporation into this project.

6. The materials have been properly stored and protected along or upon the site or have been stored at locations owned or leased by the Contractor or the Authority within the State of Rhode Island and Providence Plantations.

7. The materials, if stored on property not belonging to the Authority, are fenced in with access limited to the Authority and the Contractor and the fenced-in materials are clearly identified in large letters as being without encumbrances and for use solely on the Project.

8. When such materials are stored in a leased area, the lease is made out to the Contractor and provides that it shall be canceled only with the written permission of the Engineer.

9. The Contractor shall submit a notarized statement that all subcontractors, vendor and/or suppliers have been paid the due portion of any partial payments previously submitted to the Authority and approved and paid by the Authority.

The Contractor assumes full responsibility for the safe storage and protection of the materials and nothing in this Subsection alters the provisions of Subsections 107.11 and 107.13. If material paid for under this Subsection are damaged, stolen, or prove to be unacceptable, the payment made therefore shall be recovered by the Authority by way of deduction from subsequent estimates and payments.
Payment for materials as provided in this Subsection shall not be deemed to be an approval of such materials, and the Contractor shall be responsible for and must deliver to the site and properly incorporate in the Work only those materials that comply with the Contract Documents.

The Contractor shall pay any and all costs of handling and delivering materials to and from the place of storage to the project site, as well as any storage rental. Any taxes levied by any government against the material shall be borne by the Contractor.

The Contractor shall submit a notarized statement that all subcontractors, vendors and suppliers have been paid the due portion of any partial payments previously submitted to the Authority and approved and paid by the Authority. The Authority may withhold partial payment to the Contractor if this notarized statement is not submitted as part of the request for payment.

c. Maximum Payment

Delete the last paragraph without replacement.

109.07 PARTIAL PAYMENT OF LUMP SUM ITEMS

Modify the first sentence of the first paragraphs to read as follows:

Each monthly period the Engineer and the Contractor…

Add the following:

The Contractor shall submit a notarized statement that all subcontractors, vendors and suppliers have been paid the due portion of any partial payments previously submitted to the Authority and approved and paid by the Authority (Form C-100). The Authority may withhold partial payment to the Contractor if this notarized statement is not submitted as part of the request for payment. The Contractor shall require subcontractors to provide the same statement.

109.08 PAYMENT OF WITHHELD FUNDS

Delete this subsection in its entirety without replacement.

END OF SECTION 109
SECTION 110 – MISCELLANEOUS COSTS (New Section)

110.01 TOLLS

Tolls on the Newport/Pell Bridge will not be collected from trucks owned and operated by the Contractor or a subcontractor and used in the prosecution of the work under this Contract. Workers employed by the Contractor using passenger vehicles will be required to pay tolls. The Contractor is required to submit a list of trucks to the Authority with a description (make and model), license plate, and state of registration, to be used on the project. Only the trucks included on this list will be precluded from the requirement to pay tolls. Drivers are required to stop at the toll plaza and the vehicle ID recognized and acknowledged by the toll collector before proceeding through the plaza. Any issues concerning payment of tolls during the prosecution of the work shall be reported on a daily basis to the Engineer.

END OF SECTION 110
SECTION 111 – PROJECT PERMITTING AND APPROVALS (New Section)

It is the Contractor’s sole responsibility to secure the required permits and approvals from various agencies, and provide notification to various property owners, in order to perform work on the bridges, roadways and any other work area under this Contract. No separate payment will be made for securing the required permits or approvals to perform the work or to provide notification, or for any delays associated with securing of permits or approvals or providing notification. All costs associated with securing of permits or approvals to perform the work or provide notification, or delays associated with securing permits or approvals or providing notification, shall be considered incidental costs included in the bid prices of Contract work items. The Contractor may be required to obtain permits or approvals or provide notification for performing work from, but not necessarily limited to:

Coast Guard – See Subsection 107.10

END OF SECTION 111

SECTION 112 CONFINED SPACES (New Section)

The interior areas of the Anchorages (at Piers 4E and 4W) and the Main Tower Piers (Piers 1E and 1W) have limited means of egress and shall be treated as a confined space by the Contractor. The Contractor shall submit a Confined Space Work Program to the Engineer for approval for any work scheduled for these areas. This plan shall be submitted to the Engineer and approved before the start of any work in these areas.

No separate payment will be made for the Confined Space Work Program or any work, equipment, tools, or delays associated with working within areas treated as or designated as Confined Spaces. All costs associated with the Confined Space Work Program and any work, equipment, tools, or delays associated with working within areas treated as or designed as Confined Spaces shall be considered incidental costs included in the bid prices of contract work items.

END OF SECTION 112
DIVISION II

CONSTRUCTION DETAILS

The applicable requirements of the Standard Specifications shall apply except as modified and supplemented by the following additional new sections and the Drawings.

SECTION 914 – FLAGPERSONS

914.01 DESCRIPTION

Add the following after the first paragraph:

The Contractor shall provide at least one flagperson in all daily lane closures and these requirements shall be identified on the Maintenance of Traffic Plans submitted by the Contractor to the Engineer for approval. These items are required regardless of whether these items are called out on the Contract Drawings, recommended by the Contractor’s Engineer, or required by any applicable standard or guideline.

A minimum of one additional flagperson shall be required when work in a daily lane closure includes workers or equipment stationary or working near the traffic side of the lane closure.

The cost of flagpersons will not be paid for under any specific item, but the cost thereof including all labor, tools, material, equipment, and all other incidentals required to complete the work shall be included in the Contract bid prices in the Proposal.

914.04 METHOD OF MEASUREMENT

Delete this subsection in its entirety and replace with the following:

This item will not be measured separately, but will be included in payment of the other work items.

914.05 BASIS OF PAYMENT

Delete the text in this subsection and replace with the following:

No separate payment will be made for this item. Payment will be included in the unit costs and lump sum payments of the other items included in the contract.

END OF SECTION 914
SECTION 922 – TEMPORARY CONSTRUCTION SIGNS

Amend the following subsections of the RIDOT Specifications as noted below:

922.04 METHOD OF MEASUREMENT

Delete the text in this subsection and replace with the following:

This item will not be measured separately, but will be included in payment of the other work items.

922.05 BASIS OF PAYMENT

Delete the text in this subsection and replace with the following:

No separate payment will be made for this item. Payment will be included in the unit costs and lump sum payments of the other items included in the contract.

END OF SECTION 922
SECTION 923 – PORTABLE CHANNELIZING DEVICES AND BARRICADES

Amend the following sections of the RIDOT Standard Specifications as noted below:

923.01.2 Types of Portable Channelizing Devices and Barricades
Delete the text in this subsection and replace with the following:

Only weighted, tall, Fluorescent Traffic Cones will be allowed to be used for daily lane closures.

923.04 METHOD OF MEASUREMENT
Delete the text in this subsection and replace with the following:

This item will not be measured separately, but will be included in payment of the other work items.

923.05 BASIS OF PAYMENT
Delete the text in this subsection and replace with the following:

No separate payment will be made for this item. Payment will be included in the unit costs and lump sum payments of the other items included in the contract.

END OF SECTION 923
SECTION 924 – ADVANCEWARNING ARROW PANEL

Amend the following sections of the RIDOT Standard Specifications as noted below:

924.04 METHOD OF MEASUREMENT

Delete the text in this subsection and replace with the following:

This item will not be measured separately, but will be included in payment of the other work items.

924.05 BASIS OF PAYMENT

Delete the text in this subsection and replace with the following:

No separate payment will be made for this item. Payment will be included in the unit costs and lump sum payments of the other items included in the contract.

END OF SECTION 924
SECTION 925 – PORTABLE CHANGEABLE MESSAGE SIGNS

Amend the following sections of the RIDOT Standard Specifications as noted below:

925.04 METHOD OF MEASUREMENT

Delete the text in this subsection and replace with the following:

This item will not be measured separately, but will be included in payment of the other work items.

925.05 BASIS OF PAYMENT

Delete the text in this subsection and replace with the following:

No separate payment will be made for this item. Payment will be included in the unit costs and lump sum payments of the other items included in the contract.

END OF SECTION 925
SECTION 928 – TRUCK MOUNTED ATTENUATOR (TMA) WITH TRUCK MOUNTED FLASHING ARROW BOARD (TMFAB)

Amend the following sections of the RIDOT Standard Specifications as noted below:

The Contractor shall provide a Traffic Mounted Attenuator in all daily lane closures and these requirements shall be identified on the Maintenance of Traffic Plans submitted by the Contractor to the Engineer for approval. These items are required regardless of whether these items are called out on the Contract Drawings, recommended by the Contractor’s Engineer, or required by any applicable standard or guideline.

928.04 METHOD OF MEASUREMENT

Delete the text in this subsection and replace with the following:

This item will not be measured separately, but will be included in payment of the other work items.

928.05 BASIS OF PAYMENT

Delete the text in this subsection and replace with the following:

The cost of a truck mounted attenuator with truck mounted arrow board will not be paid for under any specific item, but the cost thereof including all labor, tools, material, equipment, and all other incidentals required to complete the work shall be deemed included in the Contract bid prices in the Proposal.

END OF SECTION 928
SECTION 929 – FIELD OFFICES AND MATERIALS LABORATORY

Delete this Section in its entirety and replace with the following:

929.01 DESCRIPTION

The Engineer’s Field Office will be provided by RITBA and outfitted by the Contractor with the equipment and supplies indicated below. This work shall consist of furnishing, delivering to the RITBA Maintenance Garage located Engineer’s Office, and maintaining equipment, computer equipment and miscellaneous supplies for the use of the Engineer and his staff during both the Contract period and for a maximum of 90 days thereafter, all in accordance with the Contract Specifications. The equipment and supplies provided (with the exception of the hand held radios) shall become the property of the RITBA at the completion of this contract.

929.02 EQUIPMENT

1. Two 115-volt, 60-cycle rotating fans
2. One First-Aid Kit
3. One white board (4’ x 3’) with markers and eraser
4. Four hand held two way radios with microphones and chargers on the same frequency utilized by the Contractor
5. One electric pencil sharpener
6. Two digital cameras with carrying case. CANON Power Shot (ELPH 340 HS or equivalent. Provide one 4 GB memory card for each camera). Three 7-outlet commercial surge protectors with 7 foot cords.

929.03 COMPUTER EQUIPMENT

1. Provide two new Dell Optiplex Desktop 5050 Small Form Facto computers with wired keyboard and wired mouse. Configure with: 7th Generation Intel Core i5-7500 Processor Windows 10 Pro Minimum 8 GB Memory, Minimum 500 GB Drive
2. Provide one color laser printer with Copy, Fax and Scan capabilities. The Contractor shall supply replacement ink cartridges and paper as needed. Printer shall be capable of printing color 11” x 17”, or provide a separate additional printer for just 11” x 17”.
3. Provide two new Flat Screen Monitors with Stands. (Minimum dimensions shall be 22-inches.
929.04 MISCELLANEOUS SUPPLIES
1. One box of pens
2. One box of pencils
3. Two staplers with 2 boxes of refills
4. Two tape dispensers with refills
5. Two boxes of large and small paper clips
6. Two boxes of assorted size binder clips
7. One box of push pins
8. Two packages of narrow lined paper
9. One package each of large and small post it notes
10. Two white out tape dispensers
11. Ten Engineer's Field Books
12. One box of paper disposable filter masks
13. One box of disposable latex gloves
14. Provide four North half face respirators with replacement cartridges. Two medium and two large
15. Provide one case of Tyvek protective coveralls, size XL
16. Provide six white, (no logo), visitor hard hats
17. Provide twelve pairs of leather work gloves.

929.05 SUBMITTALS
The Contractor shall submit the specifications of the computer equipment and digital cameras to the Engineer for approval.

929.06 METHOD OF MEASUREMENT
The Field Office will be measured by the number of calendar months utilized by the Engineer, at the discretion of the RITBA.

929.06 BASIS OF PAYMENT

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>Engineer’s Field Office</td>
<td>Month</td>
</tr>
</tbody>
</table>

END OF SECTION 929
SECTION 936 – MOBILIZATION

936.01 DESCRIPTION

Add the following to this Subsection:

It is the Contractor’s responsibility to provide for fabrication, delivery and storage of materials and equipment necessary to perform the work, for a Project Office and for all space required for the support of the work on this project including parking for workers.

The RITBA property below the West Approach on the east side of East Shore Road (Bayview Drive) is available to the Contractor for use on this project. If the Contractor chooses to utilize this area for mobilization he shall submit a plan for the use of this property showing the location of laydown areas, trailers, parking, etc. to the Engineer for review and approval. The Contractor, if utilizing this area, is advised that this is immediately adjacent to residential property and the Contractor shall comply with all local noise ordinances.

The Contractor shall ensure that adequate provisions are made to support on-site oversight, management, quality control and safety staff during the work performed under this contract.

Items which are not to be included in the lump sum price bid for the item Mobilization, include but are not limited to:

1. Any portion of the work covered by the specific bid item or incidental work which is to be included in a bid item or items.

2. Profit, interest on borrowed money, overhead, or management costs.

936.02 METHOD OF MEASUREMENT

Delete this Subsection in its entirety and substitute the following:

This work shall be measured for payment in the manner described below:

1. When 5% of the total original contract price is earned excluding amounts paid for materials on hand, 40% of the lump sum bid price for this item will be certified for payment.

2. When 10% of the total original contract price is earned, excluding amounts paid for materials on hand, 60% of the lump sum bid price for this item, less previous payment for this item, will be certified for payment.

3. When 15% of the total original contract price is earned, excluding amounts paid for materials on hand, 75% of the lump sum bid price for this item, less any previous payment for this item, will be certified for payment.
4. When 20% of the total original contract price is earned, excluding amounts paid for materials on hand, 90% of the lump sum bid price for this item, less any previous payment for this item, shall be certified for payment.

5. When 50% of the total original contract price is earned, excluding amounts paid for materials on hand, 100% of the lump sum bid price for this item, less any previous payment for this item, shall be certified for payment.

936.05 BASIS OF PAYMENT

Add the following and delete conflicting provisions:

This work will be paid for at the contract lump sum price for “Mobilization”, which price shall include materials, equipment, tools, labor, transportation operations, and all work incidental thereto.

Payment shall be made under:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Item Description</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>Mobilization</td>
<td>Lump Sum</td>
</tr>
</tbody>
</table>

END OF SECTION 936
SECTION 937 – MAINTENANCE AND MOVEMENT OF TRAFFIC PROTECTIVE DEVICES

Amend the following sections of the RIDOT Standard Specifications as noted below:

937.04 METHOD OF MEASUREMENT

Delete the text in this subsection and replace with the following:

This item will not be measured separately, but will be included in payment of the other work items.

937.05 BASIS OF PAYMENT

Delete the text in this subsection and replace with the following:

No separate payment will be made for this item. Payment will be included in the unit costs and lump sum payments of the other items included in the contract.

END OF SECTION 937
SECTION 943   REMOVAL AND REPLACEMENT OF MAIN CABLE WRAPPING SYSTEM

943.01 DESCRIPTION

The work shall consist of:

- Designing, installing, erecting, and removing access platforms for each location (for both unwrapping and inspection and re-wrapping of cable band to cable band segments and for performing repairs to isolated locations of damaged existing wrapping) that conform to all OSHA regulations and will sustain the expected live load without damaging the main cable.

- Removing the main cable wrapping system and caulking at the interface of the wrapping with the cable band and at the cable band seams at locations designated on the Contract Drawings and as directed by the Engineer. Note that there are two existing wrapping systems – the multi-layer original construction system and a neoprene overlap spiral wrap system included in the sections to be unwrapped. At removal of wrapping the Engineer will be provided access to observe the caulking condition and, in the case of removal of original construction wrapping, the depth of black staining as the wrapping is removed.

- Taking samples of original construction multi-layer wrapping material for laboratory testing as directed by the Engineer, and providing for their proper storage, as needed

- Delivering samples to the laboratory for testing

- Collecting and disposing of old wrapping and debris from main cables

- Furnishing, installing, maintaining, and disposing at the completion of the work, temporary protection of the main cable panels while they are unwrapped

- Cleaning the cable band caulking surfaces in preparation for recaulking

- Installing a finish coat to all cable band exposed surfaces at the cable bands at both ends of each wrapped segment of main cable. Before application of the top coat, the existing steel shall be SP2 cleaned and made ready to receive the top or finish coating. If conditions of substrate after SP2 cleaning are poor, the pre-prime coat shall also be applied.

- After the cable is recompacted, cleaning the cable exterior of all oil, grease, and debris

- Wrapping the main cable with DS Brown Cableguard Elastomeric Wrap System from cable band to cable band including seal wedging, caulking and other interface details at the cable bands, recaulking the seams at the cable bands, touch up painting the cable bands, and applying DS Brown Dura-Grip walking surface to the new wrapping.
Performing repairs to existing main cable wrapping at locations identified on the Contract Documents and as directed by the Engineer. In addition to the locations shown on the Contract Documents the contract quantities include a provision for two additional locations at an estimated 5LF each to be identified by the Engineer. These additional locations can be at any location on either cable.

All work shall be performed at the locations shown on the Contract Drawings, described in this Specification and as directed by the Engineer.

Unless otherwise noted, all materials removed as part of this work shall become the property of the Contractor and shall be removed from the job site and properly disposed of according to all local, state, and federal regulations.

NOTE TO THE CONTRACTOR:

1. The existing main cable (without wrapping) was specified in original contract documents to vary in diameter between 15.25” and 15.5” which corresponds to a circumference varying between 47.9” and 48.7”. Measurements of the re-compacted circumference made during the previous cable investigation varied from 48” to 51.75”.

2. The Contractor’s attention is directed to the fact that, during all work, the Bridge Necklace Lighting System shall be supported and protected so as to remain in its normal operation at all times.

Toxic Caveat
The Contractor is hereby notified that existing paint systems on the Newport/Pell Bridge may contain toxic substances such as lead or chromium, and that these substances are considered to be hazardous to personnel, the environment, and the public approximate to the project.

Personnel and Environmental Protection
The provision for protection of personnel, the environment, and the public covers the requirements for removal and containment of paint and/or corrosion products from any steel bridge component, or otherwise specified appurtenances, during cleaning and painting operations.

Requirements to assure that the public, the environment, and the Contractor’s, as well as the Authority’s and their representatives’, personnel are adequately protected and equipped from the harmful effects of lead, blast media, dust and fumes resulting from the Contractor’s operations are set forth in Section 826.

Certification
Painting:
All painting contractors, painting subcontractors, or other individuals engaged in work covered by this special provision shall be duly certified under the Steel Structures Painting Council Contractor Certification Program. The
Contractor/subcontractor shall be certified to SSPC-QP1 – *Standard Procedure for Evaluating Qualification of painting*.

**Manufacturer Training and Certification for Main Cable Wrapping and Main Cable Wrapping Repairs:**

The Contractor shall provide Manufacturer training of all staff performing the cable wrapping and the Manufacturer shall provide certification of completed training for each employee. Only those so certified may perform the work. The cost for training and certification is to be included in the unit price for the work performed. No additional payment will be made for training and certification.

The requirements for training for Cableguard system installation shall be as required by DS Brown, but at a minimum shall meet the following:

1. Training shall be led by a Technician from DS Brown
2. The training period shall be a minimum of ten (10) days and the Technician shall be present for the entire period
3. Each worker shall be trained by the Technician and this training shall be on a full scale model as well as on the main cables. The full scale model shall be a steel pipe with the same diameter as the unwrapped main cable. The model shall include simulated cable band grooves matching those on the bridge. The model shall be a minimum of 15 feet long.
4. The Technician as well as the Contractor shall approve all workers
5. A signed list of approved workers shall be submitted before the work on the main cables may commence. The list shall be signed by the workers, the Technician and the Contractor. Only approved workers included on the list may carry out this work. Also note that the requirements of background checks (Specification Section 108.05) on all workers is recommended to be performed prior to training and is required before any work on the bridge may be performed including training.

If the Contractor employs workers with previous experience with installation of the Cableguard systems, these workers can be approved per the following requirements:

1. Documented full-time employment applying the Cableguard system during the last five years
2. Demonstration of skills observed by DS Brown Technician by application either on the full scale model or on the main cables
3. The DS Brown Technician as well as the Contractor shall approve all workers and the background check requirements of Section 108.05 applies to all workers
4. They shall be included in the signed list as described above

The training program shall include all aspects of the Cableguard system including but not limited to:
1. Proper surface cleaning and preparation of unwrapped cables
2. Wrapping with Skewmaster
3. Hand wrapping, close to the cable bands and at existing wrapping repairs, including tensioning
4. Splices
5. End strip application including tensioning
6. Treatments at cable band interfaces including seal wedge, caulking, straps/bands and sealing strips and any other system requirements/recommendations by DS Brown
7. Treatments at ends of repairs to existing main cable wrapping including straps/bands, caulking and any other system requirements/recommendations by DS Brown.
8. Heating/bonding with heat blankets
9. Application of Dura-Grip anti-slip walkway surface
10. Quality control including tolerances

943.02 MATERIALS
All materials shall be delivered to the construction site at appropriate intervals to ensure uninterrupted progress of work. Sufficient material to perform the application shall be in storage at the site prior to starting removal of the existing main cable wrapping system.

All materials shall be delivered in their original containers, bearing the manufacturer's label, specifying date of manufacture, batch number, shelf life with expiration date, trade name brand, quantity and mixing ratio, as applicable. Proper storage and handling of material and products and chemicals shall be provided for by the Contractor in accordance with the Manufacturers quality and safety requirements/recommendations.

All material which has been tampered with, or damaged, or has reached the expiration date, shall be removed from the work site, and be replaced, at no additional cost to the Authority.

943.02.1 Existing Wrapping System to be Removed
There are two existing wrapping systems that will be removed under this contract.

Original Main Cable Wrapping System
The existing wrapping system to be removed consists of a Mylar® wrapping that provides a smooth surface against the cable wires to accept the protective wrapping layers. It acts as a bond breaker between the wrapping and the cable
wires. Then a Lucite® (methyl methacrylate polymer) syrup was brush-applied followed by application of chopped glass sheets pressed into the Lucite®. This layer was followed by another brushed-on application of Lucite® syrup and a spiral-wound woven fiberglass tape, followed by additional brushed-on Lucite®. Sand was applied to this final Lucite® coat for traction for cable walkers. Mylar® and Lucite® are registered trademarks of E.I. du Pont de Nemours and Company. Photographs of the original application are available for inspection. The paint system on the main cables contains lead-based paint.

**Neoprene Main Cable Wrapping System**

The Neoprene wrapping system to be removed is the multiple layer system previously manufactured by RPM and consists of a Contour Flash Layer, multiple Neoprene layers, and a Hypalon coating with walnut shell walking surface. Elements of this system require treatment during removal and disposal as hazardous materials.

**943.02.2 New Wrapping System to be Provided and Installed**

The new wrapping system shall be the Cableguard Elastomeric Wrap System manufactured by the DS Brown Company of North Baltimore, Ohio (419)-257-3561 www.dsbrown.com. The system materials, elements, and installation procedures shall be as specified by the manufacturer and the installation shall be certified by the Manufacturer. The installation shall be performed utilizing the DS Brown specified Skewmaster except at locations where hand wrapping is required.

Based on the Cableguard system the following elements (materials and tools) shall be utilized in this Contract (with additional materials/tools as required/recommended by DS Brown with all materials approved by DS Brown and the Engineer:

- **Cableguard wrap** (cross-linking chlorosulfonated polyethylene polymer) with 200mm width. The color shall be matched to the existing cable color. Color match samples were provided to DS Brown by the RITBA prior to issuance of this contract in order to expedite the procurement of materials. The Contractor shall coordinate final color approval with DS Brown and the Engineer.

- **Cableguard specified neoprene sealing wedge**

- **Caulking** (One component polyurethane sealant/adhesive caulking in standard grey color).

- **Stainless Steel Straps**

- **End Strips**

- **Wrapping machine “Skewmaster”**
Heating bankets including control box. The most current version that is flexible, inflatable and has replaceable heating elements shall be used.

Generators, air suppliers for heat blankets, hand held electric heat guns and other hand tools.

DS Brown specified cleaning fluid.

943.02.3 Repairs to Existing Wrapping

The same DS Brown Cableguard materials will be utilized for repairs to the existing cable wrapping with the exception that the wrapping may be performed by hand. The procedure for the repair shall be as generally outlined below and as per all instructions of the DS Brown Technician during training:

1. Engineer to identify the location and extent of repair including limits of removal of existing wrapping and installation of new wrapping.
2. Remove the damaged wrapping to the limits identified by the Engineer. Removal shall be in the presence of the Engineer so that the Engineer can observe and document the wire conditions below and the wrapping conditions. The Engineer may elect to take a water sample and a sampling of the removed wrapping.
3. Clean exposed cable wires.
4. Apply Cableguard wrapping and heat bond as per DS Brown instructions/requirements.
5. Trim wrapping tails.
6. Fold cured wrapping back approximately two inches and apply caulk all around.
7. Fold wrapping back and apply strap over caulking.
8. Repeat at other end of repair.
9. Install the two intermediate straps.

943.03 CONSTRUCTION METHODS

943.03.1 Shop Drawings

Shop or working drawings shall be furnished in accordance with Subsection 824.03.1 of the RIDOT Standard Specifications and Section 105 herein and as follows:

Shop drawings shall be submitted showing the locations of work. Design and field measured dimensions shall be shown on the drawings. The extent of shop and field painting shall be indicated for each structural element or as directed by the Engineer.
943.03.2 Inspection and Testing

Inspection and testing shall be performed in accordance with Subsection 824.03.2 of the RIDOT Standard Specifications and with the following additions:

Certified reports shall be submitted, in accordance with Section 106, showing chemical and physical properties of the material to be used.

943.03.3 Marking, Shipping, Delivery, and Handling

This section shall be in accordance with the Subsection 824.03.09 of the RIDOT Standard Specifications with the following additions:

All material stored and/or awaiting shipment shall be protected from rust, dirt, oil, and foreign matter. The Authority will not accept rusted or pitted material, or material damaged by exposure to ultraviolet rays, water, or any other incompatible material, or material damaged by any other means.

The Engineer shall be notified at least 48 hours prior to shipping of material so that a final quality assurance inspection of the product can be performed, if desired.

943.03.3 SUBMITTALS

1. Materials: Three (3) 3 foot long strips of Cableguard wrap material with color match shall be submitted to the Engineer for approval 30 calendar days prior to the Contractor’s ordering of materials for field use, at no additional cost to the Authority.

2. Certifications: A Certification by the manufacturer shall be required for each lot or shipment of material prior to use. Also required, are statements that shall verify that the shipment adheres to the manufacturer’s specifications.

3. Training Certifications: The log of Contractor staff certified by training for installation of wrapping shall be provided before the start of work and updated throughout the project.

4. Training Methodology: The Contractor shall submit the plan for performing training including indicating the training outline, duration, trainer name and credentials, staff to be trained, location of training, and specifications for the full-scale model. The submittal shall be certified as approved by DS Brown before submission to the Engineer.

5. Wrapping Demonstration: The Contractor shall submit the plan for performing the wrapping demonstration including indicating at a minimum, the schedule, whether demonstration will be performed on scale model or on-site on unwrapped cable section, the protocol for performing the demonstration and the criteria for approving the demonstration including providing for observation of the demonstration by the Engineer. The submittal shall be certified as approved by DS Brown before submission to the Engineer.
6. Means and Methods: The Contractor’s computations and means and methods for performing the work, including but not limited to, access platforms for the work locations, containment, and any supplementary drawings for clarifying the method for protecting the main cables from moisture and debris during any periods of inactivity or when the Contractor is not at the work site. Means and methods drawings and computations shall be signed and sealed by a Professional Engineer licensed in the State of Rhode Island.

7. Laboratory: The name and address of test laboratory to the Engineer for approval.

8. Protocol for removing and storing and delivering main cable wrapping samples to approved Laboratory.

In addition to the requirements of the Standard Specifications, the Contractor shall submit the following for approval by the Engineer:

1. Field Measurements: Prior to commencement of any work and preparation of shop drawings, the Contractor shall measure in the field all dimensions, locations, and panel point cable lengths required for the prosecution of the work.

943.05 EXECUTION

943.05.1 Removal

Removal of the existing original and neoprene wrapping includes removal of all layers. Caulking at the ends of the panel at the cable bands shall also be completely removed. Removal shall be performed by using hand tools, unless another method and any additional containment and personnel protection that may be required are approved by the Engineer. Lead paint chips and dust, and all debris, shall be completely contained and disposed of properly, and workers shall be protected according to all federal, state, and local regulations.

Caulking between the cable band seams and at the other ends of the cable bands (the ends not adjacent to the removal and replacement of the wrapping) shall be removed and replaced at the direction of the Engineer. No additional measurement or payment will be made for the removal and replacement of caulking.

943.05.2 General Installation Procedure

Surface Preparation:

The surfaces of the outer layer of the main cable shall be thoroughly cleaned of oil, grease, and all loose material and corrosion to the satisfaction of DS Brown and the Engineer utilizing cleaning materials as specified by DS Brown and approved by the Engineer. The existing caulking in the recesses of the cable bands shall be removed and the recesses and fascia surface of the cable band shall be prepared according to Section 943.05.3, and the fascia surface shall be painted according to Section 943.05.3 and in a manner, satisfactory to the Engineer, to insure corrosion protection and adhesion of the new caulking to the recessed and fascia surfaces.

Cable bands that require bolt tension checks shall have all caulking removed from the cable band prior to the bolt tension check.

Particular care shall be taken not to disturb the existing main cable wrapping system that is not to be removed.

Installation:

The guidelines in the DS Brown Installation Manual available at www.dsbrown.com supply general information on the installation of the system (with the system including the wrapping, the sealing treatments at cable bands, the installation of repairs to the original cable wrapping, and the installation of the Dura-Grip anti skid). The Contractor shall utilize DS Brown Technical support for planning, training and installation of the system and provide certification from DS Brown that the system was installed, with all material and installation requirements/recommendations met, by staff certified for installation.
The circumference of each end of the cable bands shall be caulked. The top longitudinal gap shall be caulked its full length and full height, and the bottom longitudinal gap shall be caulked full height for 2” on each end of the cable band, leaving a central gap uncaulked for water drainage. The Contractor shall assume that all caulking at cable bands at each end of the panels will require full caulking removal and replacement. No additional payment will be made for caulking, the cost of caulking shall be included in the unit prices for the various work items.

943.05.3 Additional Notes

1. The Contractor shall remove the main cable wrapping in a manner that allows the Engineer to observe the true depth of caulking cracks at the cable band circumference and in the wrapping system, the depth of cracks in the wrapping system, and the nature of the penetration of the black staining from the interior or from the exterior of the cable wrapping system. Locations at each panel where care must first be exercised in the removal shall be designated in advance of removal as directed by the Engineer. The Engineer shall be present when these areas are unwrapped for the taking of photographs and record-keeping notes. The Contractor shall take representative samples of the main cable wrapping system for laboratory testing of the black stains to identify its source with quantities, sample containers, and storage of samples recommended by the Investigative Laboratory. See Specification Section 944 for additional information on testing of main cable wrapping samples.

2. All work shall be performed in accordance with the manufacturer's instructions and as directed by the Engineer.

3. Unwrapped portions of the main cable (prior to the application of new wrapping system) shall be protected from rain/water or debris. The type of protection shall be approved by the Engineer. The Contractor shall prohibit all personnel from walking on the newly wrapped portions of the main cable for the duration of the contract.

4. Suitable weather windows shall be established before starting wrapping work on each panel. All wrapping work including heat bonding on each panel shall be completed within a period that fulfills the weather and temperature requirements and preferably during one day. Should the work on a panel be disturbed by weather not fulfilling the execution requirements, non-completed segments of the panel shall be covered immediately for protection. A procedure for protecting an unfinished section shall be submitted to the Engineer for approval. All required materials for the approved procedure shall be present at all local construction sites at all times. Before resumption of the work on the same main cable panel, the completed wrap and/or caulking at cable band in that main cable panel shall be checked for water intrusion. Wrap and/or caulk in main cable panel segments containing water or not
meeting the quality requirements otherwise shall be removed and new materials installed.

5. The Contractor shall maintain a log of wrapping work in the case of interruption of wrapping that documents the cable panel identification, date and time of interruption, reason for interruption/type of weather, progress within main cable panel prior to interruption of work, type of material and status of any water intrusion/damage, position of damaged segments within the panel.

6. If the wrapping work including heat bonding on a panel are not completed as required by the DS Brown guidelines/requirements/recommendations or as required by these Specifications, the Engineer may order the wrap removed and new wrap applied.

7. The Engineer shall have the opportunity to inspect each completed panel before the access equipment is removed. Notify the Engineer for each panel at least 24 hours ahead of time before the begin of wrapping.

8. The panels for wrap removal and replacement between the anchorage cable bands and first backstay cable bands, shall be re-wrapped after re-installation of the cable anchorage cable bands. Measurement and payment for these cable band removal and replacements are found in Specification Section 949 Removal and Replacement of Wire Rope Suspender Assemblies.

9. Prior to commencing any field operations, the Contractor shall perform a demonstration of re-wrapping utilizing the specific materials and installation protocol provided through the DS Brown training. The demonstration shall be performed on the section of the main cable between edges of the cable bands as designated by the Engineer or may alternatively be performed on a full scale model of a cable panel. This test shall be performed by the Contractor staff trained by DS Brown, with the DS Brown training lead on site to observe but not participate or guide. The DS Brown representative will then certify the team properly performed the wrapping. The Engineer shall be on site for this test and shall have the opportunity to inspect the wrapping and provide final approval/acceptance. The intent of the test is both to test the initial installation and to provide final approval by DS Brown of the trainees or previously trained staff proposed for certification for production wrapping.

10. If the demonstration does not meet the criteria and requirements indicated on the Contract Documents, the Contractor shall remove and dispose of the newly installed wrapping system, and repeat the demonstration using new materials, to the satisfaction of the Engineer at no additional cost to the Authority.

11. If a full scale model is utilized, it shall be a steel pipe with the same diameter as the unwrapped main cable. The model shall include simulated cable band grooves matching those on the bridge. The model shall be a minimum of 15 feet long.
12. Cleaning:

The Contractor shall provide a finish coat to all cable band exposed surfaces at the cable bands at both ends of each wrapped segment of main cable. Before application of the top coat, the existing steel shall be SP2 cleaned and made ready to receive the top or finish coating. If conditions of substrate after SP2 cleaning are poor, the pre-prime coat shall also be applied.

The Contractor shall verify that the criteria set forth herein are met. Applying a coating indicates that the Contractor has accepted that the surface preparation requirements have been satisfied.

Cleaning of cable wires or suspender rope wires shall be according to SSPC-SP1 Solvent Cleaning to remove all grease and deposits. Hand tool cleaning for these areas may be used only at the direction of the Engineer.

Cable band caulking surfaces and grooves shall be cleaned in accordance with SSPC-SP2 – Hand Tool Cleaning.

13. Coatings:

Suspender ropes shall receive three coats of paint as shown in Table 1 or Table 1A, in accordance with Section 825 of the RIDOT Standard Specifications and Specifications herein.

Exposed non-galvanized steel shall receive up to three coats as shown in Table 2, or approved equals, in accordance with Section 825 of the RIDOT Standard Specifications and Specifications herein. The faying surfaces of steel shall receive a prime coat only. At locations of SP2 and/or SP3 preparation the Pre-Prime paint may be utilized as part of the system. The number of coats for elements to be painted are identified within work descriptions in these Contract Specifications.

Exposed galvanized steel shall receive two coats as shown in Table 3, or approved equals, in accordance with Section 825 of the RIDOT Standard Specifications and Specifications herein.

| TABLE 1  THREE-COAT SYSTEM FOR SUSPENDER ROPES AND FIELD SPOT COATING |
|-------------------------|-------------------------|-------------------------|
| COAT  | MATERIAL | MIN. THICKNESS |
| Primer | Pegalink | 1.0-2.0 mils DFT |
| Intermediate | 100% Noxyde | 7.0 mils DFT |
| Finish | 100% Noxyde | 7.0 mils DFT |

<p>| TABLE 1A  ALTERNATE THREE-COAT SYSTEM FOR SUSPENDER ROPES AND FIELD SPOT COATING |</p>
<table>
<thead>
<tr>
<th>COAT</th>
<th>MATERIAL</th>
<th>MIN. THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primer</td>
<td>RD-Multiprim</td>
<td>2.0 mils DFT</td>
</tr>
<tr>
<td>Intermediate</td>
<td>RD-Elastometal</td>
<td>7.0 mils DFT</td>
</tr>
<tr>
<td>Finish</td>
<td>RD-Elastometal</td>
<td>7.0 mils DFT</td>
</tr>
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</table>

**TABLE 2 THREE-COAT SYSTEM FOR NON-GALVANIZED STRUCTURAL STEEL, SHOP COATING**

<table>
<thead>
<tr>
<th>COAT</th>
<th>MATERIAL</th>
<th>MIN. THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primer</td>
<td>Zinc Clad III HS or Macroproxy 920 Pre-Prime</td>
<td>3.0 mils DFT</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Macroproxy 646FC Epoxy</td>
<td>7.0 mils DFT</td>
</tr>
<tr>
<td>Finish</td>
<td>Acrolon 218 HS</td>
<td>3.0 mils DFT</td>
</tr>
</tbody>
</table>

**TABLE 3 TWO-COAT SYSTEM FOR GALVANIZED STRUCTURAL STEEL**

<table>
<thead>
<tr>
<th>COAT</th>
<th>MATERIAL</th>
<th>MIN. THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate</td>
<td>DEVRAN 201</td>
<td>7.0 mils DFT</td>
</tr>
<tr>
<td>Finish</td>
<td>DEVTHANE 379</td>
<td>3.0 mils DFT</td>
</tr>
</tbody>
</table>

Where DFT means Dry Film Thickness

14. Top coat shall be tinted to match the color of the surrounding bridge elements. A coating sample will be provided by RITBA to identify the color of the coating. All top coat to be used for this contract shall be matched to this color. The proposed color shall be submitted for approval by the Engineer before ordering coatings. The Contractor is alerted that previous projects have used products specified above or approved equals and the Contractor is encouraged to check with manufacturers for a previously approved finish coat color.

15. The Contractor shall submit a Certificate of Compliance for the primer, base, and topcoats that confirms that the coating’s physical characteristics meet or exceed the manufacturer’s published test results. A letter of certification shall be issued for batch of coating delivered to the project site. The manufacturer shall warrant the materials used as evidenced by the Certificate of Compliance. The Contractor shall be responsible for workmanship performed to install the coating system.
16. All coating materials shall be stored at all times according to the manufacturer’s recommendations and all safety and health regulations. Coating materials stored in opened or damaged containers shall not be used and shall be immediately removed from the jobsite.

17. All coats shall be applied by brush or glove, unless recommended by the manufacturer and approved by the Engineer. Coating shadows, pinholes, bubbles, skips, misses, lap marks between applications, or other visible discontinuities are not acceptable. Each coat in the system shall be of a sufficiently contrasting color to provide a visual distinction between coats. Recoat time shall be according to the manufacturer’s minimum and maximum time requirements, with enough time for the previous coat to dry, but as soon as possible to avoid foreign contamination of the previous coat. Wet film thickness shall be in accordance with ASTM D4414, measured on 8"x8" steel test plates prepared and coated in a similar fashion to, and under the same ambient conditions as, the site coating. Dry film thickness may be measured non-destructively using magnetic dry film thickness gages. A Tooke Gage (destructive method) may be used at a limited number of locations as verification, as permitted by the Engineer. All locations where destructive gages have been used to measure coating film thickness shall be marked and repaired. Any areas requiring recoating due to insufficient thickness shall be applied with care to ensure that repaired areas blend in with the previously applied coating system.
943.06   METHOD OF MEASUREMENT

Removal and Replacement of Main Cable Wrapping System (removal, wrapping, end treatments/sealing at cable bands, caulking at cable band ends and seams, cable band finish coat painting, original wrapping samples), including daily lane closure and all labor, materials, access and equipment, submittals, training, testing, fabrication, delivering, erecting, priming, and coating cable and cable bands as necessary, surface preparation, DS Brown certification, and all incidentals required to finish the work shall be measured for payment on a Contract Unit Price basis.

Measurement for Removal and Replacement of Main Cable Wrapping System (wrapping, end treatments/sealing at cable bands, caulking at cable band ends and seams, cable band finish coat painting) shall be per linear foot of the affected main cable panels, measured along the centerline of cable from centerline of cable band to centerline of cable band. Each linear foot of panel shall be counted once.

Repair Main Cable Wrapping including daily lane closure and all labor, materials, access and equipment, submittals, training, testing, fabrication, delivering, erecting, surface preparation, DS Brown certification, and all incidentals required to finish the work shall be measured for payment on a Contract Unit Price basis.

Measurement for Repair Main Cable Wrapping shall be per linear foot of the completed repair (with limits as shown on the Contract Drawings) measured along the centerline of cable.
943.07 BASIS OF PAYMENT

1. The accepted quantity of Removal and Replacement of Main Cable Wrapping System (wrapping, end treatments/sealing at cable bands, caulking at cable band ends and seams, cable band finish coat painting) will be paid for at the Contract Unit Price per linear foot as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, access, and equipment, including submittals, training, DS Brown certification, inspection and testing, fabrication, delivering, erecting, painting cable bands as necessary, surface preparation, and all incidentals required to finish the work, complete and accepted by the Engineer.

2. The accepted quantity of Repair Main Cable Wrapping will be paid for at the Contract Unit Price per linear foot as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, access, and equipment, including submittals, training, DS Brown certification, inspection and testing, fabrication, delivering, erecting, surface preparation, and all incidentals required to finish the work, complete and accepted by the Engineer.

3. In the event any new or existing materials, including the main cable, are damaged during this work, due to the Contractor's operations, the Contractor shall repair or replace the damaged new or existing materials in a manner satisfactory to the Engineer, at no additional cost to the Authority.

4. No payment will be made for repair or replacement of material that was made necessary due to the Contractor's operations. No separate payment shall be made for the Contractor's access platforms or other work access.

<table>
<thead>
<tr>
<th>Pay Item Number</th>
<th>Description</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Removal and Replacement of Main Cable Wrapping System</td>
<td>LF</td>
</tr>
<tr>
<td>16</td>
<td>Repair Main Cable Wrapping</td>
<td>LF</td>
</tr>
</tbody>
</table>

END OF SECTION 943
SECTION 944  MAIN CABLE WRAPPING TESTING IN LABORATORY

944.01  DESCRIPTION

The work shall consist of:

- Determining quantities, sampling methods, and storage and shipping requirements for main cable wrapping and the black staining product on the main cable protective system needed for qualitative analysis
- Qualitatively analyzing samples, delivered to the Laboratory by the Contractor, to determine the composition of the black staining product
- Preparing draft and final Laboratory Reports summarizing the qualitative findings of the black staining product on the main cable protective system

Unless otherwise noted, all materials removed as part of this work shall become the property of the Contractor and shall be removed from the job site and properly disposed of according to all local, state, and federal regulations.

944.02.1  MATERIALS

Adequate samples of main cable protective wrapping system material shall be delivered by the Contractor to the investigative laboratory for testing. The laboratory shall determine the quantity of sample needed, the method of obtaining sample, and any storage and shipping requirements needed.

944.03  CONSTRUCTION METHODS

Not applicable.

944.04  SUBMITTALS

1. Proposed Investigative Laboratory for the Engineer’s review and approval. A suggested laboratory is LPI, Inc. (Lucius Pitkin), 304 Hudson Street, New York, NY 10013, telephone (212) 233-2737, or approved equal. The investigative laboratory shall be experienced in conducting qualitative analysis. A list of the investigative laboratory’s previous experience and expertise shall be included in the submittal.

2. Laboratory Report summarizing the findings of the black staining product. The report shall include color photographs as well as conclusions concerning the nature and composition of the black staining product. Two color draft copies of the report shall be submitted to the Engineer for review and comment. Six color final and two electronic CD copies of the report, incorporating the Engineer’s comments, shall be submitted to the Engineer for approval.

944.05  EXECUTION

The laboratory shall follow standard published methods, and in the absence of standard published methods shall determine best methods of analysis. All samples shall be handled and disposed of according to all applicable local, state, and federal laws.
At a minimum the samples for testing shall be 6” square of cable wrapping for which workers have not handled the samples without use of latex gloves or other means of keeping contamination from the samples. Samples must be at least double bagged in sealed plastic bags to avoid drying out, and labeled. These requirements are a minimum and the actual size and handling of samples shall be as directed by the testing laboratory. At a minimum the samples shall be tested for ferrous corrosion and microbial action. The actual number and size of samples shall be determined by the Testing Laboratory.

944.06 METHOD OF MEASUREMENT

Main Cable Wrapping Testing in Laboratory, including all labor, materials, equipment, submittals, testing, delivering, and all incidentals required to finish the work shall be measured for payment on a Contract Unit Price basis, actually completed in a manner approved by the Engineer.

Measurement for Main Cable Wrapping Testing in Laboratory shall be per Lump Sum.

944.07 BASIS OF PAYMENT

1. The Unit Price Lump Sum bid shall include the cost of all labor, materials, and equipment necessary to complete the work as shown on the Contract Drawings, specified in this specification and directed by the Engineer.

2. In the event any new or existing materials are damaged during this work, due to the Contractor’s operations, the Contractor shall repair or replace the damaged new or existing materials in a manner satisfactory to the Engineer, at no additional cost to the Authority.

3. No payment will be made for repair or replacement of material that was made necessary due to the Contractor’s operations.

4. Progress payments will be made as follows:
   - 50% upon completion of sample testing
   - 25% upon Laboratory providing receipt of delivery
   - 25% upon delivery of final report approved and accepted by the Engineer

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Pay Unit</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>Main Cable Wrapping Testing in Laboratory</td>
<td>Lump Sum</td>
</tr>
</tbody>
</table>

END OF SECTION 944
945.01 DESCRIPTION

The work shall consist of:

- Measuring cable circumference before cable straps are removed
- Removing main cable straps as directed by the Engineer
- Wedging the unwrapped main cable panels for inspection from cable band to cable band at 8 clock positions in each panel, as directed by the Engineer
- Providing access for allowing the Engineer to thoroughly inspect all wedged locations, assess broken wires and corrosion stages, and match ends of broken wires in the cable
- Furnishing, installing, maintaining, and disposing at the completion of the work, temporary protection of the main cable panels while they are unwrapped
- Vacuum cleaning all wedged locations and the cable exterior in preparation for cable recompack
- Removing all wedges in preparation for cable recompack

All work shall be performed at the locations shown on the Contract Drawings, as described in this Specification, and as directed by the Engineer

Unless otherwise noted, all temporary materials used or removed as part of this work shall become the property of the Contractor and shall be removed from the job site and properly disposed of according to all local, state, and federal regulations.

NOTE TO THE CONTRACTOR:

1. The Contractor’s attention is directed to the fact that, during all work, the Bridge Necklace Lighting System shall be supported and maintained to remain its normal operation at all times.

945.02 MATERIALS

1. Wedges for inspection and oiling shall be constructed of oak, hard rock maple, or high-molecular-weight polyethylene. Wedges shall taper 1 inch for each 5 inches of length. To minimize wedge damage and reduce the possibility of breaking off of the tip in the cable interior, wedge tips shall be rounded to approximately a 1/8-inch diameter. Bronze wide-blade non-sparking chisels or hydraulic wedges, per National Cooperative Highway Research Program (NCHRP) Report 534 Section 2.3, are also acceptable.

2. All materials shall be delivered in their original containers, bearing the Manufacturer's label, specifying date of manufacture, batch number, shelf life
with expiration date, trade name brand, quantity and mixing ratio, as applicable.

3. Sufficient material to perform the wedging shall be in storage at the site prior to removing the existing main cable wrapping system.

4. The materials shall be handled, transported and stored in accordance with the manufacturer's recommendation. Every precaution shall be taken to avoid sparks and flames in the storage space. All electrical wires and switches shall be grounded and necessary precautions shall be taken to prevent static discharge. Smoking shall be prohibited.

5. All material that has been tampered with, or damaged, or has reached the expiration date, shall be removed from the work site, and be replaced, at no additional cost to the Authority.

945.03 CONSTRUCTION METHODS

945.03.1 Marking, Shipping, Delivery, and Handling

This section shall be in accordance with the Subsection 824.03.09 of the RIDOT Standard Specifications with the following additions:

All material stored and/or awaiting shipment shall be protected from rust, dirt, oil, and foreign matter. The Authority will not accept rusted or pitted material, or material damaged by exposure to ultraviolet rays, water, or any other incompatible material, or material damaged by any other means.

The Engineer shall be notified at least 48 hours prior to shipping of material so that a final quality assurance inspection of the product can be performed, if desired.

945.04 SUBMITTALS

1. Catalog cuts for all materials to be used shall be submitted to the Engineer for review and approval.

2. Cable circumference measurements before removal of straps, as indicated in this specification.

In addition to the requirements of the Standard Specifications, the Contractor shall submit the following for approval by the Engineer:

1. Field Measurements: Prior to commencement of any work and preparation of shop drawings, the Contractor shall measure in the field all dimensions, locations, and panel point cable lengths required for the prosecution of the work.

945.05 EXECUTION

1. At each panel, the Contractor shall measure the cable circumference after the wrapping is removed and the surface cleaned of all debris. The circumference shall be measured immediately adjacent to each cable band, 12 inches away from each cable band, and at the panel midspan. The information shall be submitted to the Engineer electronically in Excel spreadsheet.

2. The Contractor shall wedge the main cable as directed by the Engineer in a manner that allows the Engineer to observe the wire condition at the clock positions and depths indicated on the Contract Drawings. The Engineer will be present when the cables are wedged for inspection for the taking of photographs and record-keeping notes on corrosion and wire breaks.

3. Each wedged opening shall be vacuum cleaned prior to wedge removal, and the circumference of the cable shall be cleaned of all debris, oil and dirt prior to cable compaction.

4. All work shall be performed as directed by the Engineer.

5. Unwrapped portions of the main cable (prior to the application of new wrapping system) shall be protected from rain/water or dirt. The protection system shall be approved by the Engineer.

6. The Contractor is notified that the Engineer may take water or corrosion product samples from the main cable while the cable is wedged for inspection.
945.06 METHOD OF MEASUREMENT
Main Cable Wedging, including daily lane closure and all labor, materials, access and equipment, submittals, testing, fabrication, delivering, erecting, priming, and painting as necessary, surface preparation, and all incidentals required to finish the work shall be measured for payment on a Contract Unit Price basis.

Measurement for Main Cable Wedging shall be per linear foot of the affected main cable panels, measured along the centerline of cable from centerline cable band to centerline cable band. Each linear foot of panel shall be counted once. Each linear foot shall include wedging at eight (8) wedge lines, or clock positions.

945.07 BASIS OF PAYMENT
1. The accepted quantity of Main Cable Wedging will be paid for at the Contract Unit Prices per linear foot as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, access, and equipment, including submittals, testing, fabrication, delivering, erecting, priming and painting as necessary, surface preparation, and all incidentals required to finish the work, complete and accepted by the Engineer.

2. In the event any new or existing materials are damaged during this work, due to the Contractor’s operations, the Contractor shall repair or replace the damaged new or existing materials in a manner satisfactory to the Engineer, at no additional cost to the Authority.

3. No payment will be made for repair or replacement of material that was made necessary due to the Contractor’s operations.

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Pay Unit</th>
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</thead>
<tbody>
<tr>
<td>5</td>
<td>Main Cable Wedging</td>
<td>LF</td>
</tr>
</tbody>
</table>

END OF SECTION 945
946.01 DESCRIPTION

The work shall consist of:

- Cutting wire samples at locations designated by, and as directed by, the Engineer. The total contract quantity of wire samples will be spread among the locations identified for wedging inspection with varying numbers of wires at each location. The Engineer will take retraction measurements before and after cutting the wire samples.
- Delivery of the wire samples to the investigative laboratory for testing
- Fabricating and providing a tension measuring device. A suggested device is shown on the Contract Drawings
- Splicing wires where samples are taken using the methods shown on the Contract Drawings and in this specification
- Splicing additional broken wires identified during wedging inspection at locations directed by the Engineer.

All work shall be performed at the locations shown on the Contract Drawings, described in this Specification, and as directed by the Engineer.

Applicable Standards

In addition to this Specification, all structural steel work shall conform to the applicable requirements of the following:

- RIDOT Standard Specifications Section 824 Structural Steel Construction
- American Society for Testing and Materials (ASTM)
- AASHTO Standard Specifications for Highway Bridges

Unless otherwise noted, all temporary materials used or removed as part of this work shall become the property of the Contractor and shall be removed from the job site and properly disposed of according to all local, state, and federal regulations.

NOTE TO THE CONTRACTOR:

1. The Contractor’s attention is directed to the fact that, during all work, the Bridge Necklace Lighting System shall be supported and maintained to remain in normal operation at all times.
946.02 MATERIALS

1. Turnbuckle fittings shall be as manufactured by Telurit at R-Evolution Gateway 36, Unit 3 Kestrel Way, Birdwell, Barnsley, South Yorkshire, England S70 5SZ Phone: Ann +44 79 21392962, Email: info@talurit.co.uk
   The fittings shall be of a size to connect the bridge wire specified below. Steel for fabrication of fittings shall be compatible with galvanized bridge wire.

2. Compression Fittings shall be as manufactured by CCL Systems, Ltd., R-Evolution Gateway 36, Unit 3 Kestrel Way, Birdwell, Barnsley, South Yorkshire, England S70 5SZ Phone: Ann +44 79 21392962, Email: info@talurit.co.uk
   The fittings shall be of a size to connect the bridge wire specified below. Steel for fabrication of fittings shall be compatible with galvanized bridge wire.

3. Splicing wires shall be 0.202 inch diameter zinc-coated bridge wire conforming to ASTM A586-04a. Zinc coating shall be Class A. All wires shall be straightened, so that when laid flat, their deflection does not exceed 0.5 inch maximum in any 10-foot length. Replacement wires for stage 1 and 2 corrosion samples shall measure a minimum of 12 feet long. Replacement wires for stage 3 and 4 corrosion shall measure a minimum of 20 feet long. Replacement wires for broken wires shall measure a minimum of 12 feet long. All replacement wires supplied shall be a minimum of 20 feet long. The number of in-situ broken wires to be spliced is estimated and may vary. An additional 25% of each fitting type and new wires shall be provided above the estimated amount of broken wires in this specification.

946.03 CONSTRUCTION METHODS

946.03.1 Inspection and Testing

Inspection and testing shall be performed in accordance with Subsection 824.03.2 of the RIDOT Standard Specifications and with the following additions:

1. The Engineer shall be notified, in writing, 15 calendar days in advance of the date of beginning of work at the mill and shop.

2. Certified reports shall be submitted, in accordance with Section 106, showing chemical and physical properties of the material to be used.

3. The turnbuckle and compression fittings shall be tested fully by connecting them to the ends of two new wires specified below, and shall develop at least 90% of the ultimate strength of the new wires. The manufacturer shall certify test results conforming to the above-stipulated requirements.

4. Assemblies of fittings for testing shall be made by the Contractor’s field personnel, in order to qualify them to perform the work.

5. The wire used for fitting verification shall be provided by the Contractor from the lot of wire to be used in the actual work. The sample for testing each
component shall be 1% of each lot or 10 samples, whichever is greater. A lot is defined as the number of components in a single shipment.

6. Tested wires and fittings shall not be used on the bridge, and the cost of testing and materials shall be included in the price to perform the work.

946.03.2 Marking, Shipping, Delivery, and Handling

This section shall be in accordance with the Subsection 824.03.9 of the RIDOT Standard Specifications with the following additions:

All material stored and/or awaiting shipment shall be protected from rust, dirt, oil, and foreign matter. The Authority will not accept rusted or pitted material, or material damaged by exposure to ultraviolet rays, water, or any other incompatible material, or material damaged by any other means.

The Engineer shall be notified at least 48 hours prior to shipping of material so that a final quality assurance inspection of the product can be performed, if desired.

Splicing wires shall be shipped flat in appropriate shipping containers.

946.04 SUBMITTALS

1. Certifications: A Certification by the Manufacturer shall be required for each lot or shipment of material prior to use. Also required, are statements that shall verify that the shipment adheres to the Manufacturer’s specifications.


In addition to the requirements of the Standard Specifications, the Contractor shall submit a Best Management Practice Program, Quality Control Plan and Safety Plan for approval by the Engineer – See Specification 999 Best Management Practices.

946.05 EXECUTION

1. Wire samples of corrosion stages 1 and 2 will generally be approximately 12 feet long, and wire samples of corrosion stages 3 and 4 will generally be approximately 16 – 20 feet long. Locations and lengths of sample wires to be taken shall be as directed by the Engineer. The Engineer shall tag the wires using an appropriate tagging system before the Contractor ships them to the testing laboratory.

2. Calibration of the tension measuring device shall be performed by an approved testing laboratory. A bridge wire 20 feet long is placed in a testing machine and stressed in increments of 100 pounds. The force required to cause a deflection of the wire between the ends shall be measured using the spring balance that will be used at the site for tension measurements.
Recommended offsets are given in the table below, and should result in a required force of approximately 60 pounds.

RECOMMENDED OFFSETS FOR VARIOUS WIRE TENSIONS

<table>
<thead>
<tr>
<th>Wire Tension (pounds)</th>
<th>Offset (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500</td>
<td>0.70</td>
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<tr>
<td>2000</td>
<td>0.55</td>
</tr>
<tr>
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<td>0.45</td>
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</tbody>
</table>

A calibration curve shall be prepared with applied force on the x-axis and wire tension on the y-axis. The offset used shall be shown on the calibration curve. Wire tension forces based on design bridge dead load are given for various centers of cable panels in the table below.

INDIVIDUAL WIRE TENSION DUE TO DEAD LOAD AT VARIOUS PANELS

<table>
<thead>
<tr>
<th>Midpoint of Panel</th>
<th>Dead Load Wire Tension (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backstay Segments</td>
<td>2,106</td>
</tr>
<tr>
<td>PP1 – PP3</td>
<td>2,115</td>
</tr>
<tr>
<td>PP23-PP25</td>
<td>2225</td>
</tr>
<tr>
<td>PP29 - PP31</td>
<td>2,281</td>
</tr>
<tr>
<td>PP38-PP40</td>
<td>2281</td>
</tr>
<tr>
<td>PP42-PP44</td>
<td>2232</td>
</tr>
<tr>
<td>PP46 - PP48</td>
<td>2,169</td>
</tr>
<tr>
<td>PP70 - PP72</td>
<td>2,093</td>
</tr>
<tr>
<td>PP72 - PP74</td>
<td>2,092</td>
</tr>
</tbody>
</table>

5. For measuring wire tension at the site, the measuring device is held against the wire so that the wire is in contact with the grooves in the end plates. Just enough pressure is applied to achieve contact with the wire. The center of the hook is pulled outward with a spring balance until the offset is exactly that used for the calibration curve. The applied tension is measured, and the wire tension is determined from the calibration curve.

6. The crimping tool for installing pressed-on splice fittings shall be as recommended by the manufacturer of the pressed-on fittings.
7. Unused fittings, splice wires, and extensometer shall be delivered to the Engineer at the completion of the work and shall become the property of the Authority. In the event that less than seventy (70) percent of the expected wire splices are installed by the Contractor, the Contractor will be reimbursed for the actual unused fittings and splice wires at actual cost, without markups (as per receipts submitted to the Engineer). The number of fittings and splice wires paid for in this matter will be those actually delivered in good unused condition to the Authority.

946.06 METHOD OF MEASUREMENT

Main Cable Wire Sampling and Splicing, including daily lane closure and all labor, materials, access and equipment, submittals, testing, fabrication, delivering, erecting, priming, and painting as necessary, surface preparation, and all incidentals required to finish the work shall be measured for payment on a Contract Unit Price basis.

Main Cable Wire Sampling and Splicing shall be per each existing cable wire that is cut, sampled, and spliced, and satisfactorily completed and accepted by the Engineer.

Main Cable Splicing Broken Wires, including daily lane closure and all labor, materials, access and equipment, submittals, testing, fabrication, delivering, erecting, priming, and painting as necessary, surface preparation, and all incidentals required to finish the work shall be measured for payment on a Contract Unit Price basis.

Main Cable Splicing Broken Wires shall be per each existing cable wire that is cut and spliced, or each set of existing broken wire halves that are trimmed back to sound material and spliced, and satisfactorily completed and accepted by the Engineer.

946.07 BASIS OF PAYMENT

1. The accepted quantity of Main Cable Wire Sampling and Splicing will be paid for at the Contract Unit Price per each as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, access, and equipment, including submittals, testing, fabrication, delivery, erection, priming and painting as necessary, surface preparation, and all incidentals required to finish the work, complete and accepted by the Engineer.

2. The accepted quantity of Main Cable Splicing Broken Wires will be paid for at the Contract Unit Price per each as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, access, and equipment, including submittals, testing, fabrication, delivery, erection, priming and painting as necessary, surface
preparation, and all incidentals required to finish the work, complete and accepted by the Engineer.

3. In the event any new or existing materials are damaged during this work, due to the Contractor’s operations, the Contractor shall repair or replace the damaged new or existing materials in a manner satisfactory to the Engineer, at no additional cost to the Authority.

4. No payment will be made for repair or replacement of material that was made necessary due to the Contractor's operations.

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Main Cable Wire Sample and Splicing</td>
<td>EACH</td>
</tr>
<tr>
<td>7</td>
<td>Main Cable Splicing Broken Wires</td>
<td>EACH</td>
</tr>
</tbody>
</table>

**END OF SECTION 946**
SECTION 947  MAIN CABLE WIRE TESTING IN LABORATORY

947.01 DESCRIPTION

The work shall consist of:

- Visually examining, labeling, and recording with photographs wire sample conditions as received from the Contractor, for approximately 55 stage 1 and stage 2 wire samples, and approximately 5 stage 3 and 5 stage 4 wire samples, for a total of approximately 65 wire samples. Stage 1 and stage 2 samples will be approximately 12 feet long. Stage 3 and stage 4 wires will be approximately 16 – 20 feet long.

- Cutting stage 1 and stage 2 wire samples into smaller test machine gage-length specimens for use in ultimate strength tests, weight of zinc tests, and Preece tests. The minimum number of specimens to be obtained from each sample is given in Table 1 below:

<table>
<thead>
<tr>
<th>Corrosion Stage of Sample</th>
<th>Minimum Number of Specimens from Each Sample</th>
<th>Sample Length (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strength Tests</td>
<td>Weight of Zinc Tests</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>

- Testing samples for ultimate strength, weight of zinc, and Preece test

- Examining wire surfaces fractographically for approximately 15 wires (either specimens tested for ultimate strength or additional samples of in-situ broken wires)

- Analyzing 1 sample of wire corrosion product qualitatively to determine composition of corrosion products

- Preparing draft and final laboratory reports summarizing the qualitative and quantitative findings of the testing program.

All work shall be performed as described in this Specification and as directed by the Engineer

Unless otherwise noted, all temporary materials used or removed as part of this work shall become the property of the Contractor and shall be removed from the
job site and properly disposed of according to all local, state, and federal regulations.

947.02 MATERIALS
Adequate samples of main cable wires shall be delivered by the Contractor to the Laboratory for testing. The Laboratory shall determine any storage and shipping requirements needed.

947.03 CONSTRUCTION METHODS
Not Applicable

947.04 SUBMITTALS
1. Proposed Investigative Laboratory for the Engineer’s review and approval. Suggested laboratories are:
   a. LPI (Lucius Pitkin), 304 Hudson Street, New York, NY 10013, telephone (212) 233-2737,
   b. Carleton Strength of Materials Laboratory, Columbia University, New York, NY, telephone (212) 854-3158
   c. Or approved equal

The laboratory shall be experienced in the testing of bridge wire for ultimate strength, conducting zinc weight and Preece tests (uniformity of coating), conducting qualitative analysis of corrosion products, and examining the fracture surfaces of failed wires. A list of the laboratory’s previous experience and expertise shall be included in the submittal.

2. Laboratory report summarizing the qualitative and quantitative findings of the ultimate strength, zinc weight, and Preece tests. The report shall contain color/black-and-white photographs including but not limited to: wire samples, test apparatus, and fracture surfaces. The report shall tabulate pertinent results and draw conclusions concerning the tests and analysis results. Two color draft copies of the report shall be submitted to the Engineer for review and comment. Six color final and two electronic flash drive loaded copies of the report, incorporating the Engineer’s comments, shall be submitted to the Engineer for approval.

947.05 EXECUTION
The Laboratory shall follow standard published methods, and in the absence of standard published methods shall determine best methods of analysis. All samples shall be handled and disposed of according to all applicable local, state, and federal laws.
947.06 **METHOD OF MEASUREMENT**
Measurement for Wire Testing shall be per Lump Sum.

947.07 **BASIS OF PAYMENT**
1. The Unit Price Lump Sum shall include the cost of all labor, materials, and equipment necessary to complete the work as shown on the Contract Drawings, specified in this specification and directed by the Engineer.

2. In the event any new or existing materials are damaged during this work, due to the Contractor’s operations, the Contractor shall repair or replace the damaged new or existing materials in a manner satisfactory to the Engineer, at no additional cost to the Authority.

3. No payment will be made for repair or replacement of material that was made necessary due to the Contractor’s operations.

4. Progress payments will be made as follows:
   - 25% upon delivery of samples for testing
   - 50% upon completion of sample testing
   - 25% upon delivery of final report approved and accepted by the Engineer

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Main Cable Wire Testing in Laboratory</td>
<td>Lump Sum</td>
</tr>
</tbody>
</table>

**END OF SECTION 947**
948.01 DESCRIPTION

The work shall consist of:

- Furnishing a cable compactor with four hydraulic jacks and all other necessary appurtenances for use with the cable compactor. If the contractor possesses, or has the use of, a compactor from previous cable recompaction work that is suitable for this contract, the compactor may be used for this work at the direction of the Authority. If a compactor is required to be fabricated for this contract, it shall remain the property of the Authority at the end of contract work.

- Recompressing the main cable to its original diameter as directed by the Engineer, after wedging.

- Applying permanent strapping to the main cable at every 2 feet after compacting.

All work shall be performed at the locations shown on the Contract Drawings, described in this Specification and directed by the Engineer.

Unless otherwise noted, all materials removed as part of this work shall become the property of the Contractor and shall be removed from the job site and properly disposed of according to all local, state, and federal regulations.

NOTE TO THE CONTRACTOR:

1. The Contractor's attention is directed to the fact that, during all work, the Bridge Necklace Lighting System shall be supported and maintained to remain in normal operation at all times.

948.02 MATERIALS

1. Bands and buckles shall be by BAND-IT, a unit of Idex Corporation, 4799 Dahlia Street, Denver CO 80216, telephone 800-525-0758, 316 stainless steel, 3/4-inch width, minimum steel thickness 0.030 inch, with corresponding heavy duty 316 stainless steel BAND-IT buckles. Bands and buckles shall be factory powder-coated to prevent corrosion when banded against galvanized steel main cable wires.

2. All materials shall be delivered in their original containers, bearing the Manufacturer's label, specifying date of manufacture, batch number, shelf life with expiration date, trade name brand, quantity, and mixing ratio, as applicable.

3. Sufficient material to perform the recompaction shall be in storage at the site prior to removing the existing main cable wrapping system.

4. The materials shall be handled, transported and stored in accordance with the manufacturer's recommendation. Every precaution shall be taken to avoid
sparks and flames in the storage space. All electrical wires and switches shall
be grounded and necessary precautions shall be taken to prevent static
discharge. Smoking shall be prohibited.

5. All material that has been tampered with, or damaged, or has reached the
expiration date, shall be removed from the work site, and be replaced, at no
additional cost to the Authority.

948.03 CONSTRUCTION METHODS

948.03.1 Inspection and Testing

Inspection and testing shall be performed in accordance with Subsection
824.03.2 of the RIDOT Standard Specifications and with the following additions:

Certified reports shall be submitted, in accordance with Section 106, showing
chemical and physical properties of the material to be used.

948.03.2 Marking, Shipping, Delivery, and Handling

This section shall be in accordance with the Subsection 824.03.9 of the RIDOT
Standard Specifications with the following additions:

All material stored and/or awaiting shipment shall be protected from rust, dirt, oil,
and foreign matter. The Authority will not accept rusted or pitted material, or
material damaged by exposure to ultraviolet rays, water, or any other
incompatible material, or material damaged by any other means.

The Engineer shall be notified at least 48 hours prior to shipping of material so
that a final quality assurance inspection of the product can be performed, if
desired.

948.04 SUBMITTALS

1. Materials: One 3-foot-long strip of powder-coated 316 stainless steel strap
and one buckle shall be submitted to the Engineer, for approval 30 calendar
days prior to the Contractor’s ordering of materials for field use, at no
additional cost to the Authority.

2. Certifications: A Certification by the manufacturer shall be required for each
lot or shipment of material prior to use. Also required, are statements that
shall verify that the shipment adheres to the manufacturer’s specifications.

3. Means and Methods: The Contractor’s means and methods for performing
the work shall be submitted for the Engineer’s review. The compactor used
for the recompaction of the cable shall be made available for the Engineer’s
inspection and review.
4. Cable circumference measurements immediately before, and after, application of recompaction straps, as indicated in this specification, shall be submitted to the Engineer for approval.

In addition to the requirements of the Standard Specifications, the Contractor shall submit the following for approval by the Engineer:

5. Field Measurements: Prior to commencement of any work and preparation of shop drawings, the Contractor shall measure in the field all dimensions, locations, and cable panel lengths required for the prosecution of the work.


948.05 EXECUTION

1. The compactor assembly shall consist of four symmetrical parts, hydraulically operated, exerting a unit radial pressure of 1,400 psi. The controls shall be designed so that the radial pressure can be applied equally to all four jacks simultaneously at a given time. The compacting assembly shown on the Contract Drawings is suggested.

2. The cable shall be compacted to its original circumference and diameter. The Contractor shall provide a jacking mechanism that achieves the required compaction. The Contractor shall demonstrate, to the Engineer’s satisfaction, that he is proficient in using the compactor assembly before actually compacting the main cable.

3. The circumference shall be measured immediately adjacent to each cable band, 12 inches away from each cable band, and at the panel midspan. The circumference shall be measured immediately after compaction and before strap installation, and again after strap installation and after the compactor has been removed from the panel. The information shall be submitted to the Engineer electronically in Excel spreadsheet format for computations of cable diameter and percent void area of the compacted cable. Measurements that indicate that the cable has not been compacted to its original diameter will require that the recompaction be repeated to achieve the original cable circumference, at no additional cost to the Authority.

4. Main cable recompaction straps shall not be re-used.

5. The bands shall be double wrapped, and the buckles shall be tightened using the manufacturer’s recommended tools, including, but not limited to, a tension limiter to provide consistent,repeatable clamping of the bands.

6. All work shall be performed in accordance with the Manufacturer’s instructions and as directed by the Engineer. A representative of the banding manufacturer shall be present to ensure and to certify the correct method of banding is used.
7. Unwrapped portions of the main cable (prior to the application of the new wrapping system) shall be protected from rain/water or dirt. The type of protection shall be reviewed by the Engineer.

948.06 METHOD OF MEASUREMENT

Main Cable Recompaction, including daily lane closure and all labor, materials, access and equipment, submittals, testing, fabrication, delivering, erecting, priming, and painting as necessary, surface preparation, and all incidentals required to finish the work shall be measured for payment on a Contract Unit Price basis.

Measurement for Main Cable Recompaction shall be per linear foot of the affected main cable panel points, measured along the centerline of cable. Each linear foot of panel shall be counted once, and the length of cable bands/center tie shall not be measured for payment.

948.07 BASIS OF PAYMENT

1. The Unit Price bid for each linear foot shall include the cost of all labor, materials, and equipment necessary to complete the work as shown on the Contract Drawings, specified in this specification and directed by the Engineer, including temporary protection of exposed main cable.

2. In the event any new or existing materials are damaged during this work, due to the Contractor’s operations, the Contractor shall repair or replace the damaged new or existing materials in a manner satisfactory to the Engineer, at no additional cost to the Authority.

3. No payment will be made for repair or replacement of material that was made necessary due to the Contractor’s operations.

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Main Cable Recompaction</td>
<td>LF</td>
</tr>
</tbody>
</table>

END OF SECTION 948
SECTION 949    REMOVAL AND REPLACEMENT OF WIRE ROPE SUSPENDER ASSEMBLIES, REHABILITATE CABLE BANDS

949.01    DESCRIPTION
The contractor’s attention is directed to the fact that the methods shown on the contract drawings for removing and replacing suspender ropes is suggested. A suggested procedural outline is given in Specification Section 949.05.6

This work shall consist of:

- Installation and removal of temporary suspender jacking/support systems
- Removal, cleaning, painting, and reinstallation of existing socket guide castings, and socket guide plates
- Removal and replacement of socket retainer bolts and spacers
- Removal of four (4) existing wire rope suspender assemblies for testing and visual examination, in accordance with the details and at the locations shown on the Contract Drawings. The suspenders shall be protected with sheathing to prevent lead paint dispersion after load is released from the suspenders.
- Replacement with four (4) new wire rope suspender assemblies, in accordance with the details and at the locations shown on the Contract Drawings
- Removal, cleaning, painting, and reinstallation of one (1) cable band associated with suspender rope removal and replacement, and four (4) cable bands located in the backstays adjacent to the anchorages associated with main cable wrapping removal and replacement and cable wedging, in accordance with the details and at the location shown on the Contract Drawings
- Painting the new wire rope suspenders and touch-up painting

Unless otherwise noted, all materials removed as part of this work shall become the property of the Contractor, and shall be removed from the work site.

Toxic Caveat
The Contractor is hereby notified that existing paint systems on the Newport/Pell Bridge may contain toxic substances such as lead or chromium, and that these substances are considered to be hazardous to personnel, the environment, and the public approximate to the project.

Personnel and Environmental Protection
The provision for protection of personnel, the environment, and the public covers the requirements for removal and containment of paint and/or corrosion products from any steel bridge component, or otherwise specified appurtenances, during cleaning and painting operations.
Requirements to assure that the public, the environment, and the Contractor’s, as well as the Authority’s and their representatives’, personnel are adequately protected and equipped from the harmful effects of lead, blast media, dust and fumes resulting from the Contractor’s operations are set forth in Section 826.

**Certification**

All painting contractors, painting subcontractors, or other individuals engaged in work covered by this special provision shall be duly certified under the Steel Structures Painting Council Contractor Certification Program. The Contractor/subcontractor shall be certified to SSPC-QP1 – *Standard Procedure for Evaluating Qualification of painting Contractors*.

**Applicable Standards**

In addition to this Specification, all structural steel work shall conform to the applicable requirements of the following:

- RIDOT Standard Specifications Section 824 Structural Steel Construction
- American Society for Testing and Materials (ASTM)
- AASHTO Standard Specifications for Highway Bridges

Unless otherwise noted, all temporary materials used or removed as part of this work shall become the property of the Contractor and shall be removed from the job site and properly disposed of according to all local, state, and federal regulations.

**NOTES TO THE CONTRACTOR:**

1. The Contractor’s attention is directed to the fact that, during all work, the Bridge Necklace Lighting System shall be supported and maintained to remain in normal operation at all times.

2. The Contractor’s attention is directed to the fact that lead paint chips can become projectiles after cracking off the suspender ropes when the load is released from the ropes, and protective sheathing around the ropes and appropriate personnel protection shall be used.

**949.02 MATERIALS**

**949.02.1 Suspender Rope Wire**

The new suspender ropes shall be made up of high-strength cold-drawn galvanized wires of the diameters shown on the approved shop drawings.

The wire shall be made in accordance with ASTM A586-04a, and with this Specification. In case of conflict, this Specification shall govern.
All steel shall be subject to a system of identification approved by the Engineer. All ingots, billets, and wire rod shall be so marked or segregated so that the melt numbers can be identified at any time during the process of manufacture.

An analysis to determine the quantity of the different elements in the steel shall be made by the manufacturer from a test ingot taken during the pouring of each melt. The drillings for this purpose shall be taken to at least ½ inch below the surface of the test ingot. A copy of this analysis report, certified by the manufacturer, shall be furnished to the Engineer on the completion of such analysis. The steel shall conform to the following requirements for chemical composition on ladle analysis:

<table>
<thead>
<tr>
<th></th>
<th>Acidic</th>
<th>Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>0.85%</td>
<td>0.85%</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>0.04%</td>
<td>0.025%</td>
</tr>
<tr>
<td>Sulfur</td>
<td>0.04%</td>
<td>0.035%</td>
</tr>
</tbody>
</table>

The Contractor shall order an analysis check of the finished wire, the wire rods, the billets, or the ingots as directed by the Engineer. The steel, on such check analysis, shall conform to the following requirements for the chemical composition:

<table>
<thead>
<tr>
<th></th>
<th>Acidic</th>
<th>Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>0.93%</td>
<td>0.88%</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>0.05%</td>
<td>0.035%</td>
</tr>
<tr>
<td>Sulfur</td>
<td>0.05%</td>
<td>0.045%</td>
</tr>
</tbody>
</table>

The samples shall be conducted on no more than 10 samples or random heats. Payment shall be included under appropriate wire rope payment item. If test samples are rejected, the Contractor shall provide additional tests of new material as directed by the Engineer at no additional cost to the Authority.

The finished steel shall be cast into ingots of such size, weight, and shape and so poured as to eliminate, to the greatest degree, piping and harmful segregation. All surface defects shall be removed and enough of the top of each ingot discarded to ensure sound material, free from piping and undue segregation.

All billets showing surface defects of a character that will produce seams shall be rejected or have the defects cut out.

The suspender wire shall be cold drawn without kinks or sharp bends.

The bright wire shall be capable of being wrapped two turns in a close helix at a rate not exceeding 15 turns per minute around a cylindrical steel mandrel equal to one and one half times the nominal diameter of the bright wire without signs of fracture.

Specimens cut from the wire after galvanizing shall have the physical properties shown in Table 1 of ASTM A586-04a(2014).
The tensile strength and the stress at 0.7% extension shall be based on the actual cross-sectional area of the finished wire, including the zinc coating.

949.02.2 Diameter and Tolerance of Galvanized Wire

The average of two (2) diameter readings, measured to the nearest 0.001", taken at right angles to each other, shall not vary from the specified nominal diameter of the galvanized wire by more than the following:

<table>
<thead>
<tr>
<th>Nominal Diameter of Coated Wire</th>
<th>Diameter Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plus</td>
</tr>
<tr>
<td>0.041” to 0.059” incl.</td>
<td>0.002”</td>
</tr>
<tr>
<td>0.060” to 0.092” incl.</td>
<td>0.0025”</td>
</tr>
<tr>
<td>0.093” to 0.141” incl.</td>
<td>0.003”</td>
</tr>
<tr>
<td>0.142” and greater</td>
<td>0.004”</td>
</tr>
</tbody>
</table>

The slab zinc for the galvanized bath shall conform to the requirements of Specifications for Slab Zinc (Spelter), ASTM Designation: B6-13, and shall be “High Grade.”

Impurities in the bath during galvanizing operations shall not exceed the following, as certified by manufacturer:

<table>
<thead>
<tr>
<th>Impurities</th>
<th>Maximum %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>0.10%</td>
</tr>
<tr>
<td>Iron</td>
<td>0.05%</td>
</tr>
<tr>
<td>Total</td>
<td>0.25%</td>
</tr>
</tbody>
</table>

The test for stress at 0.7% extension shall be made as described in Section 7.2 of ASTM A586-04a(2014).

The ductility of the steel, the weight of the zinc coating, and the adherence of the coating shall satisfy the requirements of Sections 7.5, 7.6, 7.7, and 8.1 of A586-04a(2014).

949.02.3 New Suspender Ropes

New suspender ropes shall satisfy the requirements of the Contract Drawings and this specification.

The new Suspender Ropes shall conform to ASTM A603-98(2014), Class A galvanizing, and this Specification. In case of conflict, this Specification shall govern.
The New Suspender Ropes shall consist of six (6) 19-wire strands constructed about an independent 1 x 19 strand core. The nominal diameter of the suspender rope shall be 1-7/8 inches. The lay of the rope shall be between 15 inches and 16 inches, and shall be agreed to by the Contractor and the Engineer prior to the preparation of shop drawings.

The shop drawings shall show the number, arrangement, diameter, and lay of the wires in each strand, and the lay and total metallic area of the rope. Manufacture shall not be started until shop drawings are approved by the Engineer. Wire for the component strands of the rope shall be manufactured in such lengths that the strands can be fabricated with no splices in the outer wires of any one length of the component strands. Where splices become necessary in the fabrication of strands, they shall be fabricated with butt welds in accordance with the best practice and shall be carefully coated with zinc or 50-50 lead-zinc solder after completing the splice.

The modulus of elasticity of the new ropes, after pre-stretching, shall not be less than 20,000,000 psi.

The minimum ultimate strength of the rope with Class A galvanizing throughout shall be 312 kips. The minimum ultimate strength over a sheave of the same diameter as the cable band shall be 500 kips.

The following is a list of suppliers of wire ropes and fittings acceptable to the Authority:

Wirerope Works, Williamsport, PA, telephone 800-541-7673

The suspender wire rope shall be thoroughly impregnated throughout its cross section with Prelube-19 at the time of rope closing operations. Prelube-19 shall be manufactured by Grignard Company, LLC., 505 Capobianco Plaza, Rahway, NJ 07065, telephone 732-340-1111. Excess Prelube-19 shall be removed from all surface wires using a suitable solvent cleaning method, to be submitted to the Engineer, prior to final reeling.

949.02.4 Castings

Sockets shall be cast steel conforming to the requirements of ASTM ASTM A148 / A148M - 15a Grade 80-50. The following is a list of suppliers of castings acceptable to the Authority:

Maynard Steel Casting Company, Milwaukee, WI, telephone 414-385-6500
ESCO Corporation, Portland, OR, telephone 503-228-2141
Spokane Steel Foundry, Spokane, WA, telephone 509-924-0440
Or Approved as Equal by the Authority

949.02.5 Three-coat paint system for steel

The paint system shall conform to Specification Section 943.05.3.
949.02.6 Temporary suspender jacking support system

1. Threaded Rods: shall be Dywidag Grade 150 or equal.

2. Steel: Shall conform to ASTM A709-17 Grade 50 and shall conform to the requirements of Subsection M.05.04.1 of the RIDOT Standard Specifications.

3. Bolts: Shall be of diameter shown on the Contact Drawings and shall conform to ASTM F3125-15a. Washers shall conform to the dimensions shown on the Contract Drawings and also to ASTM F436-16.

4. Hydraulic jacks: shall be center-hole type with minimum capacity of 60 tons each.

949.02.7 Shims

Shim material to be 1/16" thick, ASTM A709 Grade 36, Galvanized as per ASTM A123, Surface Finish as shown on the drawings.

949.03 CONSTRUCTION METHODS

949.03.1 Shop Drawings

Shop and working drawings shall be furnished in accordance with Subsection 824.03.1 of the RIDOT Standard Specifications and Section 105 herein and as follows:

Working drawings shall be submitted showing the fit and assembly of all structural steel and structural steel elements required to complete the work of this Contract. The location, type, and size of all holes shall also be shown. Design and field measured dimensions shall be shown on working drawings. Where bolts are to match with holes in existing material, the working drawings shall show field measured bolt gages and pitches.

The extent of field painting of fabricated steel shall be indicated for each structural element or as directed by the Engineer.

The shop drawing submission shall include the name of the fabricators of the wire rope and socket castings, as well as the fabricators’ technical specifications for them.

949.03.2 Inspection and Testing

Inspection and testing shall be performed in accordance with Subsection 824.03.02 of the RIDOT Standard Specifications and with the following additions:

The Engineer shall be notified, in writing, 15 calendar days in advance of the date of beginning of work at the mill and shop.
Certified reports shall be submitted, in accordance with Section 106, showing chemical and physical properties of the material to be used.

949.03.3 Marking, Shipping, and Delivery

This section shall be in accordance with the Subsection 824.03.09 of the RIDOT Standard Specifications with the following additions:

All material stored and/or awaiting shipment shall be protected from rust, dirt, oil, and foreign matter. The Authority will not accept rusted or pitted material, or material damaged by exposure to ultraviolet rays, water, or any other incompatible material, or material damaged by any other means.

The Engineer shall be notified at least 48 hours prior to shipping of material so that a final quality assurance inspection of the product can be performed.

949.03.4 Packaging and Handling

Wire rope with sockets attached shall be packaged in coils. The coils shall have a minimum diameter of at least twenty five (25) times the diameter of the wire rope. A swift shall be used to support the rope as uncoils during installation.

After the rope is pre-stretched, it shall never be pulled into a curve that is smaller than twenty five (25) times the diameter of the wire rope prior to placement in the saddle of the cable band. This applies to both shop and field. In the field, the only location in the rope where the curve may be pulled smaller than twenty five (25) times the wire rope diameter is where the rope straddles the cable band saddle. The curve in this case shall not be smaller than required for the saddle.

Care shall be taken in handling to prevent the wire rope from becoming kinked, sharply bent, twisted, or untwisted.

At all times the wire rope shall be handled in a manner such that it will not be damaged. Only grips and clamps of a design that have been approved by the Engineer shall be attached to the rope in the shop and in the field. The wire rope shall not be dragged across concrete, steel, dirt, or other material that will damage it.

949.04 SUBMITTALS

The Contractor shall measure the distance between the centerline of the main cable and the working point at each suspender location shown on the Contract Drawings and submit this information to the Engineer for approval.

The Contractor shall submit procedures and means and methods drawings, signed and sealed by a Professional Engineer licensed in the state of Rhode Island, for relieving the forces, and measuring the forces using jacking devices in the wire rope suspender assemblies for review by the Engineer, as well as shop procedures for fabricating, pre-stretching, and testing the new suspender ropes.
No material or equipment shall be ordered or fabricated prior to the approval by the Engineer of shop drawings, and catalog cuts, and review fabrication procedures. The Contractor is encouraged to place high priority on submitting the required information in a timely manner to meet this requirement.

In addition to the requirements of the Standard Specifications, the Contractor shall submit the following for approval by the Engineer:

1. Field Measurements: Prior to commencement of any work and preparation of shop drawings, the Contractor shall measure in the field all dimensions and locations required for the prosecution of the work.


949.05 EXECUTION

949.05.1 Straight Rope Sample Test Before Pre-stretching: Determining Pre-stretching Requirements and Ultimate Strength

One piece of rope shall be cut of sufficient length to test for strength and elasticity on a single straight rope. It shall be cut from the first manufactured length before the length is pre-stretched. The ends of the test piece shall be socketed using sockets manufactured for attaching to the suspenders. These fittings shall be included in the test. This test piece shall be socketed on both ends using the specified methods called for attaching sockets in these Specifications.

The test piece shall then be pre-stretched in the testing machine. The test piece shall be loaded to exactly 50% of the specified ultimate strength of the rope for five minutes. The load shall then be lowered to 5% of the catalog ultimate strength. The test piece should have a minimum of ten strain readings taken in even increments between 5% and 50% of the ultimate of the range. If the modulus of the test piece between 10% and 45% of the ultimate is a minimum of 20,000,000 psi, the same load and time shall be used for pre-stretching the manufactured lengths.

The new rope shall be pre-stretched at a tension of 50% of the specified ultimate strength of the new ropes in such an approved manner as to remove its inelastic stretch. This will be considered satisfactory if the modulus of elasticity meets the above requirements and the other requirements specified below:

Modulus of elasticity shall be determined by the use of an extensometer having a 100” gage length. A stress-strain curve shall be plotted from the test results. From this curve the modulus of elasticity shall be computed. Throughout the range from 10% of specified ultimate strength to 90% of the pre-stretching tension, the modulus of elasticity shall be not less than the specified minimum of 20,000,000 psi. The area to be used in computing the modulus of elasticity is the sum of the gross area (including galvanizing) of all the wires in the rope as
shown on the shop drawings. The rope shall be tested to the actual breaking strength and shall develop the minimum breaking strength of 312 kips.

These specifications require that the first test piece be cut from the first manufactured length. This piece is to have sockets attached that are to be taken from the sockets manufactured for the suspenders.

This test piece shall be socketed on both ends using the specified methods called for attaching sockets in these Specifications. The zinc cones are to be removed from these sockets after the ultimate strength test has been made. The cones are to be split longitudinally using steel wedges. The cones are not to be sawed.

The split cones are to be inspected to check for proper penetration of the molten zinc into the basket.

949.05.2 Rope Sheave Sample Test After Pre-stretching

For each manufactured length of rope, one piece shall be cut, after pre-stretching, of sufficient length to test for strength in two parts over a sheave. The rope, when tested to actual breaking strength over a sheave, shall develop a total minimum breaking strength in the two parts of not less than 500 kips.

The sheave used for the test shall have the same saddle radius as the cable band at Panel Point 72 SW. The rope shall have the same size and shape as the groove in the cable band. If the required minimum ultimate strength has been met in the first two tests over a sheave, the tests of rope over a sheave may thereafter be omitted.

The new ropes shall show a well-defined and uniform elastic stretch and recovery under stressing.

The design and method of attaching and reading the extensometer shall be approved by the Engineer.

949.05.3 New Suspender Rope Requirements

The Contractor is to submit his proposed method of measuring rope lengths to ensure quality, precision, and accuracy for approval by the Engineer. Great care shall be taken to ensure that the finished lengths of the socketed suspenders are accurate. The new rope lengths shall be provided by the Contractor based on his field measurements. Original shop drawings for the suspender ropes including information on lengths will be made available to the Contractor.

Lengths of new ropes are to be measured in the field and in the shop using precision methods with a tape calibrated at 68°F and certified with traceability to National Institute of Standards and Technology (NIST) gage blocks.

The new suspender ropes shall be measured for the various suspender lengths while under a tension of 44 kips.
At the time the new ropes are measured, the Contractor shall place a paint stripe on the top surface of the rope which shall be referenced to eliminate any change in length of the suspenders due to twisting. Paint marks shall also be made for centerline on top of the cable band and suspender clamps.

If the Contractor proposes to use a clamp at either or both ends of the pre-stretched length to transmit the pre-stretching and measuring tension to the rope, and proposes to use the clamped section as part of the permanent suspender length, the details of the clamp and his proposed method of ensuring that the clamped section will be properly pre-stretched, undamaged, and usable shall be submitted to the Engineer for approval.

949.05.4 Socketing Procedure

The requirements for attaching the sockets to the ropes shall be as follows:

1. The slab zinc used for pouring the sockets and the buttons on the ropes shall be ASTM B6-13 High Grade.

2. The rope shall be securely clamped at the socket base location so there will be no un-laying of the rope during the brushing out and socketing operations.

3. The individual rope strands between the clamps and the cut shall be un-laid and spread out evenly so they form an included angle of not more than 60 degrees.

4. Each individual wire in the strands will be un-laid and straightened for a length equal to 65% of the brush length. The wires in the socket basket shall be spread evenly and separated so molten zinc can flow completely around each individual wire.

5. All oil and dirt are to be removed for the brushed out wires by dipping the brush into an ultrasonic cleaner.

6. The brush is to be dipped into a flux of zinc ammonium chloride heated to between 180°F and 200°F. The ratio of the mix shall be one pound of flux to one gallon of water. The brush shall be dipped into the liquid to a depth equal to 60% of the brush length. The brushed out section shall be allowed to dry thoroughly before the brush end is turned up. No flux shall be permitted to penetrate into a section of the brush that will not be covered with the molten zinc spelter.

7. The brush shall then be turned up and compressed so that the socket can be slipped over the end. Clean seizing wire may be used for this operation.

8. After the socket is placed on the rope, the brush wires shall be freed. The brush wires must be spread in a uniform manner across the socket to permit zinc to flow completely around each individual wire. All wire ends shall extend to within ¼” and ¾” of the mouth (large) end of the socket cone.
9. The socket is to be placed on the brush so that the rope centerline is on the centerline of the socket cone in all directions. The rope stripe shall be properly aligned with the socket.

10. A socketing tower shall be used that will keep the centerline of a five foot length of rope in alignment with the centerline of the cone in the socket in all directions.

11. The rope and the socket base shall be sealed so molten zinc will not leak out. No sealing material shall penetrate into the nose of the socket. The zinc shall completely fill the nose hole with no pockets for water or debris collection. The zinc shall be flush with the socket base after the socket is attached.

12. All dross shall be removed from the bottom of the pot and from the surface of the molten zinc before filling the ladle.

13. The zinc and the ladle shall have a temperature of between 950°F and 970°F after the ladle is filled with zinc.

14. The socket shall be heated to a temperature of between 225°F and 275°F before filling the socket basket with zinc. A method of heating shall be employed that will not harm the socket nor contaminate the brushed out wires or the socket cone. Use a hand-held temperature measuring device with an accuracy of ±2°F to determine the temperature of the socket basket.

15. The zinc shall be poured into the socket in one continuous stream using a ladle and a zinc pot that are large enough to completely fill the socket with one ladle full of molten zinc. The molten zinc shall completely cover the wires and be flush with the top of the socket basket.

16. The socket shall be tapped during the pouring of the zinc to ensure that the zinc will completely fill all voids in the socket cone.

All sockets on all suspenders are to be proof loaded after mounting on the rope to 50% of the ultimate strength of the rope. If grips are used to hold the rope for this operation, the details of the grip and the liners used shall be submitted to the Engineer for approval.

**949.05.5 Cleaning and Painting**

New suspenders with zinc buttons and sockets shall be painted at the site, after being properly aligned and installed, according to the requirements in Specification Section 943.05.3.

Cable bands that are to be removed shall be cleaned in the shop to SSPC-SP10, near white metal blast cleaning in preparation for painting with the three coat system specified in Section 943.05.3. Faying surfaces in contact with main cable wires shall not be painted.

Exposed portions of bolts shall receive a paint coat system as per Specification Section 943.05.3. Extensometer holes in ends of bolts shall not be painted.
Finish coat of paint on suspenders shall be allowed to dry fully before suspender rope dampers are installed.

949.05.6 Additional Details

1. The Contractor shall slacken the existing suspender rope by means of the temporary jacking system. A suggested system is shown on the Contract Drawings. Cutting the suspender rope shall not be a means of suspender rope removal.

2. Limitations on sequence of replacement and number of replacements that can be performed simultaneously are indicated on the Contract Plans.

3. In the event any new or existing materials are damaged during this work, due to the Contractor’s operations, the Contractor shall repair or replace the damaged new or existing materials in a manner satisfactory to the Engineer, at no additional cost to the Authority.

4. All work shall proceed in a workmanlike manner and shall be subject to the inspection of the Engineer who shall be given all facilities required for a full and thorough inspection, at no additional cost to the Authority. Work completed while the Engineer had been refused access, will be automatically rejected.

5. Temporary holes for means and methods shall be filled with 7/8” diameter high strength bolts with nuts and washers conforming to RIDOT standard specifications. Holes larger than 7/8” shall have a plate washer to cover the hole, top and bottom.

SUGGESTED PROCEDURE OUTLINE FOR REMOVING AND REPLACING WIRE ROPE SUSPENDER ASSEMBLIES

For PP72 SW only, install temporary cable bands on each side of the cable band at PP72 SW, as shown on the Contract Drawings.

1. Remove guide angles, plates and castings at truss top chord for reconditioning.

2. Install suspender rope jacking frame, Dywidag rods, support at truss lower chord, and jacks. Tighten bolts. Remove suspender clamps and socket keeper bolts.

3. Shroud suspenders to protect workers and traveling public from flying paint chips when load in suspenders is released.

4. Jack the suspender frame against the truss bottom chord, equal movement at both jacks, to release load on the suspenders.

5. Unhook sockets, remove shroud, loosen the necessary jacking frame assembly bolts, and remove suspenders from the cable band.
6. Loop new suspender over the cable band, following handling requirements outlined in the specifications. Make sure that the painted alignment line is straight and aligned properly and the two sockets are aligned at the same elevation relative to each other.

7. Assemble the jacking frame around the new suspender and tighten bolts.

8. Jack the suspender frame against the truss bottom chord, equal movement at both jacks, to load the suspenders.

9. Install sockets in slots and install keeper bolts. Install reconditioned guide angles, plates, and castings. Touch-up paint the alignment line on the suspender rope.

Note that at PP56SE each suspender will be removed temporarily while the stiffening truss is supported on the remaining suspender. The replacement suspenders shall be installed at this location within the same work day of removal. The suspender guide plates and guide casting shall be reinstalled within 14 days after the suspenders are replaced. Blocking shall be temporarily installed at the truss top chord to prevent the new suspender from rubbing, until the guide plates and guide casting are reinstalled.

949.06 METHOD OF MEASUREMENT

Removal and Replacement of Wire Rope Suspender Assemblies, including daily lane closure and all labor, materials, access and equipment, submittals, testing, fabrications, delivering, erecting, priming, and painting as necessary, surface preparation, temporary support of the main cable necklace lighting, and all incidentals required to finish the work shall be measured for payment on a Contract Unit Price basis per each wire rope suspender assembly removed and replaced with a new wire rope suspender assembly.

Removal, cleaning, painting, and reinstallation of each cable band identified in the Contract Documents for removal including daily lane closure and all labor, materials, access and equipment, submittals, testing, fabrications, delivering, erecting, priming, and painting as necessary, surface preparation, temporary support of the main cable necklace lighting, and all incidentals required to finish the work shall be measured for payment on a Contract Unit Price basis per each cable band rehabilitated.

Removal of cable band caulk, loosening of existing cable band bolts and tightening of new cable band bolts for tension checks on the removed and reinstalled cable bands, and re-caulking shall be paid under Sections 943 – Removal and Replacement of Main Cable Wrapping System and 951 - Main Cable Band Bolt Loosening and Tightening.
949.07 BASIS OF PAYMENT

1. In the event any new or existing materials are damaged during this work, due to the Contractor's operations, the Contractor shall repair or replace the damaged new or existing materials in a manner satisfactory to the Engineer, at no additional cost to the Authority.

2. No payment will be made for repair or replacement of material that was made necessary due to the Contractor's operations.

3. The accepted quantity of Removal and Replacement of Wire Rope Assemblies will be paid for at the Contract Unit Price per each as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, access, and equipment, including submittals, testing, fabrication, delivering, erecting, priming and painting as necessary, surface preparation, temporary support of the main cable necklace lighting, and all incidentals required to finish the work, complete and accepted by the Engineer.

4. The accepted quantity of Rehabilitate Cable Band will be paid for at the Contract Unit Price per each as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, access, and equipment, including submittals, testing, fabrication, delivering, erecting, priming and painting as necessary, surface preparation, temporary support of the main cable necklace lighting, and all incidentals required to finish the work, complete and accepted by the Engineer.

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END OF SECTION 949
SECTION 950  SUSPENDER ROPE TESTING

950.01  DESCRIPTION
This work shall consist of:

- Inspecting and photographing four (4) suspenders: two (2) long suspenders and two (2) short suspenders, delivered to the test laboratory by the Contractor
- Cutting and re-socketing the suspenders for various strength tests
- Testing suspender wire rope samples to failure in straight length and sheave tests as described in this specification
- Examining the failed samples for wire break failures and interior corrosion
- Preparing draft and final laboratory reports summarizing the qualitative and quantitative findings of the testing program.

Unless otherwise noted, all materials removed as part of this work shall become the property of the Contractor, and shall be removed from the work site.

Toxic Caveat
The Contractor is hereby notified that existing paint systems on the Newport/Pell Bridge may contain toxic substances such as lead or chromium, and that these substances are considered to be hazardous to personnel, the environment, and the public approximate to the project.

Personnel and Environmental Protection
The provision for protection of personnel, the environment, and the public covers the requirements for removal and containment of paint and/or corrosion products from any steel bridge component, or otherwise specified appurtenances, during cleaning and painting operations.

Requirements to assure that the public, the environment, and the Contractor’s, as well as the Authority’s and their representatives’, personnel are adequately protected and equipped from the harmful effects of lead, blast media, dust and fumes resulting from the Contractor’s operations are set forth in Section 826.

950.02  MATERIALS
950.02.1  Wire Ropes and Fittings
For preparing suspender wire rope samples, the following is a list of suppliers of Wire Ropes/Fittings acceptable to the Authority:

- Wireco, a division of Wire Rope Corporation of America, St. Joseph, MO, telephone (816) 233-0287
- Wirerope Works, Williamsport, PA, telephone 800-541-7673
Bridon American Company, Wilkes-Barre, PA, telephone 800 521 5555
Or Approved as Equal by the Authority

950.02.2  Castings

Sockets shall be cast steel conforming to the requirements of ASTM A148-15a Grade 80-50. For preparing suspender wire rope samples, the following is a list of suppliers of castings acceptable to the Authority:

   Maynard Steel Casting Company, Milwaukee, WI, telephone 414-385-6500
   ESCO Corporation, Portland, OR, telephone 503-228-2141
   Spokane Steel Foundry, Spokane, WA, telephone 509-924-0440
Or Approved as Equal by the Authority

950.03  CONSTRUCTION METHODS

Not Applicable

950.04  SUBMITTALS

1. Proposed test laboratory for the Engineer’s review and approval. The test laboratory shall be experienced in conducting suspender rope tests. A list of the test laboratory’s previous experience and expertise shall be included in the submittal. Suggested test laboratory is Fritz Engineering Laboratory, Lehigh University, Bethlehem, PA, telephone (610) 758-3525 or approved equal.

2. Test procedure, for the Engineer’s review and comment.

3. Laboratory report summarizing the qualitative and quantitative findings for the suspender rope samples tested. The report shall include color photographs as well as conclusions concerning the condition of the ropes, extent of corrosion, breaking strength and modulus of elasticity, and characterization of the wire breaks after failure. Two color draft copies of the report shall be submitted to the Engineer for review and comment. Six color final and two electronic CD copies of the report, incorporating the Engineer’s comments, shall be submitted to the Engineer for approval.

950.05  EXECUTION

950.05.1  Additional Details

The Engineer shall be notified in writing a minimum of 15 calendar days before testing of the socketed wire rope samples. All work shall be conducted in a workmanlike manner and shall be subject to inspection by the Engineer. The test laboratory shall give the Engineer all facilities required for a thorough witnessing
of the tests at the test laboratory, if the Engineer so desires, at no additional cost to the Authority. Work completed while the Engineer had been refused access, will be automatically rejected.

950.05.2 Straight Rope Test

Two samples of suspender rope shall be cut from each “long” suspender (for a total of four samples) of sufficient length to test for strength and elasticity in single straight rope tests. They shall be cut so that one existing socket is used for one end of the sample, and the cut end shall be socketed with a new socket of a type identical to the existing socket. The test sample shall then be pre-stretched in the testing machine. The test piece shall be loaded to exactly 50% of the original specified ultimate strength of 312 kips for five minutes. The load shall then be lowered to 5% of the original ultimate strength. The test piece should have a minimum of ten strain readings taken in even increments between 5% and 50% of the ultimate of the range.

Modulus of elasticity shall be determined by the use of an extensometer having a 100” gage length. A stress-strain curve shall be plotted from the test results. From this curve the modulus of elasticity shall be computed. The rope shall be tested to the actual breaking strength.

950.05.3 Suspender Rope Sheave Test

For each “long” suspender rope, one sample shall be cut from the remaining wire rope of sufficient length to test for strength in two parts over a sheave (for a total of two samples). Each end of the wire rope sample shall be socketed with new sockets of a type identical to the existing suspender sockets. The test samples shall then be pre-stretched in the test machine. The rope shall be tested to the actual breaking strength.

The sheave used for the test shall have the same saddle radius as the cable band at Panel Point 72. The rope shall have the same size and shape as the groove in the cable band.

950.05.4 Sockets and Socketing

The requirements for attaching the sockets to the ropes shall be as follows:

1. The rope shall be securely clamped at the socket base location so there will be no un-laying of the rope during the brushing out and socketing operations.

2. The individual rope strands between the clamps and the cut shall be un-laid and spread out evenly so they form an included angle of not more than 60 degrees. The wires shall be cleaned of all paint, corrosion, oil, and debris to ensure good socketing.
3. Each individual wire in the strands will be un-laid and straightened for a length equal to 65% of the brush length. The wires in the socket basket shall be spread evenly and separated so molten zinc can flow completely around each individual wire.

4. All oil and dirt are to be removed for the brushed out wires by dipping the brush into an ultrasonic cleaner.

5. The brush is to be dipped into a flux of zinc ammonium chloride heated to between 180°F and 200°F. The ratio of the mix shall be one pound of flux to one gallon of water. The brush shall be dipped into the liquid to a depth equal to 60% of the brush length. The brushed out section shall be allowed to dry thoroughly before the brush end is turned up. No flux shall be permitted to penetrate into a section of the brush that will not be covered with the molten zinc spelter.

6. The brush shall then be turned up and compressed so that the socket can be slipped over the end. Clean seizing wire may be used for this operation.

7. After the socket is placed on the rope, the brush wires shall be freed. The brush wires must be spread in a uniform manner across the socket to permit zinc to flow completely around each individual wire. All wire ends shall extend to within ¼" and ¾" of the mouth (large) end of the socket cone.

8. The socket is to be placed on the brush so that the rope centerline is on the centerline of the socket cone in all directions. The rope stripe shall be properly aligned with the socket.

9. A socketing tower shall be used that will keep the centerline of a five foot length of rope in alignment with the centerline of the cone in the socket in all directions.

10. The rope and the socket base shall be sealed so molten zinc will not leak out. No sealing material shall penetrate into the nose of the socket. The zinc shall completely fill the nose hole with no pockets for water or debris collection. The zinc shall be flush with the socket base after the socket is attached.

11. All dross shall be removed from the bottom of the pot and from the surface of the molten zinc before filling the ladle.

12. The zinc and the ladle shall have a temperature of between 950°F and 970°F after the ladle is filled with zinc.

13. The socket shall be heated to a temperature of between 225°F and 275°F before filling the socket basket with zinc. A method of heating shall be employed that will not harm the socket nor contaminate the brushed out wires or the socket cone. Use a hand-held temperature measuring device with an accuracy of ±2°F to determine the temperature of the socket basket.

14. The zinc shall be poured into the socket in one continuous stream using a ladle and a zinc pot that are large enough to completely fill the socket with one ladle full of molten zinc. The molten zinc shall completely cover the wires and be flush with the top of the socket basket.
15. The socket shall be tapped during the pouring of the zinc to ensure that the zinc will completely fill all voids in the socket cone.

All sockets on all suspenders are to be proof loaded after mounting on the rope to 50% of the ultimate strength of the rope. If grips are used to hold the rope for this operation, the details of the grip and the liners used shall be submitted to the Engineer for approval.

The slab zinc used for pouring the sockets on the ropes shall be ASTM B6-00 High Grade.

950.05.5 Packaging
Packaging Criteria for the Wire Rope is as follows:

Wire Rope with sockets attached that are packaged in coils shall have a minimum diameter of at least twenty five (25) times the diameter of the wire rope. The rope shall never be pulled into a curve that is smaller than twenty five (25) times the diameter of the wire rope prior to placement in the test apparatus.

950.05.6 Visual Examination of Suspender Ropes
The two short removed suspender ropes shall have the sockets cut off and the exterior and the interior of the wire ropes shall be opened and examined for corrosion. The remains of the longer suspender test sections shall be visually examined as well. Particular attention shall be paid to the locations where the outer core strands are/were in contact with the central core, and the central core itself. Corrosion level shall be recorded and the various rope sections compared. Attention shall be paid to comparison of section near the roadway overspray area vs. suspender rope sections originating from areas higher up on the suspender.

950.06 METHOD OF MEASUREMENT
Suspender Rope Testing, including all labor, materials, equipment, submittals, testing, fabrication, reports, delivering, priming, and painting as necessary, surface preparation, and all incidentals required to finish the work shall be measured for payment on a Contract Unit Price basis.

Work shall be measured Lump Sum for payment, completed in a manner approved by the Engineer.

950.07 BASIS OF PAYMENT
1. In the event any new or existing materials are damaged during this work, due to the Contractor’s operations, the Contractor shall repair or replace the damaged new or existing materials in a manner satisfactory to the Engineer, at no additional cost to the Authority.
2. No payment will be made for repair or replacement of material that was made necessary due to the Contractor’s operations.

3. The accepted quantity of Suspender Rope Testing will be paid for at the Contract Unit Price per Lump Sum as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, access, and equipment, including submittals, testing, fabrication, delivering, erecting, priming and painting as necessary, surface preparation, and all incidentals required to finish the work, complete and accepted by the Engineer.

4. Progress payments will be made as follows:
   - 50% upon samples socketed and prepared for testing
   - 25% upon draft report submitted to the Engineer
   - 25% upon delivery of final report approved and accepted by the Engineer

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END OF SECTION 950
SECTION 951 MAIN CABLE BAND CLEANING, TOUCH UP PAINTING, BOLT LOOSENING AND RETIGHTENING

951.01 DESCRIPTION

This work shall consist of:

- Providing 22 cable band bolts for replacing those from the removed cable bands and providing an additional 15 reserve cable band bolts. Note that the measurement and payment for the removal and replacement of the cable bands are separate – see Specification Section 949 Removal and Replacement of Wire Rope Suspender Assemblies.

- Fabricating at least one extensometer and two gage bars according to the dimensions and materials shown on the Contract Drawings. The extensometer and gage bars will become the property of the RITBA at the completion of work. The Contractor may provide an additional extensometer and gage bars to allow work at more than one location at a time at his discretion at no additional cost to the RITBA.

- Removing caulking between cable band halves and at ends prior to cable band bolt tension at the locations designated on the Contract Drawings.

- Cleaning, loosening, tightening, and retightening cable band bolts at the direction of the Engineer at the locations designated on the Contract Drawings. The Engineer will take extension readings while under tension, when loosened, and after tightening and retightening to determine bolt tension.

- Cleaning caulking surfaces in preparation for recaulking or, at locations of installation of new wrapping system other sealing requirements.

- Recaulking cable band grooves at the completion of bolt retightening, and/or, at locations of installation of new wrapping system other sealing requirements.

- Touch-up painting required due to paint damage during performance of work.

- Filling the unpainted measurement holes at each cable band bolt end with wax.

- At additional cable band locations to be identified by the Engineer (locations not associated with cable wrapping removal/replacement) cleaning of rust staining on cable bands and performing touch up painting and removal and replacement of caulking at cable band ends and seams. These locations may be at any cable band on either cable.
Applicable Standards
In addition to this Specification, all structural steel work shall conform to the applicable requirements of the following:

- RIDOT Standard Specifications Section 824 Structural Steel Construction
- American Society for Testing and Materials (ASTM)
- AASHTO Standard Specifications for Highway Bridges

Toxic Caveat
The Contractor is hereby notified that existing paint systems on the Newport/Pell Bridge may contain toxic substances such as lead or chromium, and that these substances are considered to be hazardous to personnel, the environment, and the public approximate to the project.

Personnel and Environmental Protection
The provision for protection of personnel, the environment, and the public covers the requirements for removal and containment of paint and/or corrosion products from any steel bridge component, or otherwise specified appurtenances, during cleaning and painting operations.

Requirements to assure that the public, the environment, and the Contractor’s, as well as the Authority’s and their representatives’, personnel are adequately protected and equipped from the harmful effects of lead, blast media, dust and fumes resulting from the Contractor’s operations are set forth in Section 826.

Certification
All painting contractors, painting subcontractors, or other individuals engaged in work covered by this special provision shall be duly certified under the Steel Structures Painting Council Contractor Certification Program. The Contractor/subcontractor shall be certified to SSPC-QP1 – Standard Procedure for Evaluating Qualification of painting Contractors.

NOTE TO THE CONTRACTOR:

1. The Contractor’s attention is directed to the fact that, during all work, the Bridge Necklace Lighting System shall be supported and maintained to remain in normal operation at all times.

951.02 MATERIALS
1. New Cable Band Bolts: Shall be 1-3/4 inch diameter, quenched and tempered alloy steel bolts conforming to ASTM 354-17e1 Grade BC with 8 UN-Class 2A threads. Bolt shank length shall be 1’ – 7 ½” with 4” of threads. Steel yield point shall be 87 ksi and ultimate strength shall be 105 ksi. Bolts shall be center drilled and countersunk at each end with a standard plain type
combined drill, 0.165 inches in depth as shown on the Contract Plans, to receive an extensometer measuring device.

2. Nuts: Shall be 1-3/4 inch diameter conforming to ASTM 563-15, Grade C, Class 2B.

3. Washers: shall conform to the dimensions shown on the Contract Drawings and also to ASTM F436-16.

4. Caulking shall be Vulkem116 One-Part, High Performance Polyurethane Sealant manufactured by Tremco or approved equal. The caulking utilized at the cable re-wrapping locations may also be utilized as approved by the Engineer.

5. The extensometer material, gauges and bushings shall be as shown on the plans or approved equal. The Contractor may also submit a completed extensometer device to achieve the required tolerance with the existing bolt configuration for review as an approved equal. The extensometer and gage bars shall become the property of the RITBA at completion of work.

951.03 CONSTRUCTION METHODS

951.03.1 Shop Drawings

Shop or working drawings shall be furnished in accordance with Subsection 824.03.1 of the RIDOT Standard Specifications and Section 105 herein and as follows:

Working drawings shall be submitted showing the fit and assembly of all structural steel and structural steel elements required to complete the work of this Contract. The location, type, and size of all holes shall also be shown. Design and field measured dimensions shall be shown on working drawings. Where bolts are to match with holes in existing material, the working drawings shall show field measured bolt gages and pitches.

The extent of field painting of fabricated steel shall be indicated for each structural element or as directed by the Engineer.

951.03.2 Inspection and Testing

Inspection and testing shall be performed in accordance with Subsection 824.03.2 of the RIDOT Standard Specifications and with the following additions:

The Engineer shall be notified, in writing, 15 calendar days in advance of the date of beginning of work at the mill and shop.

Certified reports shall be submitted, in accordance with Section 106, showing chemical and physical properties of the material to be used.
951.03.3 Marking, Shipping, Delivery, and Handling

This section shall be in accordance with the Subsection 824.03.9 of the RIDOT Standard Specifications with the following additions:

All material stored and/or awaiting shipment shall be protected from rust, dirt, oil, and foreign matter. The Authority will not accept rusted or pitted material, or material damaged by exposure to ultraviolet rays, water, or any other incompatible material, or material damaged by any other means.

The Engineer shall be notified at least 48 hours prior to shipping of material so that a final quality assurance inspection of the product can be performed.

951.04 SUBMITTALS

In addition to the requirements of the Standard Specifications, the Contractor shall submit the following for approval by the Engineer:

1. Field Measurements: Prior to commencement of any work and preparation of shop drawings, the Contractor shall measure in the field all dimensions and locations required for the prosecution of the work.


3. One extensometer and associated gages shall become the property of the RITBA at the completion of the Contract.

951.05 EXECUTION

1. Prior to application of the extensometer, the measuring points on the bolts shall be cleaned from paint, dirt, grease, and all foreign substances. Care shall be taken to prevent damage to the measuring points. Cable band bolt loosening and re-tensioning shall be done on one bolt at a time on each cable band.

2. Procedures for cable band bolt loosening, bolt tension check, and retightening are shown on the Contract Drawings. Perform the first bolt check immediately after the access platform is installed, and perform the bolt tension recheck immediately prior to the completion of work at that location.

3. Preparation of surfaces of cable band halves for recaulking shall conform to SSPC-SP2 – hand tool cleaning. Caulking shall be performed in a manner that results in a smooth, flat, final surface without dips or bumps or areas where water can collect.

4. Painting of steel surfaces (cleaning and painting of rust staining on cable bands, and at locations of paint damage due to work performed) and of new and retightened bolts shall be performed according to Section 943 – Removal
and Replacement of Main Cable Wrapping System. Extensometer holes in cable band bolts shall not be painted but shall be filled with wax.

5. At locations for cleaning of rust staining, painting and re-caulkling of cable bands (Pay Item 19) the Contractor shall perform SSPC SP2 hand tool cleaning of the cable band for repainting and to support caulking removal and replacement. The caulking removal and replacement shall be at the two circumferential interfaces with the wrapping system and at the cable band seams. The locations for this work will be as directed by the Engineer and can be at any panel on either cable.

951.06 METHOD OF MEASUREMENT

Measurement for Main Cable Band Bolt Loosening and Retightening shall include any daily lane closures required, and all access provisions, labor, materials, access and equipment, including submittals, testing, fabrication, delivering, erecting, priming, and painting as necessary, surface preparation, caulking and all incidentals required to finish the work. Cleaning cable band grooves and re-caulkling all areas of cable bands not included under Section 943 shall be included in the price to perform the work. Work shall be measured for payment on a Contract Unit Price basis per each cable band bolt, which includes bolt loosening, bolt tightening, and any required bolt retightening, completed in a manner approved by the Engineer.

Measurement for Main Cable Band Clean, Paint and Caulk shall include any daily lane closures required, and all access provisions, labor, materials, access and equipment, including submittals, testing, fabrication, delivering, erecting, priming, and painting as necessary, surface preparation, caulking and all incidentals required to finish the work. Work shall be measured for payment on a Contract Unit Price basis per each cable band completed in a manner approved by the Engineer.

951.07 BASIS OF PAYMENT

1. In the event any new or existing materials are damaged during this work, due to the Contractor’s operations, the Contractor shall repair or replace the damaged new or existing materials in a manner satisfactory to the Engineer, at no additional cost to the Authority.

2. No payment will be made for repair or replacement of material that was made necessary due to the Contractor’s operations.

3. The accepted quantity of for Main Cable Band Bolt Loosening and Retightening will be paid for at the Contract Unit Price per each as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, access, and equipment, including submittals, testing, fabrication, delivering, erecting, priming and painting as
necessary, surface preparation, caulking, and all incidentals required to finish the work, complete and accepted by the Engineer.

4. The accepted quantity for Main Cable Band Clean, Paint and Caulk will be paid for at the Contract Unit Price per each as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, access, and equipment, including submittals, testing, fabrication, delivering, erecting, priming and painting as necessary, surface preparation, caulking, and all incidentals required to finish the work, complete and accepted by the Engineer.

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<td>Main Cable Band Bolt Loosening and Retightening</td>
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<tr>
<td>19</td>
<td>Main Cable Band Clean, Paint and Caulk</td>
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END OF SECTION 951
SECTION 952  REMOVAL AND REPLACEMENT OF HANDROPE STANCHIONS

952.01 DESCRIPTION
The work of this Section covers the furnishing of all materials, labor, tools, equipment, and incidentals necessary for the removal and installation of new hand rope stanchions at locations to be identified by the Engineer. These locations may be at any stanchion on either cable.

Applicable Standards
In addition to this Specification, all structural steel work shall conform to the applicable requirements of the following:

- RIDOT Standard Specifications Section 824 Structural Steel Construction
- American Society for Testing and Materials (ASTM)
- Steel Structures Painting Council (SSPC), Steel Structures Painting Manual
- AASHTO Standard Specifications for Highway Bridges

Toxic Caveat
The Contractor is hereby notified that existing paint systems on the Newport/Pell Bridge may contain toxic substances such as lead or chromium, and that these substances are considered to be hazardous to personnel, the environment, and the public approximate to the project.

Personnel and Environmental Protection
The provision for protection of personnel, the environment, and the public covers the requirements for removal and containment of paint and/or corrosion products from any steel bridge component, or otherwise specified appurtenances, during cleaning and painting operations.

Requirements to assure that the public, the environment, and the Contractor’s, as well as the Authority’s and their representatives’, personnel are adequately protected and equipped from the harmful effects of lead, blast media, dust and fumes resulting from the Contractor’s operations are set forth in Section 826.

Certification
All painting contractors, painting subcontractors, or other individuals engaged in work covered by this special provision shall be duly certified under the Steel Structures Painting Council Contractor Certification Program. The Contractor/subcontractor shall be certified to SSPC-QP1 – Standard Procedure for Evaluating Qualification of painting.
NOTE TO THE CONTRACTOR:

1. The Contractor’s attention is directed to the fact that, during all work, the Bridge Necklace Lighting System shall remain in its normal operation at all times.

952.02 MATERIALS

1. Structural steel shall be ASTM A709-17 Grade 36 and shall conform to the requirements of Subsection M.05.04.1 of the RIDOT Standard Specifications.

2. Bolts shall conform to ASTM F3125-15a.

3. Paint system shall conform to the requirements of Specification Section 943.05.3.

952.03 CONSTRUCTION METHODS

952.03.1 Shop Drawings

Shop or working drawings shall be furnished in accordance with Subsection 824.03.1 of the RIDOT Standard Specifications and Section 105 herein and as follows:

Working drawings shall be submitted showing the fit and assembly of all structural steel and structural steel elements required to complete the work of this Contract. The location, type, and size of all holes shall also be shown. Design and field measured dimensions shall be shown on working drawings. Where bolts are to match with holes in existing material, the working drawings shall show field measured bolt gages and pitches.

The extent of field painting of fabricated steel shall be indicated for each structural element or as directed by the Engineer.

952.03.2 Inspection and Testing

Inspection and testing shall be performed in accordance with Subsection 824.03.2 of the RIDOT Standard Specifications and with the following additions:

The Engineer shall be notified, in writing, 15 calendar days in advance of the date of beginning of work at the mill and shop.

Certified reports shall be submitted, in accordance with Section 106, showing chemical and physical properties of the material to be used.
952.03.3 Marking, Shipping, Delivery, and Handling

This section shall be in accordance with the Subsection 824.03.9 of the RIDOT Standard Specifications with the following additions:

All material stored and/or awaiting shipment shall be protected from rust, dirt, oil, and foreign matter. The Authority will not accept rusted or pitted material, or material damaged by exposure to ultraviolet rays, water, or any other incompatible material, or material damaged by any other means.

The Engineer shall be notified at least 48 hours prior to shipping of material so that a final quality assurance inspection of the product can be performed.

952.04 SUBMITTALS

In addition to the requirements of the Standard Specifications, the Contractor shall submit the following for approval by the Engineer:

1. Field Measurements: Prior to commencement of any work and preparation of shop drawings, the Contractor shall measure in the field all dimensions and locations required for the prosecution of the work.

2. Best Management Practice Program, Quality Plan and Safety Plan shall be submitted for approval. See Specifications Section 999 Best Management Practices

952.05 EXECUTION

New stanchions shall match existing stanchions and shall be installed at the locations identified by the Engineer.

952.06 METHOD OF MEASUREMENT

Removal and Replacement of Handrope Stanchions, including daily lane closure and all labor, materials, access and equipment, submittals, testing, fabrications, delivering, erecting, priming, and painting as necessary, surface preparation, and all incidentals required to finish the work shall be measured for payment on a Contract Unit Price basis for each handrope stanchion actually installed in a manner approved by the Engineer.

952.07 BASIS OF PAYMENT

1. In the event any new or existing materials are damaged during this work, due to the Contractor's operations, the Contractor shall repair or replace the damaged new or existing materials in a manner satisfactory to the Engineer, at no additional cost to the Authority.

2. No payment will be made for repair or replacement of material that was made necessary due to the Contractor's operations.
3. The accepted quantity of Removal and Replacement of Handrope Stanchions will be paid for at the Contract Unit Price per each as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, access, and equipment, including submittals, testing, fabrication, delivering, erecting, priming and painting as necessary, surface preparation, and all incidentals required to finish the work, complete and accepted by the Engineer.

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<td>Removal and Replacement of Hand Rope Stanchions</td>
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END OF SECTION 952
SECTION 953  FABRICATION OF NEW CABLE BAND

953.01  DESCRIPTION
The work of this Section covers the furnishing of all materials, labor, tools, equipment, and incidentals necessary for fabricating a new Type 2 cable band.

Applicable Standards
In addition to this Specification, all structural steel work shall conform to the applicable requirements of the following:

- RIDOT Standard Specifications Section 824 Structural Steel Construction
- American Society for Testing and Materials (ASTM)
- Steel Structures Painting Council (SSPC), Steel Structures Painting Manual
- AASHTO Standard Specifications for Highway Bridges

NOTE TO THE CONTRACTOR:
1. The Contractor’s attention is directed to the fact that, during all work, the Bridge Necklace Lighting System shall remain in its normal operation at all times.

953.02  MATERIALS
1. Structural steel shall be ASTM A27/M-17 Grade 65-35 and shall conform to the requirements of Subsection M.05.04.1 of the RIDOT Standard Specifications.

2. Cable band bolts shall conform to the requirements of Specification Section 951.02.

3. Paint system shall conform to the requirements of Specification Section 943.05.

953.03  CONSTRUCTION METHODS
953.03.1  Shop Drawings
Shop or working drawings shall be furnished in accordance with Subsection 824.03.1 of the RIDOT Standard Specifications and Section 105 herein and as follows:

Working drawings shall be submitted showing the fit and assembly of all structural steel and structural steel elements required to complete the work of this Contract. The location, type, and size of all holes shall also be shown. Design and field measured dimensions shall be shown on working drawings. Where
bolts are to match with holes in existing material, the working drawings shall show field measured bolt gages and pitches.
The extent of field painting of fabricated steel shall be indicated for each structural element or as directed by the Engineer.

**Inspection and Testing**

Inspection and testing shall be performed in accordance with Subsection 824.03.2 of the RIDOT Standard Specifications and with the following additions:
The Engineer shall be notified, in writing, 15 calendar days in advance of the date of beginning of work at the mill and shop.
Certified reports shall be submitted, in accordance with Section 106, showing chemical and physical properties of the material to be used.

**Marking, Shipping, Delivery, and Handling**

This section shall be in accordance with the Subsection 824.03.9 of the RIDOT Standard Specifications with the following additions:
All material stored and/or awaiting shipment shall be protected from rust, dirt, oil, and foreign matter. The Authority will not accept rusted or pitted material, or material damaged by exposure to ultraviolet rays, water, or any other incompatible material, or material damaged by any other means.
The Engineer shall be notified at least 48 hours prior to shipping of material so that a final quality assurance inspection of the product can be performed.

**953.04 SUBMITTALS**

In addition to the requirements of the Standard Specifications, the Contractor shall submit the following for approval by the Engineer:

1. Field Measurements: Prior to commencement of any work and preparation of shop drawings, the Contractor shall measure in the field all dimensions and locations required for the prosecution of the work.
2. Best Management Practice Program, Quality Plan and Safety Plan shall be submitted for approval. See Specification Section 999 Best Management Practice

**953.05 EXECUTION**

A new Type 2 cable band shall be fabricated only at the direction of the Engineer based on field conditions.
The new cable band would replace a deteriorated Type 2 cable band at Panel Point 72 SW and would be installed in a future contract. Delivery of a new cable
band to the RITBA shall take place no later than 3 months after direction to fabricate a new cable band by the Engineer.

953.06 METHOD OF MEASUREMENT

Fabrication of New Cable Band, including daily lane closure and all labor, materials, access and equipment, submittals, testing, fabrications, delivering, erecting, priming, and painting as necessary, surface preparation, and all incidentals required to finish the work shall be measured for payment on a Contract Unit Price basis for each Type 2 cable band actually fabricated in a manner approved by the Engineer.

953.07 BASIS OF PAYMENT

1. In the event any new or existing materials are damaged during this work, due to the Contractor's operations, the Contractor shall repair or replace the damaged new or existing materials in a manner satisfactory to the Engineer, at no additional cost to the Authority.

2. No payment will be made for repair or replacement of material that was made necessary due to the Contractor's operations.

3. The accepted quantity of Fabrication of New Cable Band will be paid for at the Contract Unit Price per each as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, access, and equipment, including submittals, testing, fabrication, delivering, erecting, priming and painting as necessary, surface preparation, and all incidentals required to finish the work, complete and accepted by the Engineer.

4. Cleaning and painting, and installing the new cable band shall be paid for under Specification Section 949 in lieu of cleaning, painting, and installing the existing cable band.

5. This item will only be used based on field conditions at the direction of the Engineer. No compensation will be made to the contractor if this item is not used.

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<td>15</td>
<td>Optional Fabrication of New Cable Band</td>
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END OF SECTION 953
SECTION 954 FABRICATE AND DELIVER SUSPENDER ROPE DAMPERS

954.01 DESCRIPTION

The work of this Section covers the furnishing of all materials, labor, tools, equipment, and incidentals necessary for the furnishing of new suspender rope dampers for future use by the RITBA.

Applicable Standards

In addition to this Specification, all structural steel work shall conform to the applicable requirements of the following:

- RIDOT Standard Specifications Section 824 Structural Steel Construction, Section 825 Painting Structural Steel and other applicable sections.
- American Society for Testing and Materials (ASTM)
- Steel Structures Painting Council (SSPC), Steel Structures Painting Manual, Volumes 1 and 2.
- AASHTO Standard Specifications for Highway Bridges
- AWS D1.5 Bridge Welding Code

Toxic Caveat

The Contractor is hereby notified that existing paint systems on the Newport/Pell Bridge may contain toxic substances such as lead or chromium, and that these substances are considered to be hazardous to personnel, the environment, and the public approximate to the project.

Personnel and Environment Protection

The provision for protection of personnel, the environment, and the public covers the requirements for removal and containment of paint and/or corrosion products from any steel bridge component, or otherwise specified appurtenances, during cleaning and painting operations.

Requirements to assure that the public, the environment, and the Contractor’s, as well as the Authority’s and their representatives’, personnel are adequately protected and equipped from the harmful effects of lead, blast media, dust and fumes resulting from the Contractor’s operations are set forth in Section 826.

Certification

All painting contractors, painting subcontractors, or other individuals engaged in work covered by this special provision shall be duly certified under the Steel Structures Painting Council Contractor Certification Program. The Contractor/subcontractor shall be certified to SSPC-QP1 – Standard Procedure for Evaluating Qualification of Painting.
954.02 MATERIALS

1. Structural Steel: shall be ASTM A 709 Grade 36, Carbon Structural Steel and shall conform to the requirements of Subsection M.05.04.1 of the RIDOT Standard Specifications.

2. Bolts: shall be ASTM F3125-15a, High Strength Bolts for Structural Steel Joints, Type 1, hex head, with threads excluded from the shear plane with sizes as indicated on the Drawings and shall conform to the requirements of Subsection M.05.04.4 of the RIDOT Standard Specifications. Bolts shall be galvanized in accordance with ASTM A153. ASTM A563 GR C Class DH hex nuts and ASTM F436 Type 1 washers shall be used, all galvanized in accordance with ASTM A153.

3. Welding: shall be performed in accordance with the requirements of AWS D1.5, and weld metal shall conform to the requirements of Subsection M.05.04.5 of the RIDOT Standard Specifications. Weldments shall be stress relieved in accordance with Chapter 4.4 of the AWS Specification.

4. Paint shall be as specified in Section 943 of these Specifications.

954.03 CONSTRUCTION METHODS

954.03.1 Shop Drawings

Shop and working drawings shall be furnished in accordance with Subsection 824.03.1 of the RIDOT Standard Specifications and Section 105 herein and as follows:

Prior to beginning work and fabrication of any materials, the Contractor shall take all field measurements of existing dampers necessary to assure fabrication of new dampers that will properly fit and shall submit shop drawings to the Engineer for approval in accordance with these Specifications. These drawings shall include complete fabrication details, erection plans, material lists and designations for the work under this item.

Working drawings shall be submitted showing the fit and assembly of all elements required to complete the work of this Contract. The location, type and size of all bolts shall also be shown. Design and field measured dimensions shall be shown on working drawings. Where bolts are to match with holes in existing material, the working drawings shall show field measured bolt gages and pitches. It is the Contractor’s responsibility to field measure all existing dimensions and field verify existing conditions. All shop and working drawings shall be based on the Contractor’s field verifications and field measurements.

The extent of field painting of fabricated steel shall be indicated for each structural element or as directed by the Engineer.
954.03.2 Inspection and Testing
Inspection and testing shall be performed in accordance with Subsection 824.03.2 of the RIDOT Standard Specifications.

954.03.3 Marking, Shipping, Delivering and Handling
This section shall be in accordance with Subsection 824.03.9 of the RIDOT Standard Specification with the following additions:

All material stored and/or awaiting shipment shall be protected from rust, dirt, oil and foreign matter. The Authority will not accept rusted or pitted material.

Final and accepted fabricated dampers shall be delivered to the RITBA Maintenance Facility suitably crated with dampers internally separated for protection.

954.04 SUBMITTALS
In addition to the requirements of the Standard Specifications, the Contractor shall submit the following for approval by the Engineer:


954.05 EXECUTION
The fabrication of new dampers shall be performed in accordance with procedures and details indicated on the Contract Drawings and as specified herein.

Prior to commencement of shop drawings, the Contractor shall field measure sample existing dampers in place on the structure to ensure future fit of the new fabricated dampers.

Field measurements are to be performed under daily lane closures. See Section 104.08 of these Specifications.

954.06 METHOD OF MEASUREMENT
The fabrication and furnishing of new dampers including all labor, materials, access and equipment, including submittals, testing, fabrication, delivering, priming and painting as necessary, surface preparation, and all incidentals required to finish the work shall be measured for payment on a Contract Unit Price basis as approved by the Engineer.
954.07 BASIS OF PAYMENT

The furnishing of new dampers shall be paid for at the contract unit price as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all labor, materials, access and equipment, including submittals, testing, fabrication, delivering, erecting, priming and painting as necessary, surface preparation, and all incidentals required to finish the work, complete and accepted by the Engineer.

Pay Item Description Pay Unit
17 Fabricate and Deliver Suspender Rope Dampers EACH

END OF SECTION 954
SECTION 955 MISCELLANEOUS STEEL REPAIRS

955.01 DESCRIPTION

The work of this Section covers the furnishing of all materials, labor, tools, equipment, and incidentals necessary for the performance of miscellaneous repairs including the removal and disposal of existing elements and the steel fabrication, shop coating of steel, and installation of new/replacement elements and steel repairs at the locations noted on the Contract Drawings.

Work Includes:

- Removal and Replacement of Anchorage Access Ladders at two locations each (total four ladders) on East and West Anchorages, and removal without replacement of three ladders (two on the East Anchorage and one on the West Anchorage)
- Cleaning and painting of existing main cable safety line anchors at four locations each (total eight locations) at East and West Anchorages
- Removal and Replacement of Railing Systems at the top of East and West Towers
- Installation of Flag Deployment System at West Tower. Support for delivering the flag to the tower deployment location, testing the deployment/retrieval system, making adjustments to the system as identified during testing, and support for one additional deployment and retrieval of the flag. Optional installation of duplicate system at the East Tower is included as a separate Optional Pay Item.
- Purchase of flag(s) under Contract Allowance – flags will be ordered by the RITBA and paid for under this Contract.

Applicable Standards

In addition to this Specification, all structural steel work shall conform to the applicable requirements of the following:

- RIDOT Standard Specifications Section 824 Structural Steel Construction
- RIDOT Standard Specifications Section 825 Painting Structural Steel
- American Society for Testing and Materials (ASTM)
- Steel Structures Painting Council (SSPC), Steel Structures Painting Manual, Volumes 1 and 2.
- AASHTO Standard Specifications for Highway Bridges
- AWS D1.5 Bridge Welding Code

Toxic Caveat

The Contractor is hereby notified that existing paint systems on the Newport/Pell Bridge may contain toxic substances such as lead or chromium, and that these substances are considered to be hazardous to personnel, the environment, and the public approximate to the project.
Personnel and Environmental Protection

The provision for protection of personnel, the environment, and the public covers the requirements for removal and containment of paint and/or corrosion products from any steel bridge component, or otherwise specified appurtenances, during cleaning and painting operations.

Requirements to assure that the public, the environment, and the Contractor’s, as well as the Authority’s and their representatives’, personnel are adequately protected and equipped from the harmful effects of lead, blast media, dust and fumes resulting from the Contractor’s operations are set forth in Section 826.

The interior of the main suspended span towers are confined spaces and require a confined space access and work plan for all work performed inside the towers.

Certification

All painting contractors, painting subcontractors, or other individuals engaged in work covered by this special provision shall be duly certified under the Steel Structures Painting Council Contractor Certification Program. The Contractor/subcontractor shall be certified to SSPC-QP1 – Standard Procedure for Evaluating Qualification of painting.

NOTE TO THE CONTRACTOR:

The Contractor’s attention is directed to the fact that, during all work, the Bridge Necklace Lighting System, Cameras, Lighting, Communication Antennae, and other attachments to bridge elements shall be supported and maintained to remain in normal operation at all times.

955.02 MATERIALS

A. Structural Steel shall be ASTM A709-17 Grade 50 or as noted on the Contract Drawings, and shall conform to the requirements of Subsection M.05.04.1 of the RIDOT Standard Specifications unless otherwise noted.

B. Filler Plates and Shims. Filler plates and shims shall be ASTM A709-17, Grade 50.

C. Splash Zone Compound. For filling section loss and pitting between faying surfaces, splash zone compound shall be Carboline Carboguard A-788 Solvent Free Patching Compound or equal.

D. Bolts shall be ASTM F3125/M-15a High Strength Bolts for Structural Steel Joints, Type 1, mechanically galvanized per ASTM B695-04 Class 50, with sizes as indicated on the Drawings and shall conform to the requirements of Subsection M.05.04.4 of the RIDOT Standard Specifications unless otherwise noted.

E. Welding shall be performed in accordance with the requirements of AWS D1.5, and weld metal shall conform to the requirements of Subsection M.05.04.5 of the RIDOT Standard Specifications.

F. Materials for Field Painting of Exposed Steel Surfaces of Existing Steel shall conform to the requirements of specification section 943.05.
G. **Materials for Shop Painting of Exposed Steel Surfaces of New Steel** shall conform to the requirements of specification section 943.05.

H. **TOP STRUT RAILING**
   a. Railing System shall be 1-1/2” Diameter Schedule 40 Pipe and fittings by Kee-Klamp or approved equal. All elements shall be galvanized and painted with the system identified in Specification Section 943.05 for galvanized steel with top coat a concrete grey.

I. **ANCHORAGE LADDERS**
   a. **Ladder and attachments** shall be galvanized ASTM A709 Grade 50 painted with the system identified in Specification Section 943.05 for galvanized steel with top coat tinted Newport Green.
   b. **Expansion Anchors** shall be 5/8” Diameter Hilti Kwik Bolt 3 HDG Wedge Anchors or approved equal
   c. **Non-Shrink Grout** for filling any holes at previous anchor locations shall be RIDOT approved non-shrink grout
   d. **Ladder Cable Fall Protection System** shall be Miller Vi-Go or approved equal. The Miller Vi-Go system shall be the “Build Your Own System” approach to meet the specific ladder lengths at each location. The system shall include the following elements:
      i. Top bracket assembly
      ii. Bottom bracket assembly
      iii. Vi-Go cable guides – continuous if possible with actual ladder length
      iv. Fast-Attach Fitting
      v. Cable
      vi. Vi-Go cable sleeves - 10 (Ten) total purchased and provided to the RITBA – automatic if possible with actual ladder length.

J. **CLEAN AND PAINT EXISTING CABLE SAFETY LINE ANCHORS**
   a. **Paint** shall be as identified in Specification Section 943.05
   b. **Splash Zone Compound** shall be applied at the interface between the steel anchor and the concrete face of the anchorage

K. **FLAG SUSPENSION ELEMENTS**
   a. **Flag Support Cable** shall be greased Stainless Steel ASTM A240 (302/304), ½” diameter 6 x 19 (IWRC). Cable shall be fabricated with machined swage eye and Stainless Steel thimble at each end.
   b. **Pull Cable and Pull Cable Attachment** shall be greased Stainless Steel ASTM A240 (302/304), 3/16” diameter (EIPS). Pull cable attachment shall have one end with Stainless Steel crimp sleeve and one end with machined swage eye and Stainless Steel thimble for attachment to pull cable. The pull cable attachment shall be crimped with the proper stainless steel
cable crimping tools to the pull cable at a location to be identified by the Engineer on site.

c. **Winches** shall be Stainless Steel hand winches with manual brake, 1400 pound pull capacity, spool capacity to install at least 65’ of 3/16” diameter pull cable, and with integral base plate to bolt to support bracket and sized to fit and operate within the deployment location. An acceptable winch is the Endurance Marine Model Number EBW1400SS.

d. **Winch bolts** shall be ASTM A A307

e. **Fixed Cable Attachments** shall be greased Stainless Steel ASTM A240 (302/304), 5/16” diameter (EIPS). Cable shall be fabricated with machined swage eye and Stainless Steel thimble at each end.

f. **Turnbuckles** shall be Stainless Steel ASTM A240 (302/304) with shackle at one end and eyebar at the other end and be compatible with the support cable capacity and diameter.

g. **Eyebolts** shall be 5/8” diameter galvanized A307

955.03 CONSTRUCTION METHODS

**955.03.1 Shop Drawings**

Shop or working Drawings shall be furnished in accordance with Subsection 824.03.1 of the RIDOT Standard Specifications and Section 105 herein and as follows:

Prior to beginning work and fabrication of any materials, the Contractor shall take all field measurements necessary to assure the proper fit of the finished work and shall submit shop drawings to the Engineer for review and approval in accordance with these Specifications. These drawings shall include complete fabrication details, erection plans, material designations and quantity lists for the work under this item. Shop Drawings shall be required for all new structural steel and structural steel repairs.

Working drawings shall be submitted showing the fit and assembly of all structural steel and structural steel elements required to complete the work of this Contract. The location, type and size of all bolts shall also be shown. Design and field measured dimensions shall be shown on working drawings. Where bolts are to match with holes in existing material, the working drawings shall show field measured bolt gages and pitches. It is the Contractor’s responsibility to field measure all existing dimensions and field verify existing conditions. All shop and working drawings shall be based on the Contractor’s field verifications and field measurements.

The extent of shop/field painting of fabricated new steel shall be indicated for each structural element or as directed by the Engineer.

The Contractor shall provide access for the Engineer to inspect each repair location.
955.03.2 Inspection and Testing

Inspection and testing shall be performed in accordance with Subsection 824.03.2 of the RIDOT Standard Specifications with the following additions:

The Engineer shall be notified, in writing, 15 calendar days in advance of the date of beginning of work at the shop for structural steel.

Certified mill reports shall be submitted, in accordance with Section 106, showing chemical and physical properties of the material to be used.

955.03.3 Marking, Shipping, Delivering and Handling

This section shall be in accordance with Subsection 824.03.9 of the RIDOT Standard Specification with the following additions:

All material stored and/or awaiting shipment shall be protected from dirt, oil rusting, and foreign matter. The Authority will not accept rusted or pitted material, or material damaged by any other means.

The Engineer shall be notified at least 48 hours prior to shipping of structural steel members so that a final quality assurance inspection of the product can be performed.

955.04 SUBMITTALS

In addition to the requirements of the Standard Specifications, the Contractor shall submit the following for review by the Engineer:

1. Shop drawings and working drawings for all new structural steel and structural steel repairs.
2. Certified mill reports
3. Work Methods detailing access to repair areas, work area containment, field cutting and welding methods, and sequence/construction staging. Scaffolding plans must be submitted for review by the Engineer. These plans must include the size and type of scaffolding, note all attachment points to the bridge structure and the loads at attachment points.
4. Confined Space Access and Work Plan for work inside the Towers
5. Weld Procedure Specifications (WPS’s) for all welding procedures to be used.
6. Catalog cuts shall include but not be limited to splash zone compound, paint systems, ladder fall protection system, expansion anchors, flag deployment system elements, tower railing system (if alternative proprietary system is utilized.
7. Best Management Practice Program, Quality Plan and Safety Plan - See Section 999 of these Specifications.
955.05 EXECUTION

The steel fabrication, field installation, shop coating of steel, and steel installation for steel repairs shall be performed in accordance with procedures and details indicated on the Contract Drawings and as specified herein.

955.05.1 Steel Fabrication

Prior to commencement of shop drawings, the Contractor shall field measure all structural steel and existing elements that are affected by the repairs. It is the Contractor’s responsibility to ensure that new fabricated elements installed under this Specification fit the existing bridge elements and work with the existing conditions.

The steel repairs are to be performed without lane closures except as otherwise noted in Subsection 104.08 and within this Special Provision.

The Contractor is advised that a protected species of Falcon nests at Pier 4W and nesting sites may change during this Contract. The nesting birds shall not be disturbed during the prosecution of work.

It is the Contractor’s responsibility to identify the location of the utilities that are required to be maintained in place during construction and provide for their maintenance and support and repair any damage to the utilities and/or conduits caused by the Contractor during construction. The Contractor’s attention is drawn to the fact that electronic equipment is located within the towers near the work area and that multiple cameras, antennae, and other electronic equipment are attached to the railings and cables within the work areas.

It is the Contractor’s responsibility to design all access platforms and scaffolding for work on the steel repairs. All designs shall be performed, signed and sealed by a Professional Engineer licensed in the State of Rhode Island. The Contractor must submit scaffold designs and loads to the Engineer for review and acceptance. It is the Contractor’s responsibility to ensure that all access platforms and scaffolding, and all equipment stored on the platforms and scaffolds are secured during work periods and off periods. The Contractor is responsible for the condition of the work area during severe weather.

955.05.3 Steel Installation

A. Removal of Existing Structural Steel. Unless otherwise provided by the Contract Documents, all existing paint shall be removed for a minimum distance of six inches on each side of the centerline of cut, bolt row, rivet row, weld or edge of new steel, as applicable. The affected areas shall be painted in accordance with Specification Section 943.05 after completion of steel work.

1. If, in the opinion of the Engineer, rivets or bolts cannot be removed by punching without damaging the base metal, the rivet or bolt shank shall be removed by drilling.
2. If the Contractor’s operations damage existing steel, which is to remain in place, the damaged areas shall be repaired, or replaced, as determined by the Engineer. The Contractor shall be required to repair or replace damaged material, caused by his operations, at no expense to the Authority.

3. All salvaged materials shall become the property of the Contractor.

4. All dismantled and removed materials and debris shall become the property of the Contractor and shall be disposed of in accordance with Specification Section 826 Personnel and Environmental Protection. The Contractor shall be responsible for obtaining all permits, licenses or other means to properly dispose of material and debris in legal disposal sites. The exception to this is the tower opening louver covers and interior covers/seals which shall be delivered to the RITBA.

5. Upon completion of each day’s work, clean surrounding areas of any accumulated debris, materials, dirt, etc. resulting from removal operations. Do not allow debris, salvage materials, etc. to accumulate on site. Remove them from the site as rapidly as possible. At completion of all removal operations and prior to final payment, all debris, salvage materials, etc. must be completely removed from the premises.

6. Steel removal at welded connections shall be done in accordance with the following and as required by the Contract Drawings:

   a. The affected weld shall be removed by means of air carbon arc gouging equipment. To ensure that base metal remaining in place is not damaged, at least 1/8 inch of weld material shall be left in place.

      If it is necessary to gouge into base metal to remove the weld fusion, the least critical member, as determined by the Engineer, may be damaged. If the damaged member is to remain, it shall be repaired by procedures approved by the Engineer, at no additional cost to the Authority.

   b. The weld material left in place shall be ground flush with the base metal surface. No base metal shall be removed by grinding.

   c. The Engineer will perform a careful visual inspection of all weld removal locations. If the Engineer suspects damage, he will direct the Contractor to perform a dye penetrant inspection in accordance with the requirements of ASTM E165 and ASTM E1220, or magnetic particle testing in accordance with the requirements of Standard Specification Section 824 at no additional cost to the Authority. The testing
format, either dye penetrant or magnetic particle testing, or both will be determined at the sole discretion of the Engineer.

7. All cut edges shall be ground to remove kerf, dross, slag and hardened material.

8. Where installing new bolted steel elements against existing steel – the existing steel shall be cleaned and prime coated. Additionally, where new steel is installed at pitted steel or existing steel with section loss that would allow a gap between faying surfaces, splash zone compound shall be applied to the faying surface between new and existing steel.

B. Equipment. All equipment proposed for use shall be approved by the Engineer prior to actually performing the work.

C. Structural Steel. All new structural steel shall be shop painted in accordance with Specification Section 943.05. All holes in new structural steel shall be shop drilled unless the hole is to match an existing hole in an existing steel member, in such case these holes shall be field drilled using the existing holes as a template.

D. Paint Removal, and Field Cleaning and Painting. This work shall be done in accordance with the requirements of Specification Section 825 Painting Structural Steel and Section 943.

E. Reconnection. All removed steel shall be reconnected after repair work has been completed, in accordance with the approved Shop Drawings.

F. Details. Due to the nature of steel repair work, the exact extent or details of the work cannot always be accurately determined prior to the commencement of work. These Contract Documents have been prepared based on field inspection and other available information; however, actual field conditions may require modifications to repair detail dimensions. The Contractor shall perform the work to verify field conditions and shall submit shop drawings to the Engineer for review and approval that incorporate actual field conditions.

G. Steel Repairs Execution and Sequence of Work. The Contractor shall provide access to the Engineer to inspect each repair location and the condition of adjacent elements in order to identify the allowed sequence of repairs. The Contractor shall not begin the dismantling or removal of existing steel until the Engineer has approved the dismantling/removal and the sequence of work for repairs at each location. Additional restrictions and requirements are applicable to steel repairs as follows – unless otherwise approved by the Engineer:

1) Installation of Flag Deployment Systems in Towers
   a) Access to these work areas includes geometric and weight restrictions. The main access to the interior tower work locations is from an elevator followed by movement
through restricted interior space and down a ladder through a diaphragm opening. There is an elevator only in the south leg of the west tower and the north leg of the east tower. Access to the work area in the north section of the west tower and south section of the east tower are either from ladders in the same leg, or through a restricted passage in the tower strut. Alternatively, there is access from the manhole openings in the exterior at the top of the tower strut that requires movement through multiple levels of diaphragm openings and ladders going down. All elements of the tower flag deployment system have been sized to fit through the restricted access, however, the Contractor’s equipment also requires consideration of size and weight. The clearance envelope for delivery via the elevator to the elevator side work areas is approximately 19” by 60” by 8”. However, an element that maximizes all three dimensions may not be able to maneuver the turns required. The elevator weight limit is 800 pounds. Generators and tanks may require to be stationed on the exterior top of the tower strut or at deck level. Mobilizing the materials to the side of the tower without the elevator will require either moving over the top of the strut on the interior through several diaphragms and ladders, up the non elevator tower leg, or from down from the top of the strut.

b) Items that require participation by the Engineer prior to the production of shop drawings include:

i) On-site confirmation of mobilization clearance restrictions and measurements to support the production of shop drawings and work plans. The Engineer shall be notified one week prior to this site visit and be present during the site visit.

ii) Remove the louver cover and the interior cover/seal at both existing openings. After both are opened, the Contractor shall take a laser measurements to confirm the distance between the two openings and shall confirm the dimensions of each clear opening. This shall be performed prior to development of shop drawings and work plans.

iii) The location of the pull cable and support cable shall be finalized on site with the Engineer in attendance.

iv) Establish the location of the location of the anchor elements based on the field measured dimensions.

c) Cutting/Removal of existing X-Bracing shall not be performed until the material for the new K-Bracing is at the work location and checked for fit. The new K-Bracing shall be installed the same day the X-Bracing is removed.

d) The Contractor shall provide a working plan for the removal of the exterior louvers including a plan for protecting the area below. This work may be required, at
the discretion of the RITBA, to be performed at night and/or on weekends under lane closures. No additional payment will be made for this requirement and the Contractor should provide for this possibility in the unit bid price. The decision for the requirement of the work to be performed at night/weekends will be based on work items that are performed without debris catch protection that is adequate to allow working above active traffic.

e) The south side of the west tower is shown on the Contract Drawings; the same system shall be installed in the north side of the west tower. The same system shall be installed in both the north and south sides of the east tower under the Optional Pay Item at the direction of the Engineer.

f) If the optional work for enlarging the existing ventilation opening in the tower is directed to be performed by the Engineer, the Contractor shall submit a plan for performing the cutting that provides protection to the area on the roadway below. This work may be required, at the discretion of the RITBA to be performed at night and/or on weekends under half bridge lane closures. No additional payment will be made for the development and implementation of the work plan and for performance of work at night or on weekends. The Contractor shall provide for this possibility in the unit bid price. See Specification Section 104.08 for additional lane closure requirements. The adequacy of the existing openings will be evaluated by the Engineer (based on obtaining the flag and evaluating the flag size when rolled up ready for deployment). If the initial evaluation finds the existing opening is anticipated to be adequate, the first test deployment/retrieval will be performed with the existing opening only. If the initial evaluation finds the existing opening to be inadequate, the Engineer will direct the Contractor to enlarge the opening under the Optional Pay Item. If the Engineer provides this direction to enlarge the opening on or before May 7, 2018, the Contractor shall install the enlarged opening prior to the initial test deployment/retrieval. If the initial test deployment/retrieval is performed with the existing opening and the Engineer determines that the enlarged opening is necessary at that time, then the Optional Pay Item will be directed to be performed for enlarging the opening. In this case, the completion of the enlarged opening can be performed after the Memorial Day deployment/retrieval.

g) The Contractor shall perform a test deployment and retrieval of the flag at each tower (or west tower only if the east tower optional work item is not directed to be performed) no later than May 18, 2018. The Contractor shall coordinate this with the RITBA for participation by RITBA staff that will be performing the deployment in the future and for the coordination of lane closures. This test deployment/retrieval will be performed at night and/or a
weekend. The cost of the test deployment/retrieval shall be included in the unit price bid for the installation of the flag deployment system. If issues are identified during the test deployment regarding items installed by the Contractor, the Contractor shall address these and complete any revision prior to the Contract Milestone for deployment of the flags by May 26, 2018. The Contractor shall also perform the Memorial Day deployment/retrieval and provide for participation of the RITBA staff who will be performing this in the future.

h) The Contractor shall purchase the flag(s), the storage bag(s), and other ancillary items such as carabiner flag attachments, and clamp attachments utilizing the Contract allowance pay item (Pay Item 22) through the manufacturer(s) and according to the specifications/purchase orders that the RITBA will provide to the Contractor. These purchases shall be a direct pass through without markup. The Contractor shall deliver each flag and associated items to the deployment location within each tower under Pay Item 20 and Optional Pay Item 20A. The cost for delivery will not be measured separately but shall be included in the unit bid price. The Contractor shall provide for the delivery of two flags, two bags, and ancillary items to the west tower work locations under Pay Item 22.

2) Removal and Installation of new railing systems on top of the Towers

a) If access to this work area for delivery of materials and equipment is via the tower legs or main cable, there are weight and geometry restrictions as noted above for the tower flag deployment system. The specified system of Schedule 40 pipe and Kee-Klamp fittings allows for movement of materials through the towers utilizing the elevators.

b) The Contractor shall provide a working plan for the demolition of and installation of new railings including the plan for protecting the area below. This work may be required, at the discretion of the RITBA, to be performed at night and/or on weekends under lane closures. No additional payment will be made for this requirement and the Contractor should provide for this possibility in the unit bid price. The decision for the requirement of the work to be performed at night/weekends will be based on work items that are performed without debris catch protection that is adequate to allow working above active traffic.

c) The existing holes in the tower steel shall be utilized for attaching the new railing system unless the conditions of the holes are not conducive to this or as otherwise approved by the Engineer. The Contractor shall temporarily remove a section of railing to investigate the
typical condition of the existing holes prior to developing shop drawings for the new railing system.

d) The attachment of the new railing to the tower may require the use of splash zone compound.

3) **Flag Deployment System and Tower Railing Work:**

   a) If the work performed as noted above on the Flag Deployment System in Towers and/or the railing systems at towers is required by the RITBA to be performed at night and/or weekends under lane closures, the Contractor shall schedule this work to be performed concurrently wherever possible to minimize the effects to the traveling public. Work items at both towers and both work items should be scheduled to be progressed during the lane closures wherever possible. No additional payment will be made for this requirement and the Contractor should provide for this possibility in the unit bid price. The decision for the requirement of the work to be performed at night will be based on work items that are performed without debris catch protection that is adequate to allow working above active traffic.

4) **Removal and Replacement of Anchorage Ladders**

   a) The removal and replacement of the Anchorage Ladders may not be performed prior to June 4, 2018. Anchorage repairs by others are being performed scheduled for June 4, 2018 completion and access to the backstay portion of the cables and the anchorages is not available until after June 4, 2018.

   b) The Contractor is alerted to the restriction in width at the location where the ladders pass through the safety lines due to the safety line turnbuckles. The Contractor shall field measure the available width at these locations, and provide a ladder with a bolted or welded extension that is narrower than the width shown on the drawings in order to accommodate the restricted width area as required. This possible revision to the ladder details versus those shown on the Contract Drawings shall be included in the unit bid price by the Contractor. No additional payment will be made for this work.

   c) In addition to the removal and replacement of the existing anchorage ladders, three ladders, each immediately adjacent to (but at differing elevations than) ladder replacement locations shall be removed and discarded without replacement. The anchors of the ladders to the anchorage shall be either cut flush and coated with splash zone compound or if removal results in a core in the anchorage, the hole shall be filled with RIDOT approved non shrink grout.
5) **Cleaning and Painting of Existing Main Cable Safety Line Anchors**

   a) The interface of the anchorage for the main cable safety lines at the anchorages has pitting and deterioration. The exposed portion of the anchor shall be cleaned with focus on the area at the interface with the anchorage. Splash zone compound shall be applied and the exposed steel painted as per Section 943.

**H. Welding.** No welding to existing steel is permitted unless otherwise approved or directed by the Engineer, or identified for welding on the Contract Drawings. The existing structure contains fracture critical and non-redundant members. Tack or other welding to fracture critical members is expressly forbidden.


955.06 METHOD OF MEASUREMENT

Measurement and payment will be made for the work in this section as follows:

Tower Flag Support and Deployment System - West Tower
Measurement shall be lump sum for support and deployment system installed, tested and approved by the Engineer at the West Tower.

Optional Tower Flag Support and Deployment System at East Tower
Measurement shall be lump sum for support and deployment system installed, tested and approved by the Engineer at the East Tower. This optional pay item shall be performed at the direction of the Engineer.

Optional Enlargement of Existing Ventilation Openings in Towers
If the existing opening(s) are identified as requiring enlargement, as directed by the Engineer, measurement shall be per each for each opening enlarged.

Tower Flag Procurement Allowance
Measurement shall be the actual cost, without markup, for flag(s) and associated items purchased by the Contractor at the direction of the Engineer.

Tower Railing Removal and Replacement
Measurement shall be per each tower railing system (one at each of the east and west towers) removed and replaced and approved by the Engineer.

Anchorage Exterior Ladders Removal and Replacement
Measurement shall be per each ladder removed and replaced and approved by the Engineer. The cost for the removal without replacement of the three additional ladders will not be measured separately for payment but shall be included in the unit price cost.

Clean and Paint Existing Cable Safety Line Anchors
Measurement shall be per each safety line anchor cleaned and painted and approved by the Engineer.

MEASUREMENT FOR ALL ITEMS SHALL INCLUDE ALL LABOR, MATERIALS, ACCESS AND EQUIPMENT, INCLUDING PROVIDING ACCESS TO THE ENGINEER, SUBMITTALS, TESTING, FABRICATION, DELIVERING, DEMOLITION, ERECTING, SHORING, TEMPORARY SUPPORTS, PRIMING AND PAINTING AS NECESSARY, SURFACE PREPARATION, TESTING FOR CRACKS, FIELD WELDING AND DRILLING OF HOLES AND ALL INCIDENTALS REQUIRED TO FINISH THE WORK AND SHALL BE MEASURED FOR PAYMENT ON A CONTRACT UNIT PRICE BASIS AS NOTED ABOVE FOR EACH REPAIR TYPE INSTALLED, MEASURED AND APPROVED BY THE ENGINEER.
955.07 BASIS OF PAYMENT

Steel repairs will be paid for at the contract unit price for steel repairs installed as listed in the Contract Documents. The price so-stated shall constitute full and complete compensation for all labor, materials, access and equipment, including providing access to the Engineer, submittals, testing, fabrication, delivering, erecting, shoring, temporary supports, priming and painting as necessary, surface preparation, and all incidentals required to finish the work, complete and accepted by the Engineer. No separate payment shall be made for maintenance and protection of traffic for the execution of the work.

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<th>Payment Reference Description</th>
<th>Pay Unit</th>
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<tr>
<td>18</td>
<td>CLEAN AND PAINT EXISTING CABLE SAFETY LINE ANCHORS</td>
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<tr>
<td>20</td>
<td>TOWER FLAG SUPPORT AND DEPLOYMENT SYSTEM WEST TOWER</td>
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<td>20A</td>
<td>OPTIONAL TOWER FLAG SUPPORT AND DEPLOYMENT SYSTEM – EAST TOWER</td>
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<td>21</td>
<td>TOWER FLAG OPTIONAL ENLARGING OF EXISTING VENTILATION OPENING</td>
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<tr>
<td>22</td>
<td>TOWER FLAG PROCUREMENT ALLOWANCE</td>
<td>LUMP SUM</td>
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<tr>
<td>23</td>
<td>TOWER RAILING REMOVAL AND REPLACEMENT</td>
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<tr>
<td>24</td>
<td>ANCHORAGE EXTERIOR LADDERS REMOVAL AND REPLACEMENT</td>
<td>EACH</td>
</tr>
</tbody>
</table>

END OF SECTION 955
SECTION 956 OPTIONAL MISCELLANEOUS REPAIRS (NEW SECTION)

956.01 DESCRIPTION
This work may be at various locations within the project limits on the bridge structure to be performed as and when directed by the Engineer. The allowance provided for the Miscellaneous Repair Pay Item may also be utilized to perform additional quantities of repairs for unit prices are included in this contract. Work described in this section will require the Contractor to supply the access, materials, tools, equipment and labor needed to perform the On-Call repairs as required.

956.03 CONSTRUCTION METHODS
During the execution of the work of this Contract, the Engineer may direct the Contractor to perform Miscellaneous Repair Work including but not limited to steel bridge repairs. The location and extent of these work items shall be determined by the Engineer during the execution of the work of this Contract. Upon receipt of written authorization, the Contractor shall propose a lump sum amount. If this is acceptable, the Contractor shall commence work within fifteen (15) calendar days upon acceptance by the Engineer. The Authority may or may not provide a completion date for this item. In either case, the Contractor shall submit his schedule for review and acceptance. The Contractor shall complete the work in conformance with the accepted schedule. Any delay in completing the work as per the accepted schedule may result in liquidated damages being assessed to the Contractor, if so determined by the Authority.

The Engineer will provide any sketches and/or detailed drawings related to the work to be performed. If required, the Contractor shall prepare a written detailed procedure, calculations for temporary work and/or working drawings, and shall be done by a Licensed Professional Engineer registered in the State of Rhode Island. The Contractor shall submit a cost proposal covering labor, materials, and equipment required to complete the task. The Engineer shall review the proposal and once accepted it shall be considered as lump sum price bid for the work. If there is no mutual agreement on the cost proposal between the Engineer and the Contractor, the Engineer has the sole discretion to direct the Contractor to work on Force Account basis. The Contractor hereby agrees to perform the work under Force Account basis in lieu of a mutual agreement in accordance with these Supplementary Specifications.

Such procedures shall be followed for all work/tasks assigned under this section.
956.04 METHOD OF MEASUREMENT
All work items described in this section shall be paid on a lump sum basis if an agreement is reached between the Engineer and the Contractor on the cost proposal submitted by the latter wherein no measurement shall be made. Where no such agreement is reached between the Engineer and the Contractor then payment shall be made on Force Account basis as defined in Section 101.29 of the Standard Specifications.

956.05 BASIS OF PAYMENT
Payment for this Work Item shall be made on a lump sum basis if a mutual agreement is reached between the Engineer and the Contractor on the cost estimate. If no agreement is reached, the rates shall be established as per Force Account procedures previously referenced. The price bid shall be full payment for all labor, materials, equipment, hardware, tools, falsework, and all incidentals necessary to complete this work in a manner acceptable to the Engineer. An allowance of $150,000.00 will be included in the Contract, to be used if and when necessary.

Payment will be made under:

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<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Pay Unit</th>
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<tr>
<td>A</td>
<td>Optional Miscellaneous Repairs</td>
<td>Lump Sum</td>
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END OF SECTION 956
SECTION 999 - BEST MANAGEMENT PRACTICE PROGRAM

In addition to the requirements of the Standard Specifications, the Contractor shall submit the following for approval by the Engineer:

1. Best Management Practice Program:
   (a) The Contractor shall develop a Best Management Practice Program to cover the operations over water. This Program shall cover, in detail, all areas of the work and shall be submitted to the Authority.
   (b) The Best Management Practice Program shall contain, but not be limited to, the following detailed requirements:
       1. Control of Debris, Abrasive Particles and Waste
          (a) Wash water shall be properly screened of all debris and collected.
          (b) Debris from repair work and residual abrasives shall be collected daily. No unsecured material, tools or debris shall be stored or left overnight on the bridge or work platforms.
          (c) Suitable measures shall be used to minimize contamination of water, soil and air from debris, paint, solvents, abrasives and dust from the work.
       2. Spill Control Measures
          (a) All efforts shall be made to avoid spills. However, if a spill does occur, it shall be cleaned up promptly using vermiculite and/or other absorbent materials which shall be available in sufficient quantity at the site. Spills of waste material including those of a petroleum or chemical nature are to be immediately contained and removed and the Rhode Island Coastal Resources and Management Council (CRMC) and the US Coast Guard shall be promptly notified. CRMC must be reported to at 401-783-3370 and to the US Coast Guard at 1-800-424-8802 in order to receive further direction and any necessary cleanup procedures.
       3. Waste Management
          (a) Spent solvent and other waste materials shall be collected daily and transferred to an on-shore area for temporary storage prior to appropriate disposal.
4. Work Practices

(a) Good housekeeping practices shall be enforced at all times with all work areas maintained in a neat and orderly condition.

(c) Communication

1. A copy of the approved Best Management Practice Program shall be posted at the site.

2. Material Safety Data sheets for all products used on the project shall be available and posted at the job site.

3. A copy of Material Safety Data sheets shall be supplied to the Authority for submittal to the Department of Environmental Management.

(d) Cost

1. The cost of development, approval, and implementation of the Best Management Practice Program will not be paid for under any specific item, but the cost thereof shall be deemed included in the Contract bid prices in the Proposal.

2. The Contractor shall submit a Quality Control Plan for all work performed on the project. The cost of development, approval, and implementation of the Quality Control Plan will not be paid for under any specific item, but the cost thereof shall be deemed included in the Contract bid prices in the Proposal. The Quality Control Plan shall address the specific requirements for this project including but not limited to:

(a) Control of materials upon delivery

(b) Training and approval of workers

(c) Test procedures for installation of new Cableguard wrapping system

(d) Execution and inspection of the work

(e) Procedure for protecting unwrapped main cable segments during wedging and during the progress of work

3. The Contractor shall submit a Project Specific Health and Safety Plan including but not limited to a hazard analysis of each work item. The plan shall include but not be limited to addressing fall protection, paint removal/painting operations, work within confined space defined towers, working over traffic, working adjacent to traffic. The cost of development, approval, and implementation of the Health and Safety Plan will not be paid for under any specific item, but the cost thereof shall be deemed included in the Contract bid prices in the Proposal.
4. The Contractor is responsible for the safety of the work site and quality of work, and shall identify the project level Safety Officer and QA/QC officers as part of the proposal. The project level Safety Officer and QA/QC Officer shall be on-site as required to ensure the safety and quality of the operations at all times while work is being performed by the Contractor or his subcontractors. The officers shall be available by cell phone, email, walkie-talkie, and/or portable handheld phone/email device while workers are at the jobsite.

5. At a minimum, the project manager or his designee must be present at all times when work is being performed. When no work is being performed, sufficient staff must be present to ensure work space is safe.

6. For any shutdown more than 3 days, the Contractor must submit shutdown plan for approval by The Authority. An inspection of the shutdown area must be performed prior to the shutdown and a safety inspection of the work area must be performed by the Contractor and a report with sign off for work to resume submitted to the Engineer prior to the resumption of work.

END OF SECTION 999