



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

June 14, 2012

Addendum No. 1

RE: Contract ID C203050

WBS # 43326.3.1

State Funded

Carteret County

Bascule Span of Bridge #110 On The Carolina Coastal Railroad
Over the Newport River

June 19, 2012 Letting

To Whom It May Concern:

Reference is made to the plans and proposal furnished to you on this project.

The following revisions have been made to the proposal:

On Page No. 2 the project special provision entitled "Intermediate Contract Time Number 2 and Liquidated Damages" has been added. Please void Page No. 2 in your proposal and staple the revised Page No. 2 and New Page No. 2A thereto.

Page Nos. 36 thru 42 have been revised to change the project special provisions entitled "Coast Guard Coordination", "Work In The Navigable Waterway" and "Morehead Port Coordination" as follows:

- "Coast Guard Coordination"-notify bidders that NCDOT has initiated global Coast Guard coordination and to clarify Coast Guard coordination requirements
- "Work In the Navigable Waterway"-revised to agree with changes to the "Coast Guard Coordination" special provision
- "Morehead Port Coordination"-Section 3.0 Railroad Operations-revised to be in agreement with ICT's and to strengthen the requirements for coordination between the Contractor and the Port Authority
- Added Special provision for "Protection Of Railway Interests"

Please void Page Nos. 36 thru 42 in your proposal and staple the revised Page Nos. 36 thru 42 thereto.

On Page Nos. 45 thru 48 the project special provision entitled "Sequence Of Construction" has been revised to clarify a discrepancy on bridge operation requirements and to match the language with Coast Guard requirements. Please void Page Nos. 45 thru 48 in your proposal and staple the revised Page Nos. 45 thru 48 thereto.

MAILING ADDRESS:

NC DEPARTMENT OF TRANSPORTATION
CONTRACT STANDARDS AND DEVELOPMENT UNIT
1591 MAIL SERVICE CENTER
RALEIGH NC 27699-1591

TELEPHONE: 919-707-6900

FAX: 919-250-4119

WEBSITE: WWW.NCDOT.ORG

LOCATION:

CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

On Page Nos. 64, 70, 76 and 77 the project special provision entitled "Painting Existing Structures" has been revised to require an initial blast for SSPC-6 surface preparation prior to steel repairs and a final surface SSPC-10 surface preparation to occur after structural repairs. Please void Page Nos. 64, 70, 76 and 77 in your proposal and staple the revised Page Nos. 64, 70, 76 and 77 thereto.

On Page No. 89 the project special provision entitled "Bridge Structural Work" has been revised to clarify the scope of work. Please void Page No. 89 in your proposal and staple the revised Page No. 89 thereto.

On Page Nos. 91 and 92 the project special provision entitled "Bridge Deck Work" has been revised to clarify the scope of work. Please void Page Nos. 91 and 92 in your proposal and staple the revised Page Nos. 91 and 92 and new Page Nos. 92A thereto.

On Page No. 164 the project special provision entitled "Bridge Electrical Work" has been revised to include the Control House remodel in the scope of work. Please void Page No. 164 in your proposal and staple the revised Page No. 164 thereto.

On Page No. 166 and New Page No. 167 the project special provision entitled "Miscellaneous Rivet Replacement" has been revised to clarify the scope of work. Please void Page No. 166 in your proposal and staple the revised Page No. 166 and New Page No. 167 thereto.

The following revisions have been made to the plans:

On Sheet No. G-01 the recommended sequence was revised to add initial surface preparation prior to steel repairs and move prime coating of steel to after repairs. Please void Sheet No. G-01 in your plans and staple the revised Sheet No. G-01 thereto.

On Sheet No. G-05 the notes have been revised to clarify that the Control House work is included in the Bridge Electrical work. Please void Sheet No. G-05 in your plans and staple the revised Sheet No. G-05 thereto.

On Sheet No. S-26 the cover plate reference has been corrected. Please void Sheet No. S-26 in your plans and staple the revised Sheet No. S-26 thereto.

Sincerely,



R. A. Garris, PE
Contract Officer

RAG/jag
Attachments

cc: Mr. Ron Hancock, PE
Mr. C. E. Lassiter, PE
Ms. D. M. Barbour, PE
Mr. J. V. Barbour, PE
Mr. G. R. Perfetti, PE
Ms. Lori Strickland
Project File (2)

Mr. R.E. Davenport, PE
Ms. Natalie Roskam, PE
Mr. Ronnie Higgins
Mr. Larry Strickland
Ms. Marsha Sample

5. For **Independence Day**, between the hours of **5:00 A.M.** the day before Independence Day and **11:00 P.M.** the day after Independence Day.

If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of **5:00 A.M.** the Thursday before Independence Day and **11:00 P.M.** the Tuesday after Independence Day.

6. For **Labor Day**, between the hours of **5:00 A.M.** Friday and **11:00 P.M.** Tuesday.
7. For **Thanksgiving Day**, between the hours of **5:00 A.M.** Tuesday and **11:00 P.M.** Monday.
8. For **Christmas**, between the hours of **5:00 A.M.** the Friday before the week of Christmas Day and **11:00 P.M.** the following Tuesday after the week of Christmas Day.

Holidays and holiday weekends shall include New Year's, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. The Contractor shall schedule his work so that lane closures will not be required during these periods, unless otherwise directed by the Engineer.

The time of availability for this intermediate contract work shall be the time the Contractor begins to install all traffic control devices for lane closures according to the time restrictions listed herein.

The completion time for this intermediate contract work shall be the time the Contractor is required to complete the removal of all traffic control devices for lane closures according to the time restrictions stated above and place traffic in the existing traffic pattern.

The liquidated damages are **One Thousand Dollars (\$1,000.00)** per hour.

INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES:

The Contractor shall complete the required work of installing, maintaining, and removing the traffic control devices for bascule bridge closures and restoring traffic to the existing railroad traffic pattern for any date upon notification from the Port Representative. This notification will be given to the Contractor no less than ten (10) days prior to the date or dates of the anticipated railroad crossing restoration. A maximum of five (5) days of railroad crossing restoration will be required.

In addition, the Contractor shall not close the bascule bridge to railroad traffic during the following periods:

1. From 8:00 AM October 1, 2012 to 8:00 PM October 5, 2012
2. From 8:00 AM January 2, 2013 to 8:00PM January 8, 2013
3. From 8:00 AM April 1, 2013 to 8:00 PM April 5, 2013
4. From 8:00 AM July 1, 2013 to 8:00 PM July 8, 2013

The Contractor shall verify the above dates and times with the Engineer and the Port Representative to verify the above schedule. If the Port Representative requests to alter the above schedule, the altered schedule will be issued a minimum of 10 days in advance.

The date of availability for this intermediate contract work shall be the date the Contractor begins to install all traffic control devices for lane closures according to the time restrictions listed herein.

The completion date for this intermediate contract work shall be the date the Contractor is required to complete the removal of all traffic control devices for lane closures according to the time restrictions stated above and place traffic in the existing traffic pattern.

The liquidated damages are **One Thousand Dollars (\$1,000.00)** per calendar day.

MANDATORY PRE-BID CONFERENCE (Prequalifying To Bid):

(7-18-06)

SPI 1-14(Rev.)

Because of the unusual nature of work involved, and in order for all prospective bidders to have an extensive knowledge of the project, all prospective bidders shall attend a mandatory pre-bid conference at **1:00 P.M. on Wednesday, June 6th, 2012.**

**NC Port Maritime Conference Room
113 Arendell St.
Morehead City, NC**

In order to gain access to the port, all potential bidders must notify Maria Rogerson at (252) 439-2830 of their intention to attend the pre-bid conference. **Notification must be given no later than the close of business day on June 1st, 2012.**

The pre-bid conference will include a thorough discussion of the plans, contract pay items, special provisions, etc.

Where copies of a submission are sent to multiple parties, a properly addressed cover letter shall accompany each copy. In such a case each cover letter shall bear the same transmittal number, and shall clearly identify the other parties receiving copies of the submission.

1.0 REQUEST FOR INFORMATION AND CORRESPONDENCE TRACKING

Each Request for Information (RFI), or similar correspondence, shall be clearly marked with a tracking number similar to those required for submittal items. Each RFI shall cover only one distinct item and/or question.

2.0 RESTRICTIONS ON USE, REPRODUCTION, AND/OR DISTRIBUTION

The term "documentation", as used in this section, includes submittal items, as-built documentation, operation and maintenance manuals, and all other similar items required by these Contract Documents, or provided for this project by, or through, the Contractor.

No restrictions shall be placed on the reasonable use, reproduction, and/or distribution of any documentation by the Department, the Department's designated representative(s), the Engineer, and/or the Engineer's designated representative(s) for the purposes of this project. All documentation shall be considered to be incidental to the materials, products, and/or work they are concerned with, and therefore shall become the unrestricted property, in perpetuity, of the Department upon completion and final acceptance of the project.

The Contractor shall bear full responsibility for assuring compliance with these requirements, including obtaining permission for use of any copyrighted material, and for any compensation required by, and/or damages sought by, parties preparing or providing documentation which may result from compliance with these requirements.

3.0 MEASUREMENT AND PAYMENT

There will be no measurement or direct payment for submittals and working drawings. Associated costs shall be included in the prices bid for the various other items requiring submittals. Delivery and/or approval of required submittals shall not be considered to be a basis for partial payment against any item.

COAST GUARD COORDINATION

SPECIAL

At no time during work will the waterway be closed or narrowed to navigation, nor will bridge operation deviate from the established USCG requirements without prior approval from the U.S. Coast Guard (USCG). The Contractor is required to maintain close and regular contact with the USCG, Sector North Carolina to keep them informed of activities in the waterway with Terrance Knowles of the 5th Coast Guard District at (757) 398-6587 or email Terrance.A.Knowles@uscg.mil. The contractor must also contact Joseph Edge at (252) 247-4525 or email joseph.m.edge@uscg.mil

The Contractor is made aware that NCDOT has requested approval to close the bridge to marine traffic per the following schedule:

October 1, 2012 to October 1, 2013:

The bridge may be placed in the closed position between the hours of 8:30 P.M. and 5:00 A.M. for bridge repairs except that a 12:00 AM opening will be allowed provided notification is given six (hours) in advance.

The Contractor shall bear full responsibility for all required coordination with the USCG. Advance coordination with the USCG shall begin within 14 days following award of Contract and prior to commencing on-site activities. Other than those waterway disruption listed above, approval for scheduled waterway disruptions shall be initiated approximately 45 days in advance, and confirmed no less than 30 days but no more than 45 days, in advance of the first disruption.

Refer to CFR 33 Parts 1 thru 124 for regulations regarding bridge operation and the required notifications for deviations.

The Contractor shall note that the length of required notification may be altered by the USCG at any time, and the Contractor shall have no claim whatsoever against the Department due to changes in the requirements by the USCG.

The Contractor is to be made aware that marine traffic logs are not available. However, high marine traffic during daytime hours is to be expected and closures during these hours will be limited. Marine traffic reduces significantly during nighttime hours. Temporary lighting shall meet the requirements specified under "WORK IN THE NAVIGABLE WATERWAY".

All work shall be conducted so that free navigation of the waterway is not unreasonably interfered with and the present navigable depths are not impaired. Timely notice of any and all events that affect navigation shall be given to the District Commander during the work on the moveable span. The channel shall be promptly cleared of all obstructions placed therein or caused by the Contractor.

WORK IN THE NAVIGABLE WATERWAY

SPECIAL

1.0 DESCRIPTION

The Contractor's attention is directed to the navigable channel which the Radio Island Bridge crosses. It shall be the sole responsibility of the Contractor to conduct operations to comply with all the regulations and requirements of the U.S. Coast Guard (USCG), the U.S. Army Corps of Engineers, the North Carolina Department of Environmental and Natural

Resources, and local agencies, in connection with but not limited to, the maintenance of navigation and water pollution control.

The Contractor shall submit multiple copies of the plan and schedule of operations to the Engineer for approval no more than 14 calendar days following notification of award. Two copies of the Contractor's approved plan and schedule shall then be submitted by the Contractor to the USCG for their approval at least 90 calendar days prior to commencement of any work that would restrict the navigable waterway and 60 days prior to commencing any work.

The plan and schedule or sequence of operations shall include:

- sketch of the waterway
- location of any restrictions that shall be placed in the waterway
- location and height above mean high water of any scaffolding or netting
- placement, type and dimensions of barges, temporary enclosures, etc., if used
- projected dates and durations of each operation
- hours of the night time hours and the operations will take place
- Amount of time to remove the equipment if so directed by the Engineer or the USCG

The Contractor shall be responsible for all fees, costs and/or effort associated with:

- issuance of any "Notice to Mariners"
- temporary relocation of any existing navigational aids, if needed
- services performed by the USCG, as required, such as special surveys in connection with displaced material in the waterway or making dumping inspections

The Contractor shall coordinate his activities with local mariners and accommodate their needs to the fullest extent practical. The Contractor shall be responsible for all USCG fines associated with the bridge being in an inoperable condition during the work without having provided prior notice and obtained required approval. In addition, the Contractor may be held liable for user costs associated with such a condition.

Approvals issued by the USCG may be revoked and/or fines imposed for failure to ensure these provisions and other applicable stipulations and regulations issued by the USCG and other regulatory agencies having jurisdiction are adhered to or if the way in which the work is performed is determined to be a hazard to or an impairment of navigation. The Contractor shall be responsible for the costs associated for all such fines and schedule delays associated with the manner in which the work is performed and the means and methods employed.

2.0 MAINTENANCE AND PROTECTION OF NAVIGATION

The nature of the proposed construction may require some activities that impose restrictions upon current navigational clearances. At no time during construction shall restrictions be placed upon navigation without first coordinating these restrictions with local mariners and without receiving approval from the Engineer and the USCG. If the Contractor wishes to

perform work that would in any way restrict the navigational channel outside of those dates and times outlined in "Coast Guard Coordination", the Contractor shall request approval from Chief Warrant Officer Joseph Edge of US Coast Guard, Sector North Carolina no less than 135 days prior to the commencement of the proposed work at (252) 247-4525 or email joseph.m.edge@uscg.mil. No guarantee of approval of a request to restrict the waterway is implied by this contract, and it is the sole responsibility of the Contractor to coordinate with the USCG any navigable waterway restrictions.

Any dredged material taken from the waterway beds shall be removed in accordance with the conditions as stated and/or required by the USCG, the U.S. Army Corps of Engineers, and NCDOT.

If permanent bridge navigational lighting cannot be maintained as operational during any phase of this project, temporary battery/power lights must be installed at the same locations. These temporary lights must be visible for a distance of 2,000 yards on 90% of the days of the year. Generally, a lamp of 20 footcandles will meet these requirements. Plans for temporary lighting, if needed, shall be developed by the Contractor and submitted to the USCG for approval.

VHF-FM marine radios set to the bridge communications channels 16/13 or the designated channel for the bridge must be maintained at the project site by the supervisor in charge. Additional marine radios monitoring the above channels must also be maintained at the main control of any floating equipment or barges on station.

3.0 NOTICE TO MARINERS

The Contractor shall notify the USCG and NCDOT per the above requirements in advance of work completion so that appropriate notice can be given to mariners. The Contractor shall keep all interested parties apprised of conditions existing at the site which relate to navigation so that marine traffic may be notified accordingly on a timely basis.

4.0 MISPLACED MATERIALS

Preventative measures must be taken to prevent any hot work, debris or construction material from entering the waterway. This includes sandblasting material, paint, waste water from machinery cleaning or purging operations, and any concrete work by-products. Welding and burning must cease upon the approach of a vessel and shall not start again until the vessel has passed the bridge.

Should the Contractor, during the progress of the work, lose, dump, throw overboard, sink or misplace any material, plant, machinery or appliance which may be dangerous or obstruct navigation, the Contractor shall promptly recover and remove the same. The Contractor shall give immediate notice of such obstruction to the USCG, to the Engineer, and to all users of the channel. The Notice shall give a description and location of any such object and the action taken or being taken to protect navigation. Until removal can be effected, the object(s) shall be properly marked in order to protect navigation. Should the Contractor neglect to

report, remove, or refuse to promptly remove any such obstruction, the Engineer shall have the same removed and charge the cost against monies due to the Contractor or recover under his Bond.

Spillage of oil or hazardous substances is specifically prohibited by Section 311 of the Clean Water Pollution Act, as amended. Approved spill containment equipment and absorbent material must be located at the project site in the event of a spill into the waterway or the shoreline. The USCG must be notified immediately in the event a spill occurs. The Contractor shall bear the full responsibility for any costs associated with fines, cleanup activities, disposal and user costs associated with a spillage as a result of their work or activities.

5.0 OBSTRUCTION OF THE CHANNEL AND WATERWAY

Should the Contractor's equipment obstruct the channel or waterway so as to endanger the passage of vessels, as defined in the most recent River and Harbors Act, it shall be promptly moved to the extent necessary to afford a practicable passage. Upon completion of the work, the Contractor shall promptly remove the equipment, including ranges, buoys, piles, anchors and other markers placed by the Contractor.

All barges placed in the waterway must be lighted in accordance with CFR 33 Parts 1 – 124. The Contractor is required to comply with all provisions of the USCG Navigation Rules, International-Inland, regarding the use of work barges or floating equipment in the waterway.

Placement of barges in the navigable channel shall be done so as to provide a minimum horizontal clearance reduction. No barges will be allowed in the channel unless approved by the USCG. Barges held in place by anchor lines must be marked by anchor buoys which should be lighted.

6.0 BRIDGE OPERATIONS

The Contractor shall be responsible for operating the bridge at all times not only for the Contractor's own operation and needs but also as needed and required for rail traffic in place of the Department's bridge operator at such time as the Contractor begins construction on the bascule span. The Contractor shall also lower and lock the span in the lowered position as directed by the Port and during storms with a sustained wind greater than 45 MPH. Contractor shall conform and follow USCG procedures while operating the span.

The contractor shall also be responsible for the maintenance and operation of the existing equipment and shall maintain in good working order all components of the bridge operating equipment rather being retained or not. Maintenance shall begin with the Contractor's first official bridge operation and continue until final acceptance of the project.

The Contractor shall provide certified bridge operators. A certified bridge operator shall be present at the bridge during construction activities anytime the bridge is not in the fully opened position and the tail locks are driven and not just when the bridge operation is

required. All bridge openings shall be under the direct supervision of a certified bridge operator. To receive certification operators shall receive 80 hours of training provided by NCDOT. The Contractor shall coordinate with NCDOT on the number of personnel attending the training and when/where the training shall occur. A minimum of two qualified operators shall be trained and available to operate the bridge.

7.0 MEASUREMENT AND PAYMENT

There will be no measurement or direct payment for Work in Navigable Waterways. Associated costs shall be included in the prices bid for the various other items of work.

Approvals, fees, costs required to perform work or resulting from work within the navigable waterway shall not be considered to be a basis for payment against any item. All costs incurred by the Contractor in complying with the above requirements shall be included in the prices bid for the various pay items and no additional payment will be made.

MOREHEAD PORT COORDINATION

SPECIAL

1.0 ACCESS

The Contractor shall be responsible for insuring that all construction personnel, including sub-Contractors and suppliers, have the appropriate access identification documents. All of Contractor's employees accessing the site and all sub-Contractors working at the site shall coordinate access requirements with the Port Authority and shall obtain Transportation Worker Identification Credentials <https://twicprogram.tsa.dhs.gov/TWICWebApp/if> awarded the contract. The Contractor shall adhere to all Port Authority requirements. At no time will work be performed on Port Property without prior approval from the Port Personnel. The Contractor is required to maintain close and regular contact with the Port Authority representative, Mark Blake at (910) 251-5674 or email Mark.Blake@ncports.com to keep him informed of and obtain approval from for upcoming activities on or adjacent to Port Property.

CONSTRUCTION

The Contractor shall be responsible for maintenance of the construction area such that it is maintained in a condition acceptable to the Port Representative. The Contractor shall implement such corrective actions as required by the Port Representative to maintain the site in a condition which will protect Port personnel, allow Port operations to be maintained and ensure Port equipment and facilities are protected from damage. All construction activities on Port Property shall be approved by the Port Representative in writing. Any damage resulting from the Contractor's personnel, operations, sub-Contractors or suppliers will be repaired at the Contractor's expense.

3.0 RAILROAD OPERATIONS

The Contractor's work plan shall be scheduled in such a way that the bridge is operable per the requirements found in Intermediate Contract Time Number 2.

Train Data: Type: Freight # Trains/Month: 1 Speed: 10 mph

The Contractor shall coordinate daily with the Port Representative to ensure the proposed schedule accommodates anticipated railroad operations and to ensure the port is aware of any upcoming windows in which it would be difficult to lower the bridge on a 10 day notification.

Prior to any construction activities, the Port Representative shall provide approval for the scheduled train operational windows. The Contractor shall submit the proposed schedule along with documentation from the Port verifying their approval to the Engineer for review. The Contractor shall coordinate operation of the bridge for rail traffic with the Port.

All costs incurred by the Contractor in complying with the above requirements shall be included in the prices bid for the various pay items and no additional payment will be made.

**SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTEREST
CAROLINA COASTAL RAILWAY 09/06**

14 **INSURANCE:** State Project: County:

A. In regards to the above project the prime contractor is required to carry:

1. **CONTRACTOR'S COMMERCIAL GENERAL LIABILITY INSURANCE:**

As specified in the NCDOT Standard Specifications Manual (Section 107-15) the contractor shall furnish proof that he carries Commercial General Liability Insurance. Said policy shall be endorsed with form CG 24 17 which removes any exclusion regarding construction to be performed on railroad right of way. Said policy **shall be endorsed to name Carolina Coastal Railway as an additional insured.**

An additional copy of this policy is to be provided to the Department at the below address:

Rail Division-Engineering & Safety Branch
1556 Mail Service Center
Raleigh NC 27699-1556
Attn: Meredith McLamb

For questions or clarification on the above mentioned insurance, please contact Meredith McLamb of the Rail Division at (919) 715-0955.

PROJECT SPECIAL PROVISIONS**SEQUENCE OF CONSTRUCTION****SPECIAL****1.0 SCOPE**

This section is intended to present the requirements associated with construction sequencing, roadway disruptions, waterway disruptions, etc., and to demonstrate a recommended sequence of construction. While certain work items are not explicitly considered by this section, all work shown on the plans and described elsewhere in these special provisions is required.

2.0 GENERAL PROVISIONS

The Contractor shall be responsible for developing the actual sequence of construction, which shall take into account all required work. The Contractor's actual sequence of construction shall provide sufficient detail to permit the Department to determine if the sequence complies with the requirements of the Contract Documents, and to ensure coordination between work items.

The Contractor is hereby notified that, while the requirements of this project related to waterway disruptions and the recommended sequence of construction given in this section, have been informally coordinated with the U.S. Coast Guard (USCG), they have not been formally approved by the USCG. Where such requirements are given, explicitly or implicitly, they are provided solely to illustrate anticipated USCG requirements and to assist in bidding. The actual waterway disruptions allowed shall be fully at the discretion of the USCG. The Department shall not be held responsible for any requirements, stipulations, limitations, etc. related to waterway disruptions as imposed by the USCG which conflict with the requirements of the Contract Documents. Any such conflict shall not be considered cause for delay or additional payment.

The Contractor shall bear full responsibility for all required coordination with the USCG, and shall secure approval from the USCG for any disruptions to waterway traffic prior to commencing on-site activities.

The Contractor shall submit the actual sequence of construction to the Department, which shall take into account the actual waterway disruptions allowed by the USCG. The actual sequence of construction must be approved by the Department prior to commencing on-site activities. However, such review and approval shall in no way relieve the Contractor of full responsibility for performing all work in accordance with the requirements of the Contract Documents. The Contractor shall bear full responsibility for the accuracy and practicality of the actual sequence of construction, and agrees to hold blameless the Department, and/or the Department's designated representative(s), for any mistakes, inconsistencies, etc. within the

approved sequence. Any difficulties, damages, fines, etc. which may result from usage of the approved sequence of construction shall be the sole responsibility of the Contractor, and shall not be considered cause for delay or additional payment.

The Contractor's actual sequence of construction shall comply with the requirements of the Contract Documents, all applicable state, federal, and local laws and regulations, and the following:

- A. The Contractor shall operate the bridge from the time work on the bascule bridge begins, based on the approved construction schedule until the system is restored and the bridge is properly balanced and accepted by the Engineer.
- B. The Contractor shall provide certified bridge operators. A certified bridge operator shall be present at the bridge during all construction activities, not just when the bridge operation is required. To receive certification operators shall receive 80hrs of training provided by NCDOT. The Contractor shall coordinate with NCDOT on the number of personnel attending the training and when/where the training shall occur.
- C. INTENTIONALLY LEFT BLANK

- D. INTENTIONALLY LEFT BLANK

- E. The Contractor must keep a licensed electrician on site 24 hours per day any time significant (as determined by NCDOT) temporary wiring is being utilized. The Contractor must keep a licensed electrician on call 24 hours per day any time the Contractor is responsible for operation of the bridge utilizing the new electrical system and the bridge is being operated until final acceptance by the Engineer available to respond in person to the site within 30 minutes.
- F. When the Contractor is responsible for operating the bridge, a NCDOT representative may remain on-site to observe that all procedures and safety regulations are adhered to with respect to bridge operations.
- G. The new electrical system, control system, drive, motor starters, and related items must be fully shop tested and electrically tested at the bridge prior to removal of the existing gasoline engine drive or disturbing any existing bridge operating equipment. The new components shall be fully installed, adjusted and field tested prior to operating the bridge for rail traffic or navigation. The Contractor shall coordinate with NCDOT, PORT, and Railroad when the new motor will be installed and to inform them how long the bridge will be out-of-service. The Contractor may perform this work during a rail outage

window described in these provisions anytime after the floor system and bascule girder reinforcements have been completed.

- H. The bridge must remain available to rail traffic as described in other sections of these provisions. Any required test operations must be conducted at night or as otherwise directed by NCDOT, without prior USCG approval for a navigation outage.
- I. Waterway disruptions by the Contractor are anticipated to be permissible during nighttime hours. Such disruptions are anticipated to occur between 8:30 pm and 5 am. (Note that this requirement has not been formally approved by the USCG. Actual waterway disruptions allowed shall be coordinated with the USCG as stated elsewhere herein.)
- J. All waterway disruption periods must allow continuous periods of navigation without operation of the bridge, the length of which shall be as directed by the Coast Guard. (Note that this requirement has not been formally approved by the Coast Guard. Actual waterway disruptions allowed shall be coordinated with the Coast Guard as stated elsewhere herein.)
- K. The Contractor shall work continuously (around the clock in multiple shifts) during any waterway disruption and re-open the waterway as soon as the work necessitating the disruption is completed.
- L. The Contractor shall maintain span balance, as required elsewhere in these Special Provisions, throughout the course of the project.
- M. The Contractor shall bear full responsibility for all fines, fees, and damages resulting from noncompliance with the requirements of this section, USCG regulations and requirements, and/or any other applicable local, state, or federal laws and regulations.

3.0 SEQUENCE OF CONSTRUCTION

Recommended sequence of construction is provided to illustrate how to comply with the requirements of this section and to assist in bidding. The Contractor shall bear full responsibility for determining the actual sequence of construction in accordance with the requirements specifically stated or not stated and required to complete the work necessary with the understanding that he or she must at a minimum execute the work shown on the Plans and adjust the General Recommended Sequence as required without claim to additional payment. The Contractor's actual sequence of construction shall comply with the explicit and implicit requirements of the Plans, as well as the general intent of the General Recommended Sequence, in accordance with the Contractor's proposed schedule, and in accordance with NCDOT requirements.

Available vessel traffic records indicate that the months of December, January, February and March historically have fewer vessels navigating through this channel. Previous work performed on this suggests that navigation closures during daylight hours will be very limited

and the Contractor should anticipate work during nighttime hours and when the span is in the raised position. The current letting schedule provides the opportunity to coordinate potential daytime outages with the USCG at the Contractor's discretion.

GENERAL RECOMMENDED SEQUENCE

- Span Balance and Span Balance Monitoring (Maintain Throughout Construction)
- Initial Surface Preparation of Structural Steel
- Installation of Electrical Utilities
- Tower Frame Repairs
- Installation of New Floor System
- Installation of Bridge Span Lock Assembly
- Trunnion Bearing Repairs
- Replace the Deck System
- Installation of New Bascule Girder Cover Plates
- Replacement of Rest Pier and Bascule Pier Live Load Shoe
- Build Remote Control Station and Install Electrical Control System / Rehabilitate Control Building
- Installation of Bridge Tail Locks
- Installation of Machinery Brakes and New Motor
- Final Surface Preparation and Painting of Structural Steel
- Test-Operation Bridge / Final Bridge Balance

Once the new electrical and control system is in place, bridge testing will be required. Operation of the bridge will be the contractor's responsibility until The North Carolina State Port Authority and their representatives have received operation training. Operation from the bridge control building and remote control station is anticipated to occur during nighttime hours until the system is demonstrated to be reliable to the Engineer. Final testing and operational adjustments can then be performed during daylight hours subject to the approval of the Engineer. The Contractor shall have personnel at the bridge to operate the bridge locally (for periods of testing and passage of rail traffic) from the control building in the event of an issue with the remote station until NCDOT and their representatives have received operation training.

4.0 MEASUREMENT AND PAYMENT

There will be no separate payment for costs associated with the sequence of construction provisions.

H. Operations & Maintenance Information

The Contractor shall supply the NCDOT with written, step-by-step operating and troubleshooting instructions and manufacturer's literature for the modified control system, the brake, the motor reducer and any new equipment installed as part of the work. The Contractor shall supply the Engineer with an accurate as-built wiring diagram of the modified control and power circuits, including point-to-point wiring information. These diagrams shall include accurate information on all portions of the bridge wiring, including those portions not modified or replaced under this contract.

12.0 MEASUREMENT AND PAYMENT

The work required by this section, and any work caused thereby or related thereto, is considered incidental to the work covered by the guarantee and will not be separately measured or paid for. All associated costs shall be included in the prices bid for those items for which measurement and payment are allowed.

PAINTING EXISTING STRUCTURES

REV 9/2011

Description of Work - This work shall consist of furnishing all labor, equipment, and materials to clean and paint the structural steel of the existing bridges. Work includes: removing, containment and disposal of the existing paint system; an initial SSPC-6 surface preparation prior to steel repairs; final SSPC-10 preparation of the surface to be painted and applying the new paint system; traffic control, marking & delineation; portable lighting; erosion and sediment control; seeding and mulching all grassed areas disturbed; and all incidental items necessary to complete the project as specified and shown on the plans. The contractor shall be responsible for fulfilling all requirements of the NCDOT Standard Specifications for Roads and Structures dated January 2012, except as otherwise specified herein.

Work Schedule – Prior to the pre-construction meeting, the Contractor shall submit his work schedule to the Engineer. Schedule shall be kept up to date, with a copy of the revised schedule being provided to the Engineer in a timely manner (as determined by the Engineer).

SSPC QP-2 Certification - The existing paint systems include toxic substances such as red lead oxide, which are considered hazardous if improperly removed. Only contractors who are currently SSPC QP-2, Category A certified, and have successfully¹ completed lead paint removal on all similar structures within 18 months prior to this bid, may bid on and perform this work. **The apparent low bidder shall submit a list of projects for which QP2 work was performed within the last 18 months including owner contact information and submit to the Assistant State Bridge Management Engineer a "Lead Abatement Affidavit" by 12:00 noon of the third day following the opening of bids. This form may be downloaded from: <http://www.ncdot.gov/projects/ncbridges/#stats>**

¹ Successfully: All lead abatement work completed in accordance with contract specifications, free of citation from safety or environmental agencies. Lead abatement work shall include but not be limited to: abrasive blasting; waste handling, storage and disposal; worker safety during lead abatement activities (fall protection, PPE, etc.); and containment. This requirement is in addition to the contractor pre-qualification requirements covered by NCDOT Std. Specification, Section 102-2.

water shall be contained, collected and tested in accordance with the requirements of NCDOT Managing Bridge Wash Water specification. Under no circumstances will surface preparation or painting activities be started over cleaned surfaces until all surfaces are free of standing water and dry to the touch, and then only after approval by the Engineer. Power washing is only required prior to initial SSPC-6 surface preparation.

- 1.2** Blasting is done with recyclable steel grit meeting the requirements of Section 1080-15. The profile after final surface preparation prior to application of paint must be between 1.0 and 3.0 mils when measured on a smooth steel surface. A minimum of two tests per beam/girder and two tests per span of diaphragms/cross bracing shall be conducted and documented.
- 1.3** Tarpaulins are spread over all pavements and surfaces underneath equipment utilized for abrasive recycling and other lead handling equipment or containers. This requirement shall be enforced during activity and inactivity of equipment. Should the contractor elect to perform work from a barge all equipment, paint and other material shall be properly secured and provide sufficient containment on barge that prevent accidently spills from contaminating the waterway.
- 1.4** Before the contractor departs from the work site at the end of the work day, all debris generated during surface preparation and all dust collector hoses, tarps, or other appurtenances containing blasting residue are collected in approved containers.
- 1.5** The Contractor cleans a three inch by three inch area at each structure to demonstrate the specified finish and the inspector preserves this area by covering it with tape, plastic or some other suitable means so that it can be retained as the DFT gage adjustment standard. An acceptable alternative is for the Contractor to provide a steel plate with similar properties and geometry as the substrate to be measured.
- 1.6** The contractor and or quality assurance representative shall notify the Engineer of any area of corroded steel which has lost more than 50% of its original thickness.
- 1.7** All parts of the bridges not to be painted, and the travelling public, shall be protected from overspray. The Contractor shall submit a plan to protect all parts of bridge that are not required to be painted, in addition to a plan to protect the traveling public and surrounding environment while applying all coats of paint to a structure. Prior to performing blasting operations the Contractor shall notify the Engineer or their representative to verify that the machinery used to operate the bridge is sufficiently sealed.
- 1.8** Prior to application of primer the Contractor must insure that chloride levels on the surfaces are $7 \mu\text{g}/\text{cm}^2$ or lower using an acceptable sample method in accordance with SSPC Guide 15. The frequency of testing shall be two (2) tests per bascule member after all surface preparation has been completed and immediately prior to applying the primer coat. An additional two (2) tests per bascule member shall be selected prior to applying the intermediate and or top coat layers. Test areas selected shall represent the greatest amount of corrosion in the span as determined by the Engineers' representative.

contractor shall assure that all employees whose airborne exposure to lead is above the PEL shall shower at the end of their work shift.

All OSHA recordable accidents that occur during the project duration are to be reported to the Engineer within twenty four (24) hours of occurrence. In addition, for accidents that involve civilians and or property damage that occur within the work zone the Division Safety Engineer shall be notified immediately.

8.0 STORAGE OF PAINT AND EQUIPMENT:

The Prime Contractor provides a location for materials, equipment and waste storage. Tarpaulins are spread over all pavements and surfaces underneath equipment utilized for abrasive recycling and other lead handling equipment or containers. All land and or lease agreements that involve private property shall disclose to the property owner that lead and other heavy metals may be present on the Contractor's equipment. Prior to storing the Contractor's equipment on private property the Engineer shall receive a notarized written consent signed by the land owner submitted at least forty-eight (48) prior to using property. All storage of paint, solvents and other materials applied to structures shall be stored in accordance with Section 442 of the Specifications or manufacturers' requirements. The more restrictive requirements will apply.

9.0 UTILITIES:

The Contractor protects all utility lines or mains which may be supported on, under, or adjacent to bridge work sites from damage and paint over-spray.

10.0 MACHINERY RELUBRICATION

The Contractor shall schedule painting operations under this item such that the bridge shall not be operated during the execution of the work.

Immediately after the completion of Painting and prior to the start of any other work items, the Contractor shall thoroughly clean all machinery components to bare metal and relubricate them with new grease of a type approved by the Engineer. The central gear reducer shall be drained, flushed with mineral spirits, and re-filled with new lubricant approved by the Engineer. The flushing of the central gear reducer shall be done in conjunction with its servicing, as required by Bridge Mechanical Work.

11.0 PAYMENT:

The cost of inspection, initial SSPC-6 surface preparation, final SSPC-10 surface preparation and repainting the existing structure is included in the lump sum price bid for *Cleaning and Repainting of Bridge #110*. This price is full compensation for furnishing all inspection equipment, all paint, cleaning abrasives, cleaning solvents and all other materials; preparing and cleaning surfaces to be painted; applying paint in the field; protecting work, traffic and property; and furnishing blast cleaning equipment, paint spraying equipment, brushes, rollers and any

other hand or power tools and any other equipment; containment, handling and disposal of debris and wash water, all personal protective equipment, and all personal hygiene requirements.

Pollution Control will be paid for at the contract lump sum price which price will be full compensation for all collection, handling, storage, air monitoring, and disposal of debris and wash water, all personal protective equipment, and all personal hygiene requirements, and all equipment, material and labor necessary to fully contain the blast debris; daily collection of the blast debris into specified containers; and any measures necessary to ensure conformance to all safety and environments regulations as directed by the Engineer.

Payment will be made under:

Pay Item	Pay Unit
Cleaning and Repainting of Bridge #110	Lump Sum
Pollution Control	Lump Sum

DESCRIPTION OF BRIDGE:

Bridge #150110R (Bridge #110) in Carteret County: The bridge was originally built in 1960 and carries the Carolina Coastal Railroad across the Newport River between Morehead City and Beaufort, NC. The approach spans were replaced in 1999 with primarily 33’ spans of double 36” prestressed concrete T-Beams on precast pier caps with two composite piles per pier consisting of 24” dia. pipe piles encased in 36” dia. precast cylinder piles. The Single Leaf Bascule Span has a total length of approximately 130’. The areas to be cleaned and painted consist of 1-112’ Thru Plate Girder Single Leaf Bascule Span normally stored in the Open to Navigation Position, 1-Flanking span miscellaneous components, Tower A Frame assemblies, Counterweight and supporting structure, exposed machinery elements (To be paid for as part of the Mechanical Pay Item). The thru plate girder spacing width is 17’ and the vertical clearance is approximately 5’ to normal water surface. The existing paint system has red lead primer. Painting is restricted between November 15th and April 15th each year unless otherwise granted by the Engineer in writing. The approximate steel area to be painted is **10,000 square feet**. The contractor shall provide his own estimate of area for painting of the bridge. No measurement or payment will be made for any differences in the approximate area and the actual area painted.

MANAGING BRIDGE WASH WATER

SPECIAL

1.0 DESCRIPTION

Collect and properly dispose of Bridge Wash Water from bridge, machinery, counterweight, towers and the deck.

2.0 CONSTRUCTION METHODS

Prepare a written Bridge Wash Water management plan in accordance with the Guidelines for Managing Bridge Wash Water available at:

<http://www.ncdot.org/doh/preconstruct/ps/contracts/letting.html>

removed at any one time. Drift pins shall be installed that allow the connection to remain in position as well as adequate transfer of existing load. The rivets shall all be removed and replaced with temporary HS Bolts prior to the installation of the new anchor bolt chair. The chair and gusset connection can be separate plates and field welded. After one tie beam and related anchor bolts are fully installed, start working on the next one, which is symmetric with one about the center of bridge.

3.0 COUNTERWEIGHT

The counterweight will be blast cleaned and painted. The Contractor shall also inspect the counterweight and report any total section loss greater than 75% within a three (3) square foot area to the Engineer. The Contractor shall also survey the counterweight pocket and submit to the Engineer a report of the remaining available space in the pocket. Repairs to the counterweight, if any, will be determined based on the findings in the field and as determined and approved by the Engineer. The Contractor shall assume that these repairs, if any, will have minimal affect on the balance.

4.0 BASIS OF PAYMENT

Bridge Structural Work will be paid for at the contract lump sum price bid which will be full compensation for furnishing all labor, materials, tools, equipment and incidentals required to complete the work in accordance with the contract documents for all structural steel work including, but not limited to, cover plates, kneebraces, floor beams, stringers, cross bracing, repairs to the tower frame, bascule girder shoes, limit switch and toe lock receivers and those items contained in Article 440-1 of the Standard Specifications. This item includes rivet replacement required for all the above mentioned work. No measurement for payment will be made for this pay item, and no adjustment in the contract lump sum price will be made for any variation from the structural steel shown on the plans except for revisions in the plans which affect the quantity of structural steel necessary to complete the work.

Pay Item
Bridge Structural Work

Pay Unit
Lump Sum

ANCHOR BOLTS

SPECIAL

1.0 GENERAL

The Fabricator shall furnish all equipment, tools, labor and materials in connection with the fabrication and shipping of anchor bolts, in accordance with plans and as herein specified. Fabrication shall be in accordance with details shown on the plans. The material and workmanship shall conform to the current American Railway Engineering Association's Specifications for Steel Railway Bridges, except as modified by the following stipulations:

The embedment depth of adhesively anchored anchor bolts shall be as shown on the plans or shall be increased to meet the manufacturers recommendations. Installation and testing of adhesively anchored anchor bolts shall conform to the provisions of the Standard Specifications.

BRIDGE DECK WORK**SPECIAL****1.0 GENERAL**

Bridge Deck Work shall consist of replacement of existing ties, tie plates and rail, penalization of rail, removal and replacement of track sections for the purpose of repairing bridge components and all materials, labor and incidentals required to complete the work.

The Contractor shall furnish all equipment, tools, labor and materials in connection with the fabrication and shipping of all bridge deck work, including all accessories, hardware and bolts, grating, in accordance with plans and as herein specified. The material and workmanship shall conform to the current American Railway Engineering Association's Manual for Railway Engineering, Chapters 7 and 15, except as modified by the following stipulations:

2.0 MATERIALS**A. Timber**

Except as noted on the plans or specified herein, all timber shall conform to the requirements of AREMA Chapter 7, Section 1.7 for Southern Yellow Pine.

1. Ties at the rest pier, two (2) shall be replaced with Oak ties. Reuse existing hardware to secure ties to the rest pier.
2. Toe of the bascule span, the two (2) ties adjacent to the steel tie shall be furnished with Oak ties.
3. Heel of the bascule span, the two (2) ties adjacent to the steel tie on both sides of the steel tie shall be Oak ties.

B. Tie Plates, Track Spikes, Rail Anchors

Except as noted on the plans or specified herein, Tie Plates shall conform to the requirements of AREMA Chapter 5, Section 1.

Except as noted on the plans or specified herein, Track Spikes shall conform to the requirements of AREMA Chapter 5, Section 2.

Except as noted on the plans or specified herein, Rail Anchors shall conform to the requirements of AREMA Chapter 5, Section 7.

Except as noted on the plans or specified herein, Rail shall conform to the requirements of AREMA Chapter 4, 115RE to match the existing rail on the bridge. The Contractor shall furnish and install compromise joints as required for installation on the bridge and the connections to the approach spans.

C. Track Accessories

Unload, handle and place track material, ties, tie plates, spikes and all necessary accessories in a manor to prevent damage and such as not to interfere with Railroad operations. Ties shall be placed on blocks 6 inches above firm ground. The Contractor shall promptly unload and handle all furnished materials delivered by rail. The Contractor shall coordinate with the Port on the storage of materials and the staging for the deck replacement so as not to interfere with necessary railroad operations. The Contractor shall be responsible for the safe storage, protection and handling of all Railroad furnished material upon delivery.

Installation of all track and tie material, placement at the proper gage, removal of the existing material, panelizing of the existing deck, removal and re-installation, miscellaneous parts, nuts, washers, etc., if specified and/or required to complete this task to allow railroad operation will be incidental to this item. Joining of rail will be performed per AREMA Chapter 4, Part 3.

The Contractor shall furnish and place structural steel ties as part of this work item. Separate payment for the steel tie fabrication and installation will not be accepted and is incidental to the Bridge Deck Work item. Any temporary blocking or final blocking under ties to adjust any elevation differential during the placement of deck shall be incidental.

It is not intended for the new rails to be cut or track to be removed for nor after the floor system replacement has been completed. Cutting of the rails shall only be performed with the approval of the Engineer.

When the new deck is complete, the Contractor will verify final grade profile and alignment on the bridge and approaches, as acceptable to the Engineer. The Contractor shall remove and dispose of remaining and used deck elements. The Contractor shall remove the existing toe and heel rail joints as required to perform the work and reinstall the joint rail sections as necessary incidental to this work and as directed by the Engineer. The contractor shall furnish and install new walkway grating, placed between the running rails on the bascule span and the tower span attached to the new deck as recommended by the grating manufacturer. Contractor shall furnish "As-Built" drawings of the final deck with elevations.

3.0 MEASUREMENT AND PAYMENT

Bridge Deck Work will be paid for at the contract lump sum price. Such price and payment shall be full compensation for furnishing the and installing the system specified, and for all equipment, tools, labor, services, materials and incidentals necessary to furnish, place, install, removal, reinstallation, panelization, coordinate, test, make operational, required to install and complete the deck installation necessary to operate rail traffic during construction and the final condition. Final acceptance is by the Carolina Railroad Operator and demonstrating

that the bascule span operates satisfactorily and track alignment is acceptable for 10 MPH rail operation.

Payment will be made under:

Pay Item

Bridge Deck Work

Pay Unit

Lump Sum

The oil used in the thruster operating chambers of the brakes shall be of a grade recommended by the brake manufacturer and approved by the Engineer. The oil shall have a free operating temperature range of between -40°F and 150°F.

The thrusters shall be actuated by 480-volt, three-phase, 60 Hertz, totally enclosed, squirrel cage motors controlled by magnetic contactors with manual reset thermal overload relays. The rated stalled thrust of each thruster shall be not less than 135% of the thrust required to release the brake with the torque adjusted to the continuous rated value.

Each brake shall be equipped with a NEMA 3R enclosure, which encloses the entire brake assembly, including the brake thruster unit and brakewheel, and which does not prevent hand release operation.

A. Execution

Install in accordance with manufacturer's instructions and as indicated on the Drawings.

22.0 PAYMENT

The cost of the electrical work for the bridge and for the repair and construction of the Control Building as detailed on the plans shall be included in the lump sum price bid Bridge Electrical Work shown below. The price is full compensation for furnishing and installing all electrical equipment, coordination with the utility, and all other materials or tasks required for the electrical work.

Payment will be made under:

Pay Item	Pay Unit
Bridge Electrical Work	Lump Sum

CCTV

SPECIAL

The work under shall consist of furnishing, installing, and placing in permanent operating condition all closed circuit television equipment as described in this specification and all junction boxes, terminal cabinets, and wiring termination associated with this equipment.

1.0 MATERIALS AND EQUIPMENT

Provide and install camera, monitor, controller, mounting hardware, and all other necessary hardware to install a complete CCTV System as shown in the plans and described herein. Conduits and wiring shall be installed as part of the work described under, "Electrical" and paid for as part of "CCTV" work. All termination of the CCTV System wiring, shall be done as part of the "CCTV" work.

Contractor shall provide all equipment necessary for a fully functional system. Camera and monitor shall meet the requirements described below:

**MISCELLANEOUS RIVET REPLACEMENT
SPECIAL****1.0 GENERAL**

The Contractor will replace damaged or missing structural rivets, that are not otherwise called out to be replaced as part of another structural repair, on the bascule span, A-tower and stationary span in accordance with the criteria of this provision and the contract drawings. Structural rivets replaced in the course of other structural repairs, as shown on the contract plans, will be considered incidental to the work being performed and hence will not be measured and paid for under Miscellaneous Rivet Replacement.

The bascule span superstructure will be cleaned and painted as part of this contracted described in these provisions. The contractor shall provide the Engineer with a report of the remaining rivets after cleaning operations and after the structural repairs and reinforcements have been completed, that exhibit a section loss of greater than 40 Percent of head or are found to be loose.

The Contractor shall furnish all equipment, tools, labor and materials in connection with the removal of the rivet and replacement with a galvanized ASTM A-325 bolt of the proper grip, including all accessories, hardware, nuts and washers, in accordance with plans and as herein specified. The material and workmanship shall conform to the current American Railway Engineering Association's Specifications for Steel Railway Bridges, except as modified by the following stipulations:

A. Materials**1. Bolts**

ASTM A-325 galvanized bolts manufactured in the USA. ASTM A-449 galvanized bolts may also be used.

2. Washers

Furnish and install galvanized hardened steel washer under the head and the nut conforming to ASTM F436.

3. High Strength Nuts

Furnish and install galvanized heavy hex nuts conforming to ASTM A563. Tighten per AREMA Turn of the Nut method.

2.0 MEASUREMENT AND PAYMENT

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Rivet removal and installation of a galvanized high strength bolt will be paid for at the contract price per each. Such price and payment shall be full compensation for removal of a rivet, furnishing the new high strength bolt, nuts, washers and proper tensioning of the bolt. All equipment, tools, labor, services, materials and incidentals necessary to furnish, place, install, coordinate, test and complete the rivet replacement shall be included in the cost per each rivet replaced item.

Payment will be made under:

Pay Item

Miscellaneous Rivet Replacement

Pay Unit

Each