Department of Transportation

Office of Project Development

700 E Broadway Avenue
Pierre, South Dakota 57501-2586 605/773-3268
FAX: 605/773-2614

January 28, 2016

ADDENDUM NO. 1

RE: Item #7, February 3, 2016 Letting - IM 0901(175)62, PCN 035J, Pennington County - Fatigue Retrofit, Bridge Repainting, and Bridge Deck Polymer Chip Seals

TO WHOM IT MAY CONCERN:

The following addenda to the plans shall be inserted and made a part of your proposal for the referenced project.

SPECIAL PROVISIONS: NO CHANGE

BID ITEM FILE: NO CHANGE

PLANS: Please destroy sheets E6, E24, and E43, and replace with the enclosed sheets, dated 1/27/16.

Sheet E6: CONCRETE CRACK INJECTION/SEALING note was added.

Sheets E24 &E43: PLACING A NEW POLYMER CHIP SEAL ON AN EXISTING POLYMER CHIP SEAL note was revised.

Sincerely,

Sam Weisgram
Engineering Supervisor

SW/cj

CC: Todd Seaman, Rapid City Region Engineer
Mike Carlson, Rapid City Area Engineer

GALVANIC ANODE (CONTINUED)

3. The anodes shall be placed in accordance with manufacturer's recommendations and as approved by the Engineer. The anodes have not been shown on the drawings. The Contractor shall provide shop drawings of the galvanic anode installation including locations of the individual anodes to the Office of Bridge Design.

4. The anodes shall be placed with a minimum ¾" cover and shall be set in Embedding Mortar per the manufacturer's recommendations. The anodes shall be fully encased in the concrete repair material. Where adequate cover does not exist, a concrete pocket shall be chipped out behind the anode to provide sufficient cover. The Contractor may need to chip around the reinforcing bar locally at the anode installation to make the electrical connection. The reinforcing steel at the connection location shall be cleaned per the manufacturer's recommendations to provide sufficient electrical connection and mechanical bond.

5. The electrical continuity of the electrical connections and reinforcing steel shall be confirmed per the manufacturer's recommendations.

6. The Contractor shall provide manufacturer's product literature and installation instructions to the Engineer 10 days prior to installation.

7. All costs associated with placing anodes including labor, equipment, materials and incidentals shall be included in the contract unit price per each for "Galvanic Anode".

CONCRETE CRACK INJECTION/SEALING

1. This work shall consist of cleaning the concrete surfaces adjacent to the cracks, installing epoxy injection ports or tees, sealing the surface of the cracks, and epoxy injecting the cracks.

2. Concrete surfaces adjacent to the cracks shall be cleaned to the extent necessary to achieve adequate bond for the surface sealant. The preparation shall not cause dust or other contaminants to penetrate the crack. The crack shall be cleaned of dust and debris using clean, oil free compressed air. The use of solvents or thinners shall not be permitted.

3. The cracks to be injected shall have injection ports or tees installed in them. The ports or tees shall be spaced between 6 to 12 inches, or as specified by the manufacturer, beginning at the lower most point of the crack. The ports or tees shall be placed in dust free holes made with either vacuum drills or chipping hammers.

4. The surface cracks between the ports shall be sealed using an epoxy paste or as specified by the manufacturer. The application of the surface crack sealer shall be limited to clean dry surfaces at a temperature of not less than 45°F.

5. Epoxy injection shall begin at the bottom of the crack and proceed upward using a process that will ensure complete penetration of the crack. The epoxy shall be injected at a low enough pressure to ensure that no further damage will be done to the member being repaired.

6. The injection epoxy shall conform to ASTM C881, Type IV, Grade1.

7. After the epoxy has cured a minimum of 48 hours, the injection ports or tees shall be removed flush with the concrete surfaces and the surface crack sealer shall be ground smooth.

8. The Contractor shall submit a Concrete Crack Injection/Sealing procedure in writing, for approval of the engineer, thirty days prior to performing the crack injection and notify the Department of the Contractor's schedule seven days prior to performing the crack injection.

9. The cracks to be injected will be measured in inches to the nearest inch. Measurement will be made of the overall crack length.

10. All costs of cleaning the concrete adjacent to the cracks to be sealed, installing the ports or tees, sealing and injecting the cracks, and removal and grinding of the ports and sealant including labor, equipment, and incidentals necessary to complete the work shall be incidental to the contract unit price per inch for "Concrete Crack Injection/Sealing".

NOTES (CONTINUED)

FOR

151' - 0" COMPOSITE I - BEAM BRIDGE

STR. NO. 52-469-277

SEPTEMBER 2015

DESIGNED BY	CK. DES. BY	DRAFTED BY	
BWS	MM	BWS	Kevin N. Goeden BRIDGE ENGINEER
PENN035J	035JRC01		

PLACING A NEW POLYMER CHIP SEAL ON AN EXISTING POLYMER CHIP SEAL (CONTINUED)

4. The epoxy paint traffic striping shall be completely removed, as approved by the engineer, prior to placement of the Polymer Chip Seal. All cost associated with the removal of the epoxy paint traffic striping shall be incidental to the contract unit price per square yard for Abrasive Blasting of Bridge Deck.

5. The existing polymer chip seal may have damaged areas and/or areas with no polymer chip seal that will need to be spot repaired. The spot repairs shall be accomplished after the cleaning of the entire deck surface described in note number 3. The Bridge Construction Engineer shall be notified at least 24 hours in advance of starting spot repairs to inspect the cleaned surface and to verify the number, size and location of the spot repairs.

6. The following procedure shall be used for preparation of spot repair areas:

   a. Remove the existing polymer chip seal (when present) in areas where more than 25% of the chip seal is missing as determined by the engineer. The removal of any existing Polymer chip seal shall be by bridge deck grinding until all of the Polymer is removed and only the concrete of the deck surface is visible in the removed area.

   b. Check the concrete in the repair area for any concrete delaminations. Delaminations shall be repaired as directed by the Bridge Construction Engineer.

   c. Clean and prepare the deck surface for the polymer chip seal patch by abrasive blasting. The abrasive blasting shall remove all surface laitance and shall expose the coarse aggregate to the satisfaction of the Engineer. After abrasive blasting, the spot repair area shall be blown clean with dry compressed air to remove all dust and debris. Abrasive blasting and cleaning shall be done no more than 24 hours prior to the placement of the polymer chip seal patch.

   d. Apply a new first coat of polymer chip seal to the spot repair areas. Spot repairs shall be allowed to cure for the amount of time as specified by the manufacturer prior to placement of the second coat polymer chip seal coat over the entire deck surface.

7. The pull-off test failure mode described under 4901.3.B.7.c.3 shall be waived when pull-off tests are performed at locations with an existing polymer chip seal under the second coat. The contractor will not be required to perform additional pull-off tests if there is separation of the existing polymer chip seal from the concrete surface.

8. Spot repair of Existing Bridge Deck Chip Seal will be measured and paid for at the contract unit price per square yard. Payment will be full compensation for all labor, equipment, materials, and all incidental work required to remove existing polymer chip (when specified) and clean and prepare the surface accepting the new polymer.

9. Bridge Deck Polymer Chip Seal Placed on Existing Chip Seal will be paid for at the contract unit price per square yard. Payment will be full compensation for all labor, equipment, materials, and all incidental work required to furnish and install the Bridge Deck Polymer Chip Seal Placed on Existing Chip Seal including the removal and disposal of the excess cover aggregate.

AIR CARBON ARC PROCESS

1. The existing extrusions in the median barrier must be removed for installation of the new membrane sealant.

2. All cutting of existing extrusions called for by these plans shall be accomplished using the air carbon arc process unless noted otherwise by the plans.

3. Lay out all cut lines on the steel surfaces, using a marker visible during the cutting process, before any air carbon arc cutting begins.

4. Extreme care shall be exercised during the cutting process so that absolutely no damage (such as nicks, gouges, splattering) to the surrounding metal shall occur.

5. Grind all surfaces cut with the air carbon arc process to remove high carbon deposits, provide a smooth finish, and radius edges.

DESIGN MIX OF CONCRETE

1. Class A45 Concrete shall be used for the bid items Class A45 Concrete, Bridge Repair.

2. The Type of cement, concrete strength requirements, aggregate requirements, slump and air requirements for the contract item Class A45 Concrete, Bridge Repair, shall conform to the requirements of Section 460 of the Construction Specification.

NOTES (CONTINUED)

FOR

150' - 9 3/4" CONT. CONCRETE BRIDGE

STR. NO. 52-463-280

SEPTEMBER 2015

DESIGNED BY	CK. DES. BY	DRAFTED BY	
BWS	MM	BWS	Kevin N. Goeden
PENN035J	035JRE03		BRIDGE ENGINEER

PLACING A NEW POLYMER CHIP SEAL ON AN EXISTING POLYMER CHIP SEAL (CONTINUED)

4. The epoxy paint traffic striping shall be completely removed, as approved by the engineer, prior to placement of the Polymer Chip Seal. All cost associated with the removal of the epoxy paint traffic striping shall be incidental to the contract unit price per square yard for Abrasive Blasting of Bridge Deck.

5. The existing polymer chip seal may have damaged areas and/or areas with no polymer chip seal that will need to be spot repaired. The spot repairs shall be accomplished after the cleaning of the entire deck surface described in note number 3. The Bridge Construction Engineer shall be notified at least 24 hours in advance of starting spot repairs to inspect the cleaned surface and to verify the number, size and location of the spot repairs.

6. The following procedure shall be used for preparation of spot repair areas:

   a. Remove the existing polymer chip seal (when present) in areas where more than 25% of the chip seal is missing as determined by the engineer. The removal of any existing polymer chip seal shall be by bridge deck grinding until all of the polymer is removed and only the concrete of the deck surface is visible in the removed area.

   b. Check the concrete in the repair area for any concrete delaminations. Delaminations shall be repaired as directed by the Bridge Construction Engineer.

   c. Clean and prepare the deck surface for the polymer chip seal patch by abrasive blasting. The abrasive blasting shall remove all surface laitance and shall expose the coarse aggregate to the satisfaction of the Engineer. After abrasive blasting, the spot repair area shall be blown clean with dry compressed air to remove all dust and debris. Abrasive blasting and cleaning shall be done no more than 24 hours prior to the placement of the polymer chip seal patch.

   d. Apply a new first coat of polymer chip seal to the spot repair areas. Spot repairs shall be allowed to cure for the amount of time as specified by the manufacturer prior to placement of the second polymer chip seal coat over the entire deck surface.

7. The pull-off test failure mode described under 4901.3.B.7.c.3 shall be waived when pull-off tests are performed at locations with an existing polymer chip seal under the second coat. The contractor will not be required to perform additional pull-off tests if there is separation of the existing polymer chip seal from the concrete surface.

8. Spot Repair of Existing Bridge Deck Chip Seal will be measured and paid for at the contract unit price per square yard. Payment will be full compensation for all labor, equipment, materials, and all incidental work required to remove existing polymer chip (when specified) and clean and prepare the surface accepting the new polymer.

9. Bridge Deck Polymer Chip Seal Placed on Existing Chip Seal will be paid for at the contract unit price per square yard. Payment will be full compensation for all labor, equipment, materials, and all incidental work required to furnish and install the Bridge Deck Polymer Chip Seal Placed on Existing Chip Seal including the removal and disposal of the excess cover aggregate.

NOTES (CONTINUED)

FOR

164' - 0" CONT. CONCRETE BRIDGE

STR. NO. 52-510-274

SEPTEMBER 2015

DESIGNED BY	CK. DES. BY	DRAFTED BY	
BWS	MM	BWS	Kevin N. Goeden BRIDGE ENGINEER
PENN035J	035JRH03		