

October 5, 2017

Re: Britton Water System Improvements
Britton, South Dakota
A-5772

Bid Opening: **October 9, 2017**
4:00 pm Local Time

ADDENDUM NUMBER 1

The following modifications become a part of the original plans and specifications, taking precedence over the items that may conflict. The bidder shall note receipt and make acknowledgement of the addendum on his bid form, incorporating its provisions in his bid.

CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS

1. INSTRUCTIONS TO BIDDERS: ARTICLE 11- SUBCONTRACTORS, SUPPLIERS AND OTHERS, 11.04, page 22: The second sentence should read; "Declining to make requested substitutions will **not** constitute grounds for forfeiture of the Bid security of any Bidder."

2. BIDDING DOCUMENTS, Section 00 42 43, Bid Form, page 39, Item 53: 5/8" x 3/4" Curb Stop w/ Box shall be changed to 1" Curb Stop w/ Box

3. BIDDING DOCUMENTS, Section 00 42 43, Bid Form, page 40, Item A21: 5/8" x 3/4" Curb Stop w/ Box shall be changed to 1" Curb Stop w/ Box

4. PART 2, Division 33 00 00, Section 33 01 10.71: Please replace with the attached specifications.

5. PART 2, Division 33 00 00, Section 33 12 16: Add American AVK (Series 65) to the Engineer Approved Equal List

6. PART 2, Division 33 00 00, Section 33 05 19: 10" Restraining rings will be incidental to the 10" fittings. No separate payment will be made.

7. PART 2, Division 33 00 00, Section 33 05 23, 3.03, B: Delete the second sentence

PART 2, Division 33 00 00, Section 33 13 01, 3.01, A: Add the following sentence. "This shall include all service line to the curb stop."

CONSTRUCTION PLANS

- 1. PLAN SHEETS, Water Service Tables: 5/8" x 3/4" Curb Stop shall be changed to 1" Curb Stop w/ Box**
- 2. PLAN SHEET 6, Quantities, Items 53 and A21: 5/8" x 3/4" Curb Stop w/ Box shall be changed to 1" Curb Stop w/ Box**
- 3. PLAN SHEET 8:** Watermain installed under Main Street shall be bored in.
- 4. PLAN SHEET 36:** The Air Release Valve and Manhole shall remain. The new 10" watermain will need to be connected in the field. These connections are incidental to the 10" watermain.
- 5. Sheet 37, Typical Gate Valve Detail:** "Sliding Type Valve Box" shall be replaced with Screw Type Valve Box.
- 6. Sheet 37, Typical Fire Hydrant Detail:** "6' min" shall be replaced with 7'6" min.

ALL OTHER ITEMS OF THE PLANS AND SPECIFICATIONS REMAIN UNCHANGED

BY:  

PROJECT ENGINEER – HELMS & ASSOCIATES

Acknowledge receipt of the Addendum by inserting its number on the Bid Form. Failure to do so may subject bidder to disqualification. This Addendum forms a part of the Contract Documents. It modifies them as above.

SECTION 33 01 10.71 - ELEVATED WATER STORAGE IMPROVEMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. The general provisions of the Contract, including General and Supplementary Conditions, shall apply to the Work covered in this Section.

1.02 DESCRIPTION OF WORK

- A. This section covers all labor, materials, equipment and related services to upgrade, prepare surfaces, and repaint the 150,000 gallon elevated storage tank and ground storage tank as follows.
1. A roof access hatch platform and handrail assembly shall be installed on the ground storage tank.
 2. An upgraded access hatch and roof top vent shall be installed on the ground storage tank. A 24" diameter bolted flange plate and frame shall also be installed at the base.
 3. Tank roof, walls, riser and bowl exterior and structural assembly surface preparation, recoating, waste product handling, and disposal are included. The roof, bowl, balcony assembly, legs and related structural members have been identified as possibly being coated with a lead based paint.
 4. Tank roof, walls, riser and bowl interior surface preparation and recoating, disinfecting, and waste product handling and disposal are included.
- B. It shall be the responsibility of the contractors to thoroughly familiarize themselves with the project and the scope of the work necessary to accomplish the specified items and all related miscellaneous incidentals.

1.03 SUBMITTALS

- A. The Contractor shall submit the following after the bid award, for the Engineer's review:
1. Shop Drawings of the new platform and rail assembly, vents, and access hatches.
 2. For information only, description of Contractor's chosen method of handling the lead based paint removal and disposal, as well as any manufacturer's data or products used toward this end.
 3. For information only, submit 2 copies of the coating manufacturer's specifications, including basic label analysis and installation instructions for each material specified.
 4. Manufacturer's data on solvent product for SSPC - SP 1 Solvent Cleaning.

1.04 WARRANTY

- A. The requirements of the General Conditions and the requirements specified herein shall apply.
- B. In addition to the standard one year warranty, required of the Contractor in General Conditions, the following (Paragraph C.) inspection and correction work requirement will apply, Year 2018 Pressure Wash, Inspection and Corrective Work.

1. Note that in conjunction with the standard one-year correction period, the contractor shall be required to accompany the inspector and provide a rope ladder and safety line for entering the tank bowl at that time. A power wash will not be conducted at this one-year correction period inspection. This inspection cost shall be considered incidental to Mobilization.
- C. During the early spring season of the year 2018 the Contractor shall conduct a high-pressure wash and inspection of the tank interior.
1. Center rig the tank with a jib boom to provide access to the interior tank wall and bowl surfaces. The pressure wash shall be conducted from this platform. Assist the inspector in inspecting the washed surfaces.
 2. Power wash equipment capable of a minimum of 3,000 psi and 4 gpm is to be provided by the contractor for the cleaning. A thorough removal of sludge and slime from the bowl, riser interior, and bottom is required. A flush hose shall be lowered down the riser to clean the walls.
 3. Provide electrical cord and lighting for interior work. Provide chlorination material and installation (AWWA C652 Paragraph 4.1.3) upon completion of all inside activities and equipment removal.
 4. The lump sum price entered for this bid item will be included in the Total Base Bid for the Owner's consideration in awarding the work. The Contractor will not be paid the established bid price until the inspection and any required correction work is performed in the year 2018.
 5. The performance of this bid item will not result in the continued holding of any retainage of the contract amount past the issuance of the final payment upon satisfactory completion of the base bid work. Nor will it require the continuation (for the performance of the bid item) of the Performance or Payment Bonds accompanying the Contract beyond the terms set forth in the General and Supplementary Conditions forms.
 6. The Contractor shall include in his Bid Envelope to the Owner, his separate Proposal to the Owner for their joint signature, presenting his amount and the conditions of performance as required in these Specifications.
 7. This warranty and service contract shall extend to and be obligatory upon their heirs, executors, administrators, and assigns of the Contractor.
- D. The Contractor shall be responsible for the costs of materials, repair or replacement, at the point of installation and use, without cost to the Owner, and such material, or any part thereof, that is found to be defective.

1.05 PERMITS

- A. A general dewatering permit will be required when the discharge of disinfection water could reach waters of the state. To obtain information on the General Permit for Storm Water Discharges Associated with Construction Activities, contact the Department of Environment and Natural Resources (DENR) at (605) 773-3351.

PART 2 PRODUCTS

2.01 TANK APPURTENANCES AND SAFETY UPGRADES

- A. All materials used shall be new, previously unused, in first class condition and shall comply the requirements of AWWA D100-96 and as specified herein.
- B. Guard Rails, Platforms, Toe Plates
 - 1. Fabricated metal and related welding improvements for modifications and or replacements of these appurtenances shall be to a condition of compliance with physical dimensions and material types as established by OSHA regulations and AWWA standards.
- C. Roof Vent
 - 1. The unit shall be consistent with AWWA D100-96, complete with fail-safe features as a preventative measure if frost-over occurs. It shall have 24" nominal diameter for the full height of the unit and be constructed of 1/4" plate steel, stainless steel wire cloth, 8 x 8 mesh, 0.047 wires, stainless steel hold-down springs for screen. It shall be designed and so constructed to prevent entrance of birds and insects. The unit shall be equipped to accommodate a flanged ventilating fan during maintenance work.
- D. Roof Access Hatch
 - 1. Unit shall be 24" nominal diameter and feature a minimum of 4" raised curb and the hinged cover shall have an overlap lip of at least 2" and a padlocked hasp, all consistent with AWWA D100-96.
- E. Access Port at Base of Riser
 - 1. Access port shall be nominal diameter 24", consistent with AWWA C207 Class B, bolted flange, Table 7. The stick-out curb and flange to be incorporated into the riser plating and the welding and reinforcement shall withstand the weight and pressure of the tank contents and comply with AWWA D100-96, Sec. 3.13.
 - 2. Access plate and flanged curb unit shall be equipped with a gasket of the type, thickness and material shown in AWWA C207, Table 1 and a davit assembly for properly supporting the plate during opening and closing.
 - 3. A new replacement gasket shall also be furnished at the manway entrance on the tank wall at the balcony, Table 1, AWWA C207.

2.02 COATINGS

- A. All paints and materials shall be delivered to the tank site in sealed containers, which have not been opened previously. Each container shall be clearly labeled with the manufacturer's name and the type of paint it contains. All paints shall be applied strictly in accordance with the instructions of the manufacturer. Paints shall comply with all manufacturer's certifications, standards, and ASTM requirements.
- B. The use herein of proprietary names is not intended to imply that products of the manufacturers are required to the exclusion of equivalent products of other manufacturers. Requests for substitution shall include information such as, but not limited to, name of manufacturers, name of the product, generic type, description of product, solids by volume, recommended dry film thickness and related means of application, number of coats required, and a list of at least 10 project locations of similar nature where the product has been used and been in service for at least three (3) years. Refer to Sec. 3.10 for coating specifications.

PART 3 EXECUTION

3.01 WORK AREA PREPARATION

- A. The Contractor shall give three (3) days notice to the Public Works Director prior to arriving on site, Camron Gerken 605-470-0026.
- B. The Contractor shall exercise care in the direction of his sandblasting equipment so as to insure no damage to the electrical lines.
- C. The Contractor shall furnish and install drop cloths at that base of the tower and at 25 ft. perimeter for assisting in site cleanup of the sand. These cloths shall be secured, overlapped 12", and utilized in an effective manner to collect and prevent loss of sand due to wind and rain. This shall include interim pickup of accumulated waste and disposal off site at the completion by the Contractor. All drop cloths and cleanup shall be incidental to surface preparation. See Section 3.09 A.7 for dirt testing requirements, incidental to Bid Items No. 8 and 10.
- D. The Contractor shall schedule his work to minimize wind drift problems of the sandblast process and paint application on to developed areas and property.
- E. During removal activities, all paint dust classified as hazardous shall be contained to prevent atmospheric emissions or discharged of air contaminants. All paint dust containing greater than 5 parts per million lead shall be treated as hazardous materials and disposal shall be in accordance with all applicable state and federal laws and regulations.
- F. The Contractor shall properly use proven methods of his choosing to comply with containment, or the rendering non-hazardous, and disposal of, any generated waste material, which requires treatment as a hazardous material as specified in the previous paragraph.
- G. All scrap metal generated from the project shall be removed from the site by the Contractor and properly disposed of.
- H. All weld spatter is to be removed prior to coating application.
- I. The work areas shall be reasonably free of airborne dust during the time of application and while the coating is drying.
- J. Take precautions to ensure that workmen and work areas are adequately protected from fire hazards and health hazards resulting from handling, mixing, and application of special coatings.

3.02 RAILS AND PLATFORM ASSEMBLIES

- A. All welding to be performed in accordance with AWWA D100-96, Section 8.
- B. Balcony handrail shall be extended to a 42" height with 6" vertical stubs placed at 10 ft. intervals, complete with new top handrail.
- C. Install new midrail all around balcony handrail.
- D. Power tool (SSPC-11) damaged coating spots on tank interior due to welding, all incidental.
- E. Spot apply specified interior prime coating at these prepared spots, all incidental.

3.03 ROOF VENT

- A. Remove existing finial on top of tank. Install specified new roof vent.

3.04 ROOF ACCESS HATCH

A. Remove existing roof hatch. Install new roof hatch.

3.05 ACCESS PORT AT BASE OF RISER

A. Grind smooth all resultant cut and weld areas at completion of installation.

3.06 INTERIOR WELDING

A. Riser interior seams will require some spot welding. These work areas will be determined after the riser is sandblasted on the plate surface, and the appropriate level of more concentrated sandblasting at seams that indicate weld failure areas. All related surface preparation and spot prime coats will be included in the Bid Item Elevated Storage Tank

B. Wall pit welding work areas will be determined after the riser and tank plate surfaces are sandblasted. All related surface preparation and spot prime costs will be included in the Bid Item

C. All weld spatter is to be removed prior to coating application.

3.07 SURFACE PREPARATIONS

A. EXTERIOR

1. Tank walls; bowl; riser wall; balcony top and underside and handrail assembly; all roof appurtenances; all legs and structural members shall be cleaned as per SSPC-SP 1, Solvent Cleaning.
2. The solvent wash shall be followed by a thorough washing with the same high-pressure water wash. The water wash can be waived if the coating manufacturer accepts the solvent washed surface for application of their coating. The Contractor shall be responsible for the complete removal of all dried chalk, loose rust, and all solvent film that will have a negative effect on the new coating adhesion.
3. Power wash equipment producing a 4,000-psi gauge reading at the compressor and a 4-gpm rating shall be used by the Contractor. A rotating head nozzle is required.
4. Solvent shall be an alkaline chloride type solution, proven and appropriate to this application.
5. Power tooling will be required at crevices, edges, or spots where loose rust remains.
6. SSPC - SP 10 Near White Blast Cleaning from the underside. Cleaning shall be followed by final blow off with clean dry compressed air prior to painting.
7. Contractor at his expense (incidental to Bid Items) shall collect and submit two dirt samples from under the tower to an approved chemistry lab for a TCLP (lead) test. Two tests shall be performed: one before start of construction; the second after completion of the work, cleanup and removal of the tarps. If any increased level of lead is found in the second sample, the Contractor shall be responsible for all clean up and remediation work of the area affected by the performance of this Contract.

B. INTERIOR

1. Roof shall be cleaned as per SSPC -SP6 Commercial Blast Cleaning. Special attention shall be given to lap seams and crevices at wall connects and rafters to ensure removal of paint buildup and rust. .

2. Tank walls and bowl at delaminated coating spots and all evident rust spots and at locations all around the bolted manway hatch work shall be cleaned as per SSPC - SP10 Near White Blast Cleaning.
3. Remaining interior tank walls and bowl shall be cleaned as per SSPC - SP 7 Brush Off Blast Cleaning to provide a suitable etched surface for adherence of the specified coating and thickness.
4. All weld seams on the riser showing rust and plate rusted surfaces shall be cleaned as per SSPC - SP10 Near White Blast Cleaning. See Access Port at Base of Riser, Paragraph 3.05 for related work.
5. Remaining interior riser surfaces shall be cleaned as per SSPC - SP 7 Brush Off Blast Cleaning to provide a suitable etched surface for adherence of the specified coating and thickness.
6. All interior surfaces shall be air blown down before application of spot prime coats or any spray applied coatings.
7. Waste sand deposited at the bottom of the riser shall be removed from the site and properly disposed by the Contractor and incidental.

3.08 COATING APPLICATION

- A. All work shall be performed in accordance with these specifications and paint manufacturer's instruction. All phases of the work shall be available for observation by a representative of the coating manufacturer as well as the Owner and Engineer.
- B. All safety precautions stated in the manufacturer's printed instructions shall be carefully observed and followed. The use of materials in violation of local, state, or federal regulations, codes, or laws will not be permitted.
- C. Perform preparations and cleaning procedures in compliance with the coating manufacturer's instruction for the particular substrate conditions and specified herein. The Contractor and coating system manufacturer shall be responsible for suitability, acceptability, and compatibility of the various components for this application.
- D. Clean all surfaces to be coated before applying coatings or surface treatments. Clean all surfaces of bird and seed deposits. Remove oil and grease with clean cloths and cleaning solvents prior to mechanical cleaning. Program the cleaning and application so that dust and other contaminants from the cleaning process will not fall on wet, newly coated surfaces.
- E. Paint materials shall be applied immediately after surface preparation and before any surface rusting occurs on SSPC - SP 10 prepared surfaces, or any dust or soil has accumulated.
- F. Perform all painting to meet standards to the best grade of painting using only thoroughly experienced workman.
- G. The brushing shall be done such that a smooth coat, as nearly uniform in thickness as possible, is obtained. There shall be no deep or detrimental brush marks. Paint shall be worked into all crevices and corners.
- H. Paint shall be thoroughly mixed each time any is withdrawn from the container. Paint containers shall be kept tightly closed except while paint is being withdrawn.
- I. Applicator must examine the areas and conditions under which the coatings are to be applied. Notify the Contractor and Engineer in writing of conditions detrimental to the proper and

timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the applicator.

J. Starting of coatings work will be construed as the applicator's acceptance of the surfaces within any particular area.

K. EXTERIOR:

- a. Prime with 1 coat of Wasser MC-PrepBond, 1-2 mils DFT, or approved equal. Brush or roller applied on roof. Brush stroke all roof seams. Brush applied under eaves.
- b. Topcoat all surfaces with 1 coat of Wasser MC-Luster, (Yellow-elevated and Grey-ground storage), 3-4 mils DFT, or approved equal. Brush or roller applied on roof. Brush stroke all roof seams. Brush applied under eaves.

L. INTERIOR (TANK & RISER)

1. Walls and Bowl and Riser:

- a. Spot prime all weld, miscellaneous metal removal areas and spot blasted SSPC-SP 10 prepared surfaces with one coat of TNEMEC Series 20 POTA-POX, minimum thickness 4 mil DFT, brush applied, or approved equal.

2. All wetted surfaces, also including Paragraph 1 above.

- a. One life extender topcoat of TNEMEC Series 20 POTA-POX, beige color, minimum thickness 4 mil DFT; DeVoe BAR-RUST Epoxy 233H-1642, minimum 5 mil DFT; spray applied, or approved equal.

M. The dry film thickness shall be measured in accordance with SSPC-PA2 with a magnetic gauge that will measure the dry film thickness within an accuracy of 0.25 +/- mil. As many dry film thickness measurements as feasible shall be made so that there is approximately one measurement for each 100 sq. ft. of painted surface.

3.09 TANK DISINFECTION

A. The tank structure shall be disinfected in accordance with AWWA Standard C652 "Disinfection of Water Storage Facilities" and as specified herein.

B. Acceptable forms of chlorine for disinfection shall be:

1. Liquid chlorine as specified in AWWA C652.
2. Sodium hypochlorite as specified in AWWA C652.
3. Calcium hypochlorite (HTH) is not acceptable.

C. Acceptable methods of chlorination are as described in Section 4.1 and 4.3 of AWWA Standard C652 except as follows:

1. The pouring of sodium hypochlorite into the tank as described in Paragraph 4.1.2.2 of AWWA Standard C652 shall be allowed.
2. The application of a high strength chlorine solution as described in Paragraph 4.2 of AWWA Standard C652 shall not be allowed.

D. Water required for the disinfection shall be furnished by the Owner. The disposal of disinfection wastewater shall be the responsibility of the Contractor. The highly chlorinated water used for disinfection shall not be discharged to a stream, river, or other waterway where danger to aquatic may occur. The Contractor shall neutralize highly chlorinated water

prior to discharge from the tank. The chlorine residual shall be neutralized by treating with one of the chemicals listed in Table 3.1.

Table 3.1 – Amounts of chemicals required to neutralize various chlorine concentrations in 100,000 gallons of water.				
Residual Chlorine Concentration (mg/L)	Chemical Required			
	Sulfur Dioxide (SO ₂) (lb)	Sodium Bisulfite (NaHSO ₃) (lb)	Sodium Sulfite (Na ₂ SO ₃) (lb)	Sodium Thioslfate (Na ₂ S ₂ O ₃ 5H ₂ O) (lb)
1	0.8	1.2	1.4	1.2
2	1.7	2.5	2.9	2.4
10	8.3	12.5	14.6	12.0
50	41.7	62.6	73.0	60.0

E. Two or more successive samples, taken at 24-hour intervals, shall indicate microbiological satisfactory water before the tower is placed into service.

3.010 STREET BARRICADES

A. The City Street Department will place traffic barricades on both 7th Street and on 6th Avenue on the north side and west side of the tower, respectfully, during the project.

3.011 PARTIAL CONFINEMENT

A. Contractor shall furnish and install confinement curtains on the scaffolding while coating the legs and structure surface. Curtain shall extend the full length of the scaffolding and at least 15 feet below the scaffolding standing surface, in an enclosing arrangement for the purpose of intercepting the drift of paint drips. Installation and use of the Contractor's version of this paint area enclosure shall not relieve the Contractor of his responsibilities for any paint drift and related corrections onto adjacent properties.

B. Contractor shall furnish and install confinement curtains around the tank walls while coating the tank. Installation and use of the Contractor's version of this paint area enclosure shall not relieve the Contractor of his responsibilities for any paint drift and related corrections onto adjacent properties.

C. All work required in this Paragraph 3.15 is incidental to coating.

PART 4 MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

A. Roof Vent shall be measured on a Lump Sum basis.

B. Roof Access Hatch shall be measured on a Lump Sum basis.

C. Tank and Riser Exterior Surface Preparation and Coatings shall be measured on a Lump Sum basis.

D. Tank and Riser Interior Surface Preparation and Coatings shall be measured on a Lump Sum basis.

- E. Plate Seam Welding, Interior shall be measured in the field after designated seams have been satisfactorily welded and spatter removed by grinding. It shall be incidental to the painting bid items when accepted by the Engineer and the Owner.
- F. Wall Pit Welding, Interior shall be measured in the field after designated pit areas have been satisfactorily welded and spatter removed by grinding. It shall be considered incidental to the painting bid item when accepted by the Engineer and the Owner.
- G. Year 2018 Pressure Wash, Inspection, and Corrective Work shall be incidental to the painting bid item

4.02 BASIS OF PAYMENT

- A. Payment will be made at the contract unit prices and lump sum prices for the completed and accepted job. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the listed item in accordance with these specifications.
- B. Mobilization -
- C. Roof Vent shall be paid for at the bid Lump Sum price when satisfactorily completed in-place and accepted by the Engineer and the Owner.
- D. Roof Access Hatch shall be paid for at the bid Lump Sum price when satisfactorily completed in-place and accepted by the Engineer and the Owner.
- E. Tank and Riser Exterior Surface Preparation and Coatings shall be paid for at the bid Lump Sum price when satisfactorily completed in-place and accepted by the Engineer and the Owner.
- F. Tank and Riser Interior Surface Preparation and Coatings shall be paid for at the bid Lump Sum price when satisfactorily completed in-place and accepted by the Engineer and the Owner.
- G. Plate Seam Welding, Interior shall be paid at the bid Unit price when accepted by the Engineer and the Owner.
- H. Concrete Footing Repairs shall be paid for at the bid Lump Sum price when satisfactorily completed in-place and accepted by the Engineer and the Owner.
- I. Year 2018 Pressure Wash, Inspection, and Corrective Work shall be paid for at the bid Lump Sum price when satisfactorily completed and along with any interior coating repairs in the year 2018.