

**ADDENDUM NO. 2**

Date September 30, 2021

City of Austin

Project Name Hornsby Bend BMP Centrifuges

C.I.P. No. 3164.077 IFB No.: 6100 CLMC872

This Addendum forms a part of the Contract and corrects or modifies original Bid Documents, issued on September 6, 2021. **Acknowledge receipt of this addendum in space provided on bid form.** Failure to do so may subject bidder to disqualification.

A. Project Manual Revisions:

- 1) **Section 00810:** Delete Paragraph 6.6.2 from this section.
- 2) **Section 01015:** Add the following sentence to the end of Paragraph 3.04.E:  
"The CONTRACTOR shall bring in temporary power supply for the lift station pumps when the Thickener Complex's power is disconnected during construction."
- 3) **Section 01030:** Remove Section 01030 in its entirety and replace with the attached Section 01030.
- 4) **Section 02050:** Remove Section 02050 in its entirety and replace with the attached Section 02050.
- 5) **Section 17520:** Remove Paragraph 2.01.E.1 under this section and replace with the following:  
"1. Endress + Hauser Promag W 400, 5W4C50, DN50 2-inch."

B. Drawing Revisions:

- 1) **Drawing S-6:** In NOTES BY SYMBOL 4, replace "316 SS" with "ALUMINUM".
- 2) **Drawing S-6:** Delete GENERAL NOTE 5 and replace with the following:  
"5. CONTRACTOR SHALL INSTALL ALUMINUM REMOVABLE GUARDRAIL SECTIONS TO EQUIPMENT SIDE OF EXISTING CENTRIFUGE ACCESS PLATFORMS. EXISTING PLATFORM GRATING SHALL BE NOTCHED AS NEEDED TO ALLOW FOR INSTALLATION OF TOP MOUNTED ALUMINUM GUARDRAIL SECTIONS."
- 3) **Drawing M-1:** In "PIPING MATERIAL SCHEDULE", remove the GROUP 16 row and replace with the following:

16	POLYVINYL CHLORIDE, SCHEDULE 80, NORMAL IMPACT. ASTM D1785.	POLYVINYL CHLORIDE, SCHEDULE 80, AWWA C900, NORMAL IMPACT, BELL AND SPIGOT JOINTS. SOCKET SOLVENT WELD JOINTS SMALLER THAN 4-INCH DIAMETER, ASTM D2467. SOLVENT SHALL BE COMPATIBLE WITH FLUID SERVICE.	POLYVINYL CHLORIDE, BALL, DIAPHRAGM, BUTTERFLY OR LIFT CHECK: NIBCO/CHEMTROL, MCCANNA-MARPAC, OR GEORGE FISCHER SLOANE.
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- 4) **Drawing M-2:** Add after NOTE 6: "7. NEW 1-1/2" PW (16) AND 4" PW (16) SHALL BE INSULATED PER THE REQUIREMENTS OF SECTION 15256 – INSULATION AND HEAT TRACING."

- 5) **Drawing E-20:** Delete NOTE BY SYMBOL 7 and replace with the following:  
"7. NOT USED."
- 6) **Drawing E-20:** Delete all instances of NOTE BY SYMBOL 7 in the plan view.

This addendum consists of 13 page(s)/sheet(s).



Approved by OWNER

*Katelyn R. Backhaus*

Approved by ENGINEER/ARCHITECT (as applicable per license requirements)

**END**

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**PART 1 – GENERAL**

**1.1 RELATED DOCUMENTS**

Applicable portions of the Project Manual, including but not limited to relevant Drawings and Specifications.

**1.2 SUMMARY**

This Section includes administrative and procedural requirements for alternates.

**1.3 DEFINITIONS**

A. Alternate: A Bid Item for a scope of work described in the Section 00300 Bid Requirements and Contract Documents that, if accepted by Owner, may result in additions to or deductions from the Base Bid.

**1.4 PROCEDURES**

A. Coordination: The Contractor must modify or adjust any affected adjacent Work as necessary to completely integrate work of the Alternate into the Project.

B. The Contractor must include as part of each Alternate, any miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of the Alternate.

C. Notification: The awarded contract will include all accepted Alternates.

D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in such schedule contain requirements for materials necessary to achieve the Work described under each Alternate.

E. Bidders must respond to all Alternates listed on the 00300 Bid Form, even if acceptance or rejection of an alternate will not change the Bid amount. Bid amounts must be entered in the spaces for each Alternate in the Bid Form.

The Owner has established a priority order (Alternate No. 1 has the highest priority) for the acceptance of Bid Alternates based on the Project needs and budget. Alternates will be accepted in the order listed on the Bid Form, but such acceptance will not exceed the Project budget.

**PART 2 - PRODUCTS**

NOT USED

**PART 3 – EXECUTION**

**3.1 SCHEDULE OF ALTERNATES**

**Alternate No. 1: Remove the sludge from the Flow Equalization Basin (FEB) and clean the FEB for inspection by Owner’s Representative per Section 02050 – FEB Sludge Removal, Cleaning and Inspection.**

The price for Alternate No. 1 is to be listed separately in the bid form. If Alternate 1 is accepted, the cost recorded by the Contractor in the bid form will be added to the base bid.

**Alternate No. 2: Thoroughly clean the interior of the Thickener Complex process area, including the walls, floor, ceiling, outside of all equipment, tanks, etc, to remove all debris and cobwebs. Pressure wash surfaces per Section 02060 – Pressure Washing for Cleaning (Alternate). Repaint interior process area exposed walls and columns with color of Owner’s choice per the requirements of 09912 – Interior Architectural Painting, Section 3.07 “Interior Painting Schedule”.**

The price for Alternate No. 2 is to be listed separately in the bid form. If Alternate 2 is accepted, the cost recorded by the Contractor will be added to the base bid.

**END**

## SECTION 02050

### FEB SLUDGE REMOVAL, CLEANING AND INSPECTION (ALTERNATE)

#### PART 1 GENERAL

##### 1.01 WORK INCLUDED

- A. Upon acceptance of Bid Alternate 1, work includes pumping sludge and cleaning and preparation work for the third-party inspection of the existing Flow Equalization Basin (FEB). This work includes, but is not limited to providing the following temporary systems and major work tasks:
1. Provide temporary pumping facilities to remove all liquid, grit, scum, rags, sludge, and foreign material from the FEB.
  2. Provide temporary dewatering facilities to dewater FEB contents. Collect all water from dewatering operations and pump or drain it to an OWNER approved process drain, manhole, or lift station on the plant site. The disposal point must be identified prior to starting dewatering operations.
  3. Transfer dewatered material by truck transport to an approved landfill site. Provide paint filter tests, lab analysis, etc. required by landfill for disposal of materials.
  4. Send samples of dewatered material to approved laboratory and provide a detailed characterization of the grit quality to the OWNER and ENGINEER.
  5. Pressure wash all interior wall and floor surfaces. Collect all water from pressure washing operations and pump it to OWNER approved process drain, manhole, or lift station on the plant site.
  6. Furnish a temporary boom lift or scaffolding structure(s) inside the FEB to allow all interior surfaces to be inspected by the Owner's Representative.
  7. Provide all pumps, associated piping and bypass piping for temporary systems and perform all related operations to support the above work tasks.

##### 1.02 FEB INFORMATION

- A. Information concerning FEB size, physical configuration, and features is provided below:
1. Construction: Partially buried cast-in-place concrete
  2. FEB Interior Diameter: 85 feet
  3. Straight Sidewater Height: 31.5 feet
  4. Floor Slope: 3.86:1, H:V
  5. Cone Depth: 11 feet
  6. Typical operating Depth: 16 feet (straight sidewater depth)
  7. Approximate Operating Volume: 835,000 gallons
  8. Removal Volume (based on 8 feet sidewater depth): 495,300 gallons
    - a. Volume to be removed is primarily sludge, up to 2.5% total suspended solids.
    - b. Grit may have settled in the bottom of the FEB. CONTRACTOR shall anticipate up to 5-ft of grit to be removed. It is likely that this grit cannot be pumped.
  9. Number of Top Access Hatches: One

10. Number of Side Access Manholes: Two (one inside the FEB/Blending Tank building complex and one buried)
11. Type of Cover: Column supported concrete flat cover

### 1.03 RELATED WORK

- A. The following Specification sections are referenced in this section and contain specific technical requirements related to the work or requirements related to the CONTRACTOR's execution of this work.
  1. Section 01015 – Construction Coordination and Sequencing
  2. Section 01025 – Measurement & Payment Lump Sum Contracts
  3. Section 01030 – Alternates
  4. Section 01300 – Submittals
  5. Section 01380 – Construction Photography & Videos
  6. Section 01500 – Temporary Facilities

### 1.04 HEALTH AND SAFETY

- A. In confined space environments, as defined in 29CFR 1910.146, the Work shall comply with the requirements set forth by Federal OSHA applicable to the construction industry. The CONTRACTOR shall provide and require use of safety and personnel life-saving equipment for persons working in Confined Space areas, including but not limited to, adequate forced ventilation, body harnesses, and gas detection meters that continually monitor for levels of oxygen, hydrogen sulfide, carbon monoxide, and Lower Explosion Limit (LEL).
- B. The CONTRACTOR shall provide all head and face protection equipment and respiratory devices required to safely perform the work specified herein. Equipment shall include any applicable masks recommended by the manufacturer while performing blasting or application of the coating materials.
- C. Use of ear protection devices shall be provided and required by the CONTRACTOR whenever the occupational noise exposure exceeds 29CFR 1910.95 limits.
- D. Failure to comply with health and safety laws, regulations, codes, permits, and Standard Operation Procedures will be grounds for shutting down the Work. All costs resulting from a shutdown of the Work that are due to the CONTRACTOR's negligence or failure to comply with applicable safety requirements shall be borne by the CONTRACTOR. After a shutdown of the Work, the Work will not be permitted to begin again until the OWNER and / or ENGINEER is satisfied that all necessary health and safety precautions are being taken.
- E. Flammable or volatile solvents in coating system components constitute a hazard with regard to fire and explosions wherever flame or spark exposure is possible. All flames, smoking, and welding, etc., are strictly prohibited in Work or storage areas. Fire abatement devices shall be readily available and in operating condition. Necessary precautions shall be taken to keep fire hazard to a minimum; all oily rags, waste, and other combustibles not in covered containers shall be removed from the area daily. All

flammable products shall be stored in conformance with applicable State, County and Local Fire Codes pertaining to flammable materials.

#### 1.05 PROTECTION OF THE ENVIRONMENT

- A. Comply with the requirements of Section 01500, Temporary Facilities and the following specific requirements.
- B. The CONTRACTOR's operations shall in no way contribute to air, water, or land pollution, including such nuisances as odors, insects, noise, surface or groundwater contamination, or any other condition that would have a detrimental effect on the environment. The CONTRACTOR shall meet all local, state and federal regulations for handling and disposal of the sludge material.
- C. Hauling operations shall be limited to Monday through Friday, 7:00 a.m. to 7:00 p.m., local time, unless otherwise approved in writing by the OWNER. Likewise, CONTRACTOR forces shall not work during City holidays or weekends.
- D. The CONTRACTOR shall be responsible and take necessary precautions to control and prevent nuisance odors from leaving the plant site during cleaning and sludge removal operations.
- E. The CONTRACTOR shall be responsible and take necessary precautions to control and prevent liquid from leaking.

#### 1.06 SUBMITTALS

- A. Submittals shall be made in accordance with Section 01300 – Submittals and the following specific requirements.
  - 1. Quality Assurance Submittals
    - a. Bypass Piping Plan that includes, at a minimum, details of the following:
      - (i) Connection locations
      - (ii) Piping Layout
      - (iii) Pipe material
      - (iv) Pipe size
      - (v) Location of valves
      - (vi) Method of installation
    - b. Sludge Removal Pumping & Dewatering Plan that includes, at a minimum, details of the following:
      - (i) Layout, including:
        - (a) Connection locations
        - (b) Pump layout dimensions, including offset distance from existing facilities / buildings
        - (c) Piping layout
      - (ii) Pump parameters, including:
        - (a) Number of pumping units
        - (b) Manufacturer and model

- (c) Capacity and flow rates
- (d) Power requirements
- (iii) Piping and valve information, including:
  - (a) Pipe material
  - (b) Pipe size
  - (c) Location of valves
  - (d) Method of installation
- (iv) Electrical and instrumentation plan, including:
  - (a) Temporary power supply from Austin Energy
  - (b) Temporary instrumentation and control (as required)
- (v) Pressure calculations, including:
  - (a) Total Dynamic Head (TDH) of line
- (vi) Thrust harness and joint restraint sizes and location (if required)
- (vii) Temporary pipe supports and anchoring required
- (viii) Method of noise control for each pump
- (ix) Manufacturer recommended spare part and tools to have on site for pumps and dewatering equipment
- (x) Schedule for installation and maintenance of pumping and dewatering system
- (xi) List of designation and qualifications / experience of Responsible Persons for pumping and dewatering system installation and maintenance.
- (xii) Description of high pressure indication unit and shutdown procedure
- (xiii) Site-specific Emergency Response Plan, including:
  - (a) Responsible Person's names, qualifications, experience, contact information and notification procedures
  - (b) Provisions to ensure prompt repair and restoration of service in the event of electrical or mechanical failure
  - (c) Spill containment, cleanup and disinfection procedures including equipment and material types, quantities, locations and procedures for deployment
  - (d) Procedures, including names and contact information, for notification of OWNER and applicable regulatory agencies in the event of a spill
- c. Sludge Disposal Plan that includes, but is not limited to, the following:
  - (i) Removal methods
  - (ii) Concentration methods
  - (iii) Transportation methods
    - (a) Name of hauling contractor
    - (b) Copy of license for hauling contractor for proof of acceptability
  - (iv) Disposal methods
    - (a) Testing methods for landfill disposal
    - (b) Methods and frequency of paint filter testing
  - (v) Equipment requirements



- (vi) Accidental spill cleanup plan
  - (vii) Wet weather operations
  - (viii) Odor control provisions
2. Health and Safety Plan
    - a. The Health and Safety Plan shall include, at a minimum, the following:
      - (i) A list of all safety and personnel life-saving equipment for persons working in Confined Space areas per the requirements stated herein
      - (ii) A list of all head and face protection, respiratory devices and ear protection devices per the requirements stated herein
      - (iii) A plan for scaffolding and ladder Fall Protection in accordance with 29CFR 1926.502 and the requirements stated herein
  3. Disposal Records: Copies of all disposal records shall be submitted to the OWNER and shall include, but not be limited to, the following information on a daily basis:
    - a. Date of disposal
    - b. Sludge volume
    - c. Percent of total solids
    - d. Total dry weight
    - e. Detailed characterization of grit quality
    - f. Method of disposal
    - g. Name of disposal site and location
    - h. Receipts from disposal site operator
    - i. Driver's signature
    - j. Signature of CONTRACTOR or Contractor's Representative designated at the Preconstruction Conference
  4. Allowance Submittals (As Applicable)
    - a. Miscellaneous Concrete Repair
      - (i) Schedule of Demolition, Plan of Repair, Manufacturer's technical literature and all other submittal requirements of Section 03740 – Concrete Repair and Modifications.
    - b. Miscellaneous Concrete Coating Repair
      - (i) Coating Manufacturer's product data sheet for each coating type, including surface preparation requirements, recommended spreading rates, application procedures, recommended primers, environmental limits (temperature, humidity and dew point) and other instructions.
      - (ii) Material Safety Data Sheets (MSDS) for all coatings, solvents, etc.
      - (iii) Applicator's Qualifications
      - (iv) Coating Manufacturer's statement regarding applicator instruction on product use and application.
      - (v) Coating Manufacturer's written warranty.

#### 1.07 SITE INFORMATION

- A. Non-potable water (NPW) is available for use on site. The closest NPW source is near the existing scrubber.

- B. Power is NOT available from the OWNER's existing power distribution system.

## PART 2 PRODUCTS

### 2.01 GENERAL

- A. Specific products for sludge removal and cleaning are not required. Use heavy duty, industrial quality equipment and materials as necessary for complete sludge/content removal, FEB cleaning, dewatering of sludge/contents as well as transportation and disposal of dewatered sludge/contents.

### 2.02 PUMPING UNITS

- A. All pumps used shall be self-priming units that do not require the use of foot-valves or vacuum pumps in the priming system. The pumps shall be electric powered. All pumps must be constructed to allow dry running for long periods of time to accommodate the cyclical nature of flows.
- B. The CONTRACTOR shall provide the necessary manual start / stop controls for each pump.
- C. The CONTRACTOR shall include one standby pump of each size to be maintained on site.
- D. In order to prevent accidental spillage of flows, all discharge piping shall be temporarily constructed of pressure pipe with positively restrained joints. Under no circumstances will aluminum "irrigation" type piping be allowed. Glued PVC pipe shall be allowed for diameters 2" or less. Glued PVC pipe is not allowed for diameters greater than 2".
- E. CONTRACTOR shall provide a high pressure indicator for automatic shutdown to prevent sludge line/connection failure.
- F. Each pumping unit to include a run time meter.

## PART 3 EXECUTION

### 3.01 GENERAL

- A. The sludge removal and cleaning of the FEB shall take no longer than thirty (30) calendar days as the FEB is an integral part of the Hornsby Bend Biosolids Treatment Plant processes.
- B. The CONTRACTOR shall comply with all applicable local, State and Federal laws, codes, ordinances, and regulations.
- C. The CONTRACTOR shall furnish all labor, materials, equipment, tools, and incidentals necessary to remove all liquid, grit, scum, rags, sludge, and foreign material from the interior of the FEB, and transport and dispose of removed material. The CONTRACTOR shall obtain and pay for necessary permits, fees, testing, etc.

- D. Provide all items necessary for workers to perform any work inside the FEB in a safe manner. These items must comply with all Federal, State, and local worker safety requirements for working in a hazardous confined space. The work area is corrosive with potential for low to no oxygen, presence of hydrogen sulfide, and presence of methane, which creates an explosive environment. CONTRACTOR shall provide ventilation system capable of providing enough air changes per hour to maintain normal atmospheric concentrations of oxygen while workers are present inside the FEB. CONTRACTOR should provide an emergency escape plan for workers if ventilation system operation is interrupted. In the area of the FEB, the CONTRACTOR shall post and rigidly enforce "No Smoking" on the site and shall conduct his operations to prevent explosion.
- E. The CONTRACTOR must have written approval from OWNER 45 days prior to shutdown/isolation of the FEB for cleaning and third-party inspection.
- F. The temporary boom lift and / or scaffolding structure(s) constructed inside the FEB to allow all interior surfaces to be inspected by the Owner's Representative shall be in place for fourteen (14) days. CONTRACTOR's financial responsibility for maintaining the temporary boom lift and / scaffolding structure(s) ends at the completion of the third-party coating inspection work.

### 3.02 BYPASS PIPING

- A. The CONTRACTOR shall provide a gravity bypass from the Headworks effluent to the Blend Tank throughout the duration of the FEB sludge removal, cleaning and repair as specified herein.
- B. Required Connections
  - 1. Upstream of FEB
    - a. Connection will be required on the effluent line from the Headworks structure as well as the existing bypass line.
    - b. The Headworks bypass shall be maintained throughout the duration of the pumping and the connection shall be valved for use when pre-determined.
    - c. Both lines will be piped into one temporary line.
  - 2. Discharge Into Blend Tank
    - a. Discharge connection into the blend tank shall take place at the existing 18-inch blind flange (on the wall of the tank).
- C. Temporary piping can be run over the natural ground and / or across the top of the FEB.
- D. The CONTRACTOR shall protect the existing above-ground small diameter non-potable water line near the FEB.

### 3.03 SLUDGE REMOVAL & CLEANING

- A. The OWNER shall be responsible for removing the contents of the FEB to approximately 8 feet sidewater depth. The CONTRACTOR shall be responsible for the removal of the remainder of the contents of the FEB (volume stated herein).

- B. Material inside the FEB consists of sludge, grit, screenings and debris. Contents shall be dewatered using mobile trailer mounted dewatering equipment (i.e. belt filter presses) provided by the CONTRACTOR. The dewatered material shall be disposed of at an approved landfill. Filtrate from the dewatering process to be collected (i.e surge tank) and be conveyed to an OWNER approved process drain, manhole or lift station. All temporary tanks, pumping and piping required to route filtrate to the drain shall be provided by the CONTRACTOR.
- C. The CONTRACTOR shall use caution when cleaning the FEB as there is piping, mixing equipment, and related supports that may interfere with the cleaning process and be vulnerable to damage. Manual removal of grit and debris will likely be required in areas near these items. The CONTRACTOR shall be solely responsible for any damage to existing piping and equipment and shall make repairs at no cost to the OWNER.
- D. The CONTRACTOR shall perform all sampling and analyses required for measurement of the sludge quantity and quality deposited into a landfill.
- E. Sludge sampling and testing to determine percent total solids content (percent TS) are to be completed by the CONTRACTOR following the established laboratory procedures specified in Test 2540G of the 19th Edition of "Standard Methods". The CONTRACTOR shall run this test once in the morning and once in the afternoon of each day sludge is removed from the site.
- F. Grit sampling and testing to determine Grit Size Characterization and Sand Equivalent Size are to be completed following the established laboratory procedures specified in Test 2540B and 2540E of the 19th Edition of "Standard Methods".
1. A total of twelve (12) samples are to be collected by the CONTRACTOR, which will include four (4) samples around the FEB at three (3) different depths.
  2. All samples are to be labeled with the date, time, and location of sampling.
  3. CONTRACTOR shall send samples to GRIT TECH laboratory, or approved equal, for analysis by the laboratory. CONTRACTOR shall coordinate with laboratory to provide all required containers, shipping materials, and postage for transport of grit samples.
  4. CONTRACTOR is responsible for all applicable costs associated with grit sampling effort.
- G. The volume of sludge hauled from the site for disposal shall be recorded on a per truckload basis by the CONTRACTOR. The CONTRACTOR shall maintain a log book in which the load quantity each vehicle removes each day is recorded. The CONTRACTOR shall furnish OWNER with dimensions of each vehicle used to haul sludge. The OWNER or the Owner's Representative may conduct a visual inspection of each truck as it is loaded. Any other means of determining the volume of residuals hauled from the site for disposal may be proposed by the CONTRACTOR but requires written approval by the OWNER.
1. The dry tonnage of solids hauled from the site for disposal shall be calculated as the sum of the dry tonnage disposed over the Contract period. Daily dry tonnage shall be calculated each day that sludge is hauled, based on the recorded volume

of sludge hauled multiplied by the average solids content of per Paragraph 3.03.E above, in accordance with the following equation:

$$[TS \times VOL] \times C = \text{Dry tons applied}$$

Where:

TS = Average percent total solids as determined by the CONTRACTOR's laboratory analyses

VOL = Recorded volume of sludge removed (gallons)

C =  $4.17 \times 10^{-6}$  (unit conversion factor)

- H. After removal of materials from the FEB, the CONTRACTOR shall thoroughly pressure wash the interior to the satisfaction of the Owner's Representative employing industrial grade pressure washers with Cleaning Unit ratings of not less than 5,000 psi.

### 3.04 TRANSPORT AND DISPOSAL OF MATERIALS

- A. The CONTRACTOR shall be licensed to transport the dewatered material removed from the FEB to the disposal site or employ the services of a professional hauler that has the necessary licenses and permits.
- B. A Toxicity Characteristic Leaching Procedure (TCLP) shall be completed prior to hauling any dewatered contents from the plant at no additional cost to the OWNER.
- C. The CONTRACTOR shall transport dewatered sludge/contents removed from the FEB for disposal at a Type I landfill (unless the TCLP indicates a more stringent landfill is required).
- D. The CONTRACTOR shall take precautions to prevent spillage or liquid leakage from the hauling vehicle. The CONTRACTOR shall be responsible for any spills or leakage that occur as a result of the sludge hauling operations. Spilled sludge shall be removed immediately and cleanup work completed immediately. Cleanup of spilled sludge left unresolved for more than 4 hours may be performed or contracted by the OWNER on an emergency basis and the cost shall be withheld from the CONTRACTOR's final payment. This in no way shall relieve the CONTRACTOR of responsibility for the spill or subsequent results of the spill.

### 3.05 POWER SUPPLY

- A. The CONTRACTOR shall coordinate with Austin Energy to provide temporary power for any temporary pumping equipment at no additional cost to the OWNER.

### 3.06 MEASUREMENT AND PAYMENT

- A. Measurement and payment shall be in accordance with 01030 – Alternates.

END OF SECTION