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**INSTALLATION OF BELT FILTER PRESS AND SOLIDS CONVEYANCE
EQUIPMENT**

Bid No. 2024-22

Due Date: May 13, 2024

APRIL 12, 2024

Invitation to Bid
Belt Filter Press and Solid Conveyance Equipment Installation
BID 2024-22
Due Date May 13, 2024

INVITATION TO BID

1.1 Competitive Cost Sealed Bids

The City of Perry is requesting sealed bids for the procurement and installation of a Belt Filter Press and Solid Conveyance Equipment.

Sealed Bids for the procurement and installation of a Belt Filter Press and Solid Conveyance Equipment will be received until 2:00 PM on May 13, 2024, at 1211 Washington Street, Perry, GA 31069. Bids will then be publicly opened and read aloud at said office. Any bid received after 2:00 PM on April 30, 2024, will not be considered by the Owner. Following the closing time for the receipt of bids no bid may be withdrawn for a period of sixty (60) days.

1.2 Scope of Work

The City is soliciting bids for the following services to be completed for the installation Belt Filter Press and Solid Conveyance Equipment as outlined below.

BELT FILTER PRESS AND SOLIDS CONVEYANCE EQUIPMENT

PART 1 - GENERAL

1.01 SUMMARY:

A. This Section covers furnishing of:

1. One (1) skid-mounted 1.5-meter belt filter press complete with motors, drives, control panels, belt conveyors, a wash water booster pump, and auxiliary Equipment to dewater waste activated sludge at the Frank Satterfield Road Water Pollution Control Plant.

B. The equipment manufacturer shall furnish:

1. One (1) complete belt filter press system that will control the belt filter press, feed pumps, belt conveyor(s), and emulsion polymer feed system (provided by others).

C. The Equipment will be located in an enclosed, heated, ventilated, and wet area as indicated. Construction materials shall be as specified and as required for corrosion resistance.

D. Contractor shall furnish all Equipment complete with all components, hardware, motors, controls, and all other parts and accessories as indicated, specified, or required for proper installation, operation, and maintenance.

E. All Equipment specified in this Section shall be fabricated, assembled, and tested in full conformity with Drawings, Specifications, engineering data, instructions, and recommendations of the equipment manufacturer unless exceptions are noted by the Engineer.

All belt filter press components shall be provided by the same manufacturer and shall be suitable for installation. Any revisions necessary to accommodate the Equipment furnished shall be the responsibility of the Contractor.

1. Complete manufacturer's data, specifications, and detailed drawings for all Equipment and materials which shall include complete descriptive data to define materials, sizes, capacities, types, models, accessories, etc. Drawings and other information shall be suitable for erection and installation of Equipment and materials.

8. Electrical schematic control diagrams, wiring diagrams, and process and instrumentation diagrams (P&ID). All diagrams shall be complete and have uniquely numbered terminals, wires, and devices.

9. Control panel layout and elevation with devices and nameplates shown.

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10. Motor nameplate data.
 11. Catalog cut sheets for all electrical devices which completely indicate all electrical ratings.
 12. Control wiring diagram showing wiring into and out of the control panels and terminal landing points.
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 14. All submittal data shall be labeled in English units. All drawings shall be drawn to scale and text shall be in English. Submittals utilizing only metric units will be rejected.
 15. Special shipping, storage, protection, and handling instructions including dimensions of each container or package shipped.
 16. Manufacturer's printed installation instructions.
 19. Submit complete, signed report of results of field inspection, operation, adjustments, and tests. Include the manufacturer's certificate that the Equipment is ready for permanent operation and that nothing in installation will affect the Manufacturer's warranty in any manner.
 20. Operating weight of unit and load distribution.
 21. Control wiring diagram showing wiring terminations for all external connections. All termination points shall be identified.
 22. External connection diagram showing wiring terminations for all external connections. All termination points shall be identified.
- 1.04 DELIVERY, STORAGE, AND HANDLING:
- B. The Manufacturer shall include delivery to the project site.
 - C. Shipment Preparation: Prepare Equipment and materials for shipment in a manner to facilitate unloading and handling, and to protect against damage or unnecessary exposure in transit and storage. Include:
 1. Crates or other suitable packaging materials.
 2. Covers and other means to prevent corrosion, moisture damage, mechanical injury and accumulation of dirt.
 3. Suitable rust-preventive compound on exposed machined surfaces and unpainted iron and steel.
 - D. Adequately seal and protect Equipment for outdoor storage at the plant site.
 - E. Protect from exposure to sunlight per the Manufacturer's recommendations.
 - F. Notify Contractor 30 days prior to shipping.
- 1.05 QUALITY ASSURANCE:
- A. The Contractor and Manufacturer shall assume responsibility for the satisfactory installation and operation of the entire belt filter press system and controls as specified.
 - B. All Equipment specified within this section shall be provided by a single manufacturer having a minimum of five (5) years' experience in design and manufacture of the specified Equipment. The Equipment furnished shall be designed, constructed and installed to operate satisfactorily when installed as shown in the drawings.
 - C. All materials and Equipment supplied shall be new and free from all defects that might affect installation and operation of the system.
 - D. A manufacturer's representative with complete knowledge of the Equipment and installation as specified herein shall be provided under this section to assist in the installation, testing, startup, and training for the Equipment.
- 1.06 WARRANTY:
- B. The manufacturer shall warrant that all Equipment shall be free of defects caused by faulty material or workmanship and shall replace those parts for at least a period of one (1) year from the date of start-up or within eighteen (18) months of readiness to ship, whichever comes first.
 - C. Multiple warranties for individual components shall not be acceptable.

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PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

1. PHOENIX Process Equipment Co.
2. Alfa Laval Ashbrook Simon-Hartley.
3. BDP Industries.
4. Andritz.
5. Engineer approved equal.

2.02 SERVICE CONDITIONS

1. The Equipment will be installed indoors.
2. The upstream treatment process consists of:
 - a. Mechanical screening (2 mm screen).
 - b. Aeration Basin
 - c. Secondary Clarification
 - d. WAS is conveyed to a Solids Holding Tank.

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2.03 PERFORMANCE REQUIREMENTS:

A. The belt filter press system shall continuously receive, condition, and dewater the feed solids specified herein, and discharge the dewatered solids into a conveyor system. The unit shall be suitable for dewatering the specified solids intermittently or continuously for up to 24 hours per day, 7 days a week. The design criteria for the dewatering Equipment is as follows:

1. Type of Solids: Waste Activated Sludge and Clarifier Scum.
2. Solids Makeup (by weight): 100% WAS.
3. Solids Volatile Solids Content: 0%.
4. Feed Solids Concentration (excluding Polymer): 1.0-3.0% TS.
5. Maximum Solids Loading Rate: 1,100 dry lbs/hr
6. Maximum Hydraulic Loading Rate: 200 gpm
7. Solids Temperature: 50-80 deg F.
8. Solids pH: 6-8 (Standard Units).
9. Average Dewatered Cake Solids Concentration: 16% TS.
10. Minimum Solids Capture with Polymer: 90% TSS.
11. Maximum Polymer Consumption: 20 lb/ton dry solids based on 100% active product. Polymer consumption shall be determined by the quotient of the actual weight of polymer used/dry ton of solids divided by the published % active product and the specific gravity of the emulsion.

B. Manufacturer's Polymer Selection:

1. Manufacturer is responsible for recommending an emulsion polymer that when used in conjunction with the proposed system, is capable of meeting the specified performance requirements.
2. The specified performance requirements shall be achievable with emulsion polymers.
3. The recommended polymers shall be products commonly used for municipal biosolids dewatering and readily available in the Perry, Georgia Region.

2.04 BELT PRESS:

A. The belt press unit shall dewater waste activated sludge by means of seamed belts. The press shall consist of pressure and shear compression of the sludge between two dewatering belts using multiple rollers. After the pressure zone, the dewatering belts shall be cleaned by doctor blades and a high-pressure water spray.

B. Sludge Conditioning System:

1. The belt filter press shall be provided with a sludge conditioning system, designed to efficiently mix polymer with the feed sludge and adequately condition the sludge for

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dewatering.

2. Mixing energy must be capable of independent adjustment during operation.
3. The sludge conditioning system shall be capable of automatically opening to allow solids which are larger than the pre-set opening to pass through the mixer without clogging and then return again to the pre-set position.

C. Structural Frame:

1. The structural main frame shall be fabricated of steel members conforming to AISC Standard Specifications for Structural Steel, into a rigid structure, adequately braced to withstand intended loads without excessive vibration or deflection.
2. The structure shall be able to support the maximum load on the frame based on the summation of forces applied to the frame from roller mass forces and weight of the rollers, including the sludge and belts, and belt tension forces.

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3. The framework shall be welded and/or bolted construction. All welding shall conform to the American Welding Society Structural Welding Code.
4. The structure shall be designed for installation on a prepared concrete foundation and secured with anchor bolts. Permanent lifting lugs shall be provided as necessary to allow installation and removal of the belt filter press.
5. The construction shall allow easy access and visual inspection of all internal components.
6. The frame shall be 304 or 316 stainless steel. Fabrication bolts shall be 316 stainless steel.
 - a. Tapped bolt holes in the frame are prohibited.

D. Gravity Drainage Section:

1. The gravity drainage section shall be furnished with a sludge feed chute and an inlet distributor to evenly distribute the conditions sludge over the effective width of the moving filter belt.
2. The conditioned sludge shall be contained on the belt with adjustable containment barriers equipped with replaceable rubber seals to prevent leakage. The containment barriers shall be 14-gauge stainless steel.
3. The filter belt, while in the gravity drainage section, shall be supported by a steel grid with wiper bars.
4. The belt support grid shall be a minimum of 2 inches wider than the belt on each side and designed to reduce belt wear.

E. Pressure Section:

1. The belt filter press shall be furnished with a pressure section following the gravity drainage section. The pressure section shall consist of an increasing pressure (wedge) zone and a shear pressure zone.
2. The sludge inlet height at the entrance to the wedge plate shall be adjustable. The adjustments shall be capable of being performed while the press is in operation. The adjustments shall not cause undue wear on the belts or cause the belts to be moved from their normal path between rollers.

F. Sludge Feed:

1. Provide a 10" flange connection for sludge influent feed.
2. Provide a feed box and discharge chute to evenly distribute the flocculated sludge on the gravity drainage belt with minimal agitation
3. The materials in contact with the sludge shall be of Type 304 or 316 stainless steel.

G. Belts:

1. The one (1) dewatering belts shall be construction of monofilament polyester with 304 or 316 stainless steel pins.

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2. Belt pore size shall be designed to meet the performance requirements specified
3. Minimum belt life shall be 2,000 hours of normal operation. Belts that fail prior to 2,000 hours shall be replaced with belts that will meet the requirement. Operation hours shall be based on actual operating time as recorded by Owner.
4. The minimum effective belt width shall be 3.0 meters (between sludge restrainers).
5. Each belt replacement shall be accomplished by attachment of new belt to the old and threading through the machine without disassembly.
 - a. Seam loops shall be designed to facilitate easy threading.
 - b. Seam loops shall be stainless steel.
 - c. Seams shall be designed to prevent interference with doctor blades or any other part of the machine.

H. Belt Drives:

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1. Drive roller speeds (dewatering belts) shall be independently adjustable by variable-speed drive units.
2. Speed shall be adjustable by the operator at the control panel. The speed shall be adjustable while the belt press is running.
3. A local belt speed indicator for each belt drive in units of feet per minute or % of maximum speed shall be provided at the control panel.
4. The drive units shall be totally enclosed and suitable for a wet environment.
5. Drive motors shall be as specified in Section 46 05 13 and inverter-duty rated with TEFC enclosure.

I. Belt Tension System:

1. Hydraulically actuated belt tensioning for each belt shall be provided. The design of the tensioning system shall be such that adjustments in tension shall result in immediate changes in dewatering pressure.
2. The system shall be capable of maintaining constant belt tension and adjustment of belt tension while the unit is in operation.
3. The belt tensioning system shall be furnished with a control station located on the press so that shutoff of belt tension is possible. Actual belt tension shall be maintained automatically despite process changes or belt stretching and shall not require additional adjustment by the operator to maintain the setpoint.
4. The belt tensioning system shall be independent of the belt alignment system.

J. Belt Alignment System:

1. Continuous automatic belt alignment for each belt shall be provided. The belt drive shall automatically stop when belt misalignment is detected beyond the manufacturer's allowable limits without causing damage to Equipment.
2. The belt alignment system shall be provided with sensing devices to detect belt position.
3. The alignment systems shall function as a continuous automatic belt guidance system and shall be an integral part of the press. The alignment system shall operate with smooth and slow motions resulting in minimum belt travel from side to side.
4. The system shall be capable of adjustment of the belt alignment while the unit is in operation and shall be independent of the belt tensioning system.
5. Backup limit switches for the belt alignment system shall be provided on the machine with sufficient contacts to de-energize all drives and sounds an alarm in case of belt over travel.

K. Belt Wash:

1. Provide one belt wash system for both the upper and lower belts.
2. The belt wash system shall be capable of using non potable water with a supply pressure

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of 50 psi.

3. Self-flushing strainers shall be provided and installed on the belt wash water line as recommended by the belt press manufacturer.

4. Each belt wash system shall be located such that belt washing is accomplished after the cake has been discharged from the belt. The belt wash station shall extend over the full width of the filter belt by a minimum of two inches. The belt shall be cleaned by the belt wash with no blinding.

5. The belt wash system shall be capable of dislodging solids enmeshed in the belt openings.

6. The spray nozzles shall be of the self-cleaning design with the size of the orifice as recommended by the belts press manufacturer. The entire system shall be fabricated using Type 304 and 316 stainless steel.

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7. The belt wash station shall be enclosed by Type 304 or Type 316 stainless steel containments.

8. Belt wash water piping shall be a minimum of Schedule 80 PVC.

9. Wash water and filtrate water waste shall be piped to a common drain pipe with a flanged connection.

L. Wash Water Pump:

1. Manufacturer shall provide a belt wash water booster pump, starter and all necessary controls specified and required for complete and operable systems if higher pressure than supplied is required.

2. Non-potable water will be available at the booster pump suction at 50 PSI.

M. Belt Rollers:

1. Include tension rollers, drive rollers, alignment rollers, pressure rollers, and support rollers.

2. Rollers shall be Type 304 or 316 stainless steel.

3. Roller including roll surfaces shall be fully warranted for a period of three years. The manufacturer shall warrant the rollers and the coating for a period of three years from the date of start-up, not to exceed three and a half years from the date of delivery.

N. Roller Bearings:

1. All rollers shall be supported by greaseable type, high capacity design roller bearings, in sealed, splash proof, horizontal split case pillow block housings. The bearings shall be direct mounted on the shaft with a shrink fit backed by a retaining snap ring.

2. Bearings supporting the steering rollers shall be non-self-aligning cylindrical roller bearings in pivot mounted pillow block housings.

3. Bearing lubrication shall be performed through stainless steel grease fittings mounted on each bearing housing. All bearings shall be outboard (externally mounted) and shall be greaseable while the unit is in operation. Lubrication shall not be required more often than every 40 hours of operation.

4. The manufacturer of the belt filter press shall warrant the complete bearing assembly, as specified herein for a period of one year from the date of startup or acceptance of the Equipment, whichever occurs first. The warranty shall include all parts and labor for repairing or replacing any bearing that fails during the warranty period.

O. Discharge Blades:

1. Discharge blades shall be provided to scrape dewatered sludge from the belt at the final discharge rollers. The blades shall be readily removable.

2. Doctor blades shall be adjustable and easily replaceable.

P. Sludge Discharge Chute:

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1. Provide a chute as required to discharge the sludge cake into the conveyor as indicated.
2. The chute shall be supported by the belt press frame.
3. Chute shall be supported by the belt press frame.
4. Chute shall be of 304 or 316 stainless steel.
5. The chute shall be angled at a maximum of 30 degrees from vertical.

Q. Filtrate Collection:

1. Provide drain pans to collect all filtrate.
2. Slope drain pans for positive removal of all material.
3. Drain pans shall be 304 or 316 stainless steel.
4. Filtrate piping shall be a minimum of Schedule 80 PVC. Filtrate piping shall be rigidly attached to the press frame. Filtrate piping shall terminate inside the structural frame at the bottom of the press.

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R. Provide emergency shutoff cord and switch around each side of machine at waist level and at operating platform level. Switch enclosure shall be rated NEMA 4X.

S. Hydraulic System:

1. The hydraulic system shall operate the belt tension and belt alignment actuators, as per the machine's design.
2. All piping, fittings, and accessories shall be 304 or 316 stainless steel and shall be rigidly supported on the structural frame of the press.
3. Route piping overhead to allow uninterrupted access to Equipment by plant personnel.
4. Connections shall be leak-tight at test pressures of 1.5 times normal operating pressure.
5. Maximum system pressure shall be set equal to the highest pressure required to obtain the desired operating belt tension.
6. The oil pressure gauges shall indicate oil pressure in PSI. Low-pressure switches shall be provided to sense the absence of belt tension pressure.

2.05 BELT FILTER PRESS CONTROL PANEL:

A. Provide one main control panel for the belt filter press, conveyor(s), feed pumps and all ancillary systems indicated in this section. The control panel shall be NEMA 4X stainless steel. The main control panel shall be located local to the belt filter press equipment.

B. The belt filter press control panel shall accept a single 480-volt, 3-phase, 60 Hz feed.

D. All electronic boards associated with the PLC shall be coated with a conformal coating as specified.

E. Coordinate with the Systems Integrator for interfaces with the plant control system.

F. The PLC shall be connected to the plant control system through an Ethernet/IP network.

1. The manufacturer shall assist the System Integrator and shall provide the PLC program and all necessary documentation for installation and integration of the belt filter press system into the plant's control system.

2. Provide all communication cards and programming required for communicating required points over the PLC Ethernet network.

G. Belt Filter Press Main Control Panel shall be as follows:

1. Provide controls for belt press belt drives, belt wash pump, conveyor, feed pumps, polymer system, conveyor, and hydraulic systems.

2. Provide control and interface for Equipment by others: sludge feed pumps and polymer feed systems.

3. Suitable for a main supply of 480Vac, 60 Hz, 3-phase power and contain the following as a minimum:

a. Main disconnect circuit breaker with front door interlocked operating handle.

b. Combination motor starters with solid state overloads for the following:

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- (1) Belt wash pump.
- (2) Hydraulic power unit.
- c. Variable frequency drive (VFD) with main circuit breaker disconnect for belt drive motors.
- d. Control power transformer with circuit breaker disconnect.
- e. Allen Bradley CompactLogix programmable logic controller, with circuit breaker disconnect.
- f. Industrial unmanaged Ethernet network switch, with circuit overcurrent protection.
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- g. Required circuit breakers, terminal blocks, control relays, power supplies, pushbuttons, selector switches, and indicating lights.
- 4. The control panel shall include a 120Vac UPS to power the PLC, OIT, network switch, and other electronic control components. UPS shall be sized to power the required devices for 20 minutes, under full load.
- 5. The primary operator interfaces shall be a touchscreen interface.
- 6. Provide the following physical devices located on the main control panel face as a minimum:
 - a. Control power ON/OFF switch.
 - b. Control power on pilot light.
 - c. Control power by UPS light.
 - d. Emergency stop push button.
 - e. Overload reset buttons for all motor starters and VFDs.
- 7. Provide the following interfaces for control of the belt filter press and associated equipment as a minimum:
 - a. Hand/OFF/Auto mode selector switch.
 - b. Remote/Local selector switch.
 - c. Auto start push button.
 - d. Auto stop push button.
 - e. System reset push button.
 - f. Alarm silence push button.
 - g. Press ready indicator.
 - h. Dewatering enable push button.
 - i. Washdown cycle ON indication.
 - j. Conveyor Hand/Off/Auto selector switch.
 - k. Conveyor start push button.
 - l. Conveyor stop push button.
 - m. Conveyor running indication.
 - n. Conveyor failure alarm.
 - o. Wash water pump and valve Hand/Off/Auto selector switch.
 - p. Wash water pump start push button.
 - q. Wash water pump stop push button.
 - r. Wash water pump running indicator.
 - s. Wash water pump fail indicator.
 - t. Belt drive Hand/Off/Auto selector switches.
 - u. Belt drive start push button.
 - v. Belt drive stop push button.
 - w. Belt tension Hand/Off/Auto selector switch.
 - x. Belt tension start push button.

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- y. Belt tension stop push button.
- z. Belt tension ON indication.
- aa. Belt drive speed adjustment.
- bb. Belt drive speed indicator.
- cc. Belt drive FAIL indication.
- dd. The following controls shall be provided for the sludge feed pumps, polymer feeders, sludge mixer, and non-potable water pumps:
 - (1) Hand/Off/Auto selector switch.
 - (2) Start push button.
 - (3) Stop push button.
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- (4) Running indication.
- (5) Speed adjustment.
- (6) Speed indication (0-100%)
- (7) Fail indication
- ee. Sludge flow rate indication (0-300 gpm or % of maximum).
- ff. Low wash water pressure indication.
- gg. Low air or hydraulic pressure indication.
- hh. Belt misaligned indication.
- ii. Belt broken indication.
- jj. Loss of cake detection.
- kk. Loss of cake bypass switch.
- ll. Emergency stop indication.
- mm. Elapsed time meter.
- 8. Provide a horn and strobe mounted on the main control panel. The audible visual alarm shall be activated for major system alarms or faults.
- H. EMERGENCY TRIP CORD SYSTEM:
 - 1. The belt press shall have an emergency trip cord system for stopping the belt press and directly related Equipment.
 - 2. The emergency trip cord system shall be either a linear displacement (cable pull or like product name) or actuating arm.
 - 3. The system shall consist of a switch and pull cable that encircles all sides of the belt press and is supported on the main frame.
 - 4. Cables shall be terminated at the switch on opposite ends of cable pull switch or an actuating arm. Pulling the cable at any point shall actuate the switch by displacing the switch locking it in the tripped position.
 - 5. One end or both ends of the cable shall be terminated at the switch or on opposite ends of an actuating arm. Pulling the cable at any point shall actuate the switch and locking it in the tripped position.
 - 6. The switch shall have a visible signal that it is in the normal or actuated position.
 - 7. The switch shall be wired to the belt press main control panel.
 - 8. The switch shall be wired so that upon actuation, the belt press and directly related devices, such as the sludge feed pump, polymer feed pump, hydraulic pump, washwater system, etc. shall be deactivated or stopped.
 - 9. The switch enclosure shall have at least a NEMA 4X rating.
 - 10. The cable shall be mounted and supported so that there are no fixed or binding points along the entire run to the switch.
- 2.06 SOLIDS FEED PUMPS:
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2.07 BELT CONVEYORS:

- A. The belt filter press system shall consist of adequate conveyors to load out to dumpster.
- B. Belt Conveyor shall be designed to convey dewatered waste activated sludge.
- C. Acceptable Manufacturers (Belt Press and Conveyor manufacturer must be the same):

- 1. PHOENIX Process Equipment Co.
- 2. KWS Manufacturing Company, Ltd.
- 3. Austin-Max, Inc.
- 4. Parkson/American Bulk Conveying, Inc.

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- 5. Engineer approved equal

D. Belt Conveyor and solids characteristics are as follows:

- 1. Minimum No. of Units: 1
- 2. Type of Conveyor: Belt
- 3. Discharge Location: within 30 feet of end of press
- 4. Maximum Conveyor Design Loading Rate: match press output
- 5. Maximum Conveyor Trough Load: 25% solids
- 6. Cake Density: 55-65 lbs/ft³.
- 7. Components shall be designed to handle abrasive solids with minimum wear.
- 8. Conveyor and supports shall be designed by the Manufacturer to be completely supported off of the skid.
- 9. Each conveyor shall be furnished complete with supports suitable for mounting as required by the Manufacturer's design. The supports shall be shop fabricated from structural steel shapes and plates. The supports shall be designed to facilitate the unsupported lengths indicated on the Drawings. The support locations are required to facilitate dump truck or dumpster parking under discharge chute. See Drawings for support detail.
- 10. All shop welding shall conform to the latest standards of the American Welding Society.
- 11. All components associated with the conveyor shall be 304 or 316 SST.
- 12. The conveyors shall be designed to start and operate with the trough 100% full of dewatered solids without damage or overloading of any component.
- 13. Conveyor to include at least 3" high sidewalls bonded to the belt.
- 14. Provide a discharge flange on the conveyor and a discharge chute to guide the solids into the dumpster.
- 15. The conveyor shall be equipped with all guards, shields, emergency stops, and covers required by OSHA standards and normal safety practices.
- 16. Conveyor shall be equipped with a replaceable wear liner.
- 17. Electric Motors:
 - (1) Shall be sized based on the requirements of the driven loads with consideration given to all drive train component efficiencies and system overload requirements.
 - (2) Shall have a motor nameplate rating not less than 10 percent greater than the nominal absorbed power requirements at design load conditions.
- b. Shall have sufficient power to start under full design load of solids in the conveyor trough.
- 18. Controls:
 - a. Provide combination full voltage reversing (FVR) starter in the Dewatering Control Panel (DCP) for the conveyors to allow control of the conveyor in local or remote from DCP.
 - (1) The ON/OFF status of the conveyors shall be controlled remotely from

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Dewatering Control Panel while in the AUTO mode.

(2) In the HAND mode, conveyors shall be controlled locally.

b. Provide and install a motion sensor (zero speed detection) at a location to give positive indication of rotation of the spiral, 115 VAC, two output 5A contacts, inductive or proximity type, solid-state design with adjustable start-up delay timer.

2.08 SPARE PARTS (MINIMUM):

1. One set of belts.

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2. Two complete sets of doctor blades.

3. Two sets of rubber seals for gravity dewatering section and washbox.

4. One of each size and type of roller bearing complete.

5. Two complete sets of belt wash box seals.

6. One set (each) of any other parts recommended by the manufacturer.

7. All spare parts shall be in packages suitable for export service labeled with the description and part number. Each item or set of parts expected to be installed at one time shall be individually packaged.

2.09 PROTECTIVE COATINGS:

A. Shop Painting:

2. All nameplates, bronze or stainless steel surfaces shall not be painted.

2.10 ANCHOR BOLT ASSEMBLY:

A. Complete anchor bolt assembly (studs, nuts, washers, etc.) to be designed and provided by the manufacturer.

Anchor material shall be

316 SST. Anchor size and embedment shall be clearly shown on the equipment drawings.

PART 3 - EXECUTION

3.01 INSTALLATION:

B. The Equipment as specified herein shall be installed as recommended by the manufacturer.

Any additional power, piping, or accessories recommended by the belt press manufacturer shall be provided by the installing contractor and shall be the responsibility of the installing contractor.

C. A factory representative shall be present when belt presses are initially moved into Solids Handling Building and shall provide a written certificate of no machine damage upon completion of the move. The manufacturer shall coordinate all PLC programming with the installing contractor for verification and checkout of all I/O addressing prior to equipment startup.

D. Provide all necessary lubrication for initial start-up, testing, and as required for final acceptance.

E. Provide a complete unit with all materials, components, and adjustments as required for successful operation.

3.02 PERFORMANCE TESTING:

A. After installation and prior to performance testing, the belt filter press shall be completely tested functionally in both the automatic and manual modes. Included in the testing shall be a complete test of the PLC and interlock functions.

B. Performance tests shall be run to ensure that the belt press performs as specified for peak loading conditions.

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C. Performance testing shall be conducted and the belt tension and belt speed determined by the

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belt filter press manufacturer's representative to achieve the specified cake solids at peak solids and hydraulic loading.

D. The belt press shall be operated by the Owner's personnel under the direction of the manufacturer's field representative during the testing period.

E. Testing period shall begin only after the manufacturer's field representative has instructed the Owner's personnel on equipment operation and the field representative confirms that these personnel are qualified to operate the Equipment.

F. Testing period shall begin after the belt press is in full operation.

G. Contractor to coordinate with polymer manufacturer and belt press manufacturer for jar testing polymer with site solids. Jar testing is required before the Performance Testing

H. Performance Testing:

1. The testing program shall consist of tests taken during a consecutive two-day period of operation. Duration of the test each day shall be three hours.

2. Samples shall be grab samples taken hourly during the working day.

3. Locations of where samples are to be taken shall be determined by the Engineer at the beginning of the testing program.

4. Laboratory tests shall be done by an Engineer-approved independent testing laboratory, paid for by the Contractor. Engineer shall receive a copy of laboratory tests results direct from the laboratory.

5. Laboratory tests shall be those required to determine if the design requirements specified in PARTS 2 and 3 are not met.

6. Solids concentrations shall be based on Total Solids.

I. Submit a digital copy of the written report of the performance testing results to the Engineer within 10 days after completion of the testing program. The report shall include all data required to calculate unit performance.

J

3.03 MANUFACTURERS FIELD SERVICE:

A. Field services shall be provided by experienced representatives of the equipment Manufacturer.

B. The Manufacturer shall include the services of a Manufacturer's service engineer and shall make such person(s) available for the initial startup of the system. The services of the engineer shall include at least the following:

– BELT FILTER PRESS AND SOLIDS CONVEYANCE EQUIPMENT: continued

Frank Satterfield Road Water Pollution Control Plant

1. As required during installation, provide field services to include, but are not limited to, three (3) eight-hour days for installation, start up, calibration, and training of the equipment.

2. Training of Owner's personnel in operation and maintenance of Equipment shall be prior to performance testing and shall be a minimum of one (1) eight-hour days at the project site.

3. Supervision during the full length of the equipment performance tests.

a. The service engineer shall furnish all information and advice to assist the Contractor and Owner in attaining a properly commissioned and tested installation. If a service engineer notices anything not consistent with this goal, she/he shall immediately call the matter to the attention of the Contractor, Owner, and Engineer.

4. Any additional time required onsite shall be approved by the Owner and Engineer prior.

END OF SECTION

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1.2.3 A schedule shall be provided to indicate an approximate time frame to complete the installation. This is to include all coordination with utility providers and any interference or delays that might affect day to day operations of adjacent property owners or business.

1.3 Record of Projects Similar in Scope

A listing of projects similar in scope to this bid request that have been completed by the Bidder must be included with any submitted bid package. The listing is to include project title, location, description, original bid amount, final contract amount, and contact information of the project owner. Any bid that does not include this record of similar projects may be deemed unresponsive.

1.4 Licenses and Permits

The vendor shall obtain and pay for any permits and licenses required for the performance of the work, post all notices required by law, and comply with all laws, ordinances, and regulations bearing on the conduct of the work, as specified herein. For any work that requires an inspection certificate issued by local authorities or any other governing body, such inspection certificate(s) shall be obtained by and paid for by the vendor. The chosen vendor shall procure all required certificates of acceptance or completion issued by state, municipal, or other authorities, and must deliver these to the City.

1.5 Non-Mandatory Pre-Bid Meeting

A non-mandatory pre-bid meeting will be conducted at 10:00 AM on April 24, 2024 at 108 Frank Satterfield, Attendance at the pre-bid meeting is not required in order to submit a bid for this project but is encouraged.

1.6 Insurance

The vendor shall, at vendor expense, procure and maintain satisfactory public liability and casualty insurance to adequately protect the vendor's personnel and the City against damages for bodily injury, including death that may arise from operations under this contract, whether such operations are by the vendor or by the vendor's subcontractor, or anyone directly or indirectly employed by the vendor.

The City will require the vendor with which a contract is established to provide evidence of appropriate professional liability insurance, errors and omission insurance, and workers' compensation insurance coverage prior to commencement of work.

Such coverage must be provided by an insurance company or companies authorized to do business in the State of Georgia. Certificates must name the City as an Additional Insured, shall provide that contractor's policy is primary over any insurance carried by the City, and shall provide that the policy will not be cancelled or materially changed without 30 days prior notice in writing to the City. The successful vendor must agree, if awarded a contract as a result of its proposal, to indemnify and hold harmless the City, its officers, agents, and employees from any and all claims and losses accruing or resulting to persons engaged in the work contemplated by its proposal or to persons who may be injured or damaged by the firm or its agents in the performance of the work. Provider minimum insurance coverages are:

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Workers' Compensation Insurance:

- State: \$100,000 or state required coverage, whichever is greater
- Federal: \$200,000 or federally required coverage, whichever is greater

Employer's Liability Insurance:

- \$200,000 or the statutorily required coverage, whichever is greater

Comprehensive General Liability Insurance:

- Combined single limit for bodily injury and property damage: \$1,000,000 each occurrence; \$2,000,000 combined single limit.
- General aggregate- \$2,000,000
- Operations aggregate - \$2,000,000

Personal Injury Insurance:

- \$1,000,000 each occurrence

Excess/Umbrella Policy:

- \$1,000,000 each occurrence; \$2,000,000 general aggregate

Comprehensive Automobile Liability Insurance:

- Bodily Injury: \$1,000,000 each person; \$1,000,000 each occurrence
- Property damage: \$100,000 each occurrence; combined single limit of \$200,000
- Combined single limit per accident for property damage and bodily injury- \$2,000,000

Prior to the commencement of any work, these and other provisions will be established contractually.

1.7 Bidder Responsibility

Unless otherwise stipulated, vendor shall provide, and pay for, all materials, labor, tools, Equipment, transportation, and other facilities necessary for the performance and completion of the work.

1.8 Bonds

All bids must be accompanied by a Bid Bond in an amount not less than ten percent (10%) of the amount of the bid. The Successful Bidder, if awarded the Contract, will be required to furnish a Performance Bond and Payment Bond, each in the amount of one hundred percent (100%) of the Contract amount

1.9 E-Verify Requirement

All bidders shall provide a signed E-Verify affidavit with bid. Bids will not be considered without the Contractor's affidavit. The successful Bidder is responsible for obtaining a signed E-verify affidavit from their Subcontractors and Sub-subcontractors.

1.10 Rejection of Proposal

The City reserves the right to reject any or all proposals, to waive any informality in such proposals, to request new proposals, to revise the Bid prior to the time for final submission of written proposals, to proceed to do the work otherwise, to withdraw this Bid, to not award the

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contract, to not award a portion or portions of the contract, and/or to negotiate separately with any source whatsoever in any manner necessary to serve the best interest of the City. The City may not award a contract based solely on this request for proposals and will not pay for the information obtained and solicited. The information obtained will be used in determining the proposal that best meets the City's needs. Unauthorized conditions, limitations or provisions attached to a Proposal may render it as not complying with the City's original request and may be subsequently rejected. No oral proposal or modifications to submitted proposals will be accepted.

1.11 Amendments

The City reserves the right to amend this bid prior to the proposal due date. All amendments and additional information will be posted to the City of Perry website at <http://www.perry-ga.gov/bids.php>. The City will not be responsible for any oral or other unofficial interpretation of any element of this B.I.D. or its related documentation.

1.12 Bid Due Date

All bids must be received in the Finance Department – Purchasing no later than 2:00 PM, May 13, 2024.

1.13 Questions

Any questions regarding this bid should be directed to:

Ansley Fitzner
Public Works Superintendent
City of Perry
(478) 988-2731
Ansley.fitzner@perry-ga.gov
1211 Washington Street; P.O. Box 2030
Perry, GA 31069

1.14 Submission of Bid

Bid documents must be clearly marked on outside "Bid #2024-22 Installation Belt Filter Press and Solid Conveyance Equipment. No fax transmissions or emails will be accepted. Bids are to be submitted to:

Bid #2024-22 Installation Belt Filter Press and Solid Conveyance Equipment
Finance Department – Purchasing

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1211 Washington Street
P.O. Box 2030
Perry, GA 31069

BID FORM

BID RECIPIENT

This Bid is submitted to:
CITY OF PERRY
Finance Department – Purchasing
1211 Washington Street
P O Box 2030
Perry, Georgia 31069

Project:
Installation Belt Filter Press and
Solid Conveyance Equipment

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner to perform all work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

BIDDER ACKNOWLEDGEMENTS

Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner. After the Notice to Proceed is received, the awarded Bidder shall begin work within 30 days of notification. Work shall commence on a date agreed to by both parties and continue uninterrupted until the project is complete.

BIDDER REPRESENTATIONS

In submitting this Bid, Bidder represents that:

- Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

Addenda No.

Addenda Date

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- Bidder is familiar with the site and is satisfied as to the general, local and site conditions that may affect cost, progress, and performance of the work.

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BASIS OF BID

Bidder agrees to furnish material, labor, and Equipment for the **Installation of Belt Filter Press and Solid Conveyance Equipment** as detailed below, which shall be considered our base bid:

Description	Amount
<u>Installation of Belt Filter Press and Solid Waste Conveyance Equipment</u>	_____
<u>TOTAL BID:</u>	_____

ATTACHMENTS TO THIS BID

The following documents are attached to and made a condition of this Bid:

- Contractor's Affidavit
- Save Affidavit
- Copy of Business License
- Estimated Demolition Schedule
- Bid Bond
- Record of Similar Projects

BID SUBMITTAL

The undersigned declares that he/she is an officer of the firm listed above and is authorized to sign this proposal and fully bind said firm to all the conditions and provisions thereof.

Company Name

Company Address

Authorized Agent (printed):

Authorized Agent Signature

Contact Number

Fax Number

Email Address

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By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of City of Perry has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Contractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, _____, 202__ in _____ (city), _____ (state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS _____ DAY OF _____, 202__.

NOTARY PUBLIC

My Commission Expires: _____

Sub-subcontractor Affidavit under O.C.G.A. § 13-10-91(b)(4)

By executing this affidavit, the undersigned sub-subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of

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services under a contract for _____ (name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract) and _____ (name of contractor) on behalf of City of Perry, Georgia has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned sub-subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned sub-subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the sub-subcontractor with the information required by O.C.G.A. § 13-10-91(b). The undersigned sub-subcontractor shall submit, at the time of such contract, this affidavit to _____ (name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract). Additionally, the undersigned sub-subcontractor will forward notice of the receipt of any affidavit from a sub-subcontractor to _____ (name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract). Sub-subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Sub-subcontractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, _____, 202____ in _____ (city), _____ (state)

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS _____ DAY OF _____, 202____.

NOTARY PUBLIC

My Commission Expires: _____

Secure and Verifiable Documents under O.C.G.A. § 50-36-2

- A United States passport or passport card [O.C.G.A. § 50-36-2(b) (3); 8 C.F.R. § 274a.2]
- A United States military identification card [O.C.G.A. § 50-36-2(b) (3); 8 C.F.R. § 274a.2]

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- A driver's license issued by one of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, the Commonwealth of the Northern Marianas Islands, the United States Virgin Island, American Samoa, or the Swain Islands, provided that it contains a photograph of the bearer or lists sufficient identifying information regarding the bearer, such as name, date of birth, gender, height, eye color, and address to enable the identification of the bearer. [O.C.G.A. § 50-36-2(b)(3); 8 CFR § 274a.2]
- An identification card issued by one of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, the Commonwealth of the Northern Marianas Islands, the United States Virgin Island, American Samoa, or the Swain Islands, provided that it contains a photograph of the bearer or lists sufficient identifying information regarding the bearer, such as name, date of birth, gender, height, eye color, and address to enable the identification of the bearer. [O.C.G.A. § 50-36-2(b)(3); 8 CFR § 274a.2]
- A tribal identification card of a federally recognized Native American tribe, provided that it contains a photograph of the bearer or lists sufficient identifying information regarding the bearer, such as name, date of birth, gender, height, eye color, and address to enable the identification of the bearer. A listing of federally recognized Native American tribes may be found at: <http://www.bia.gov/WhoWeAre/BIA/OIS/TribalGovernmentServices/TribalDirectory/index.htm>. [O.C.G.A. § 50-36-2(b) (3); 8 CFR § 274a.2]
- A United States Permanent Resident Card or Alien Registration Receipt Card. [O.C.G.A. § 50-36-2(b) (3); 8 CFR § 274a.2]
- An Employment Authorization Document that contains a photograph of the bearer. [O.C.G.A. § 50-36-2(b) (3); 8CFR § 274a.2]
- A passport issued by a foreign government. [O.C.G.A. § 50-36-2(b) (3); 8 CFR § 274a.2] • A Merchant Mariner Document or Merchant Mariner Credential issued by the United States Coast Guard. [O.C.G.A. § 50-36-2(b) (3); 8 CFR § 274a.2]
- A Free and Secure Trade (FAST) card. [O.C.G.A. § 50-36-2(b) (3); 22 CFR § 41.2]
- A NEXUS card. [O.C.G.A. § 50-36-2(b) (3); 22 CFR § 41.2]
- A Secure Electronic Network for Travelers Rapid Inspection (S.E.N.T.R.I.) card. [O.C.G.A. § 50-36-2(b) (3); 22CFR § 41.2] • A driver's license issued by a Canadian government authority. [O.C.G.A. § 50-36-2(b) (3); 8 CFR § 274a.2]
- A Certificate of Citizenship issued by the United States Department of Citizenship and Immigration Services. (U.S.C.I.S.) (Form N- 560 or Form N-561) [O.C.G.A. § 50-36-2(b) (3); 6 CFR § 37.11]
- A Certificate of Naturalization issued by the United States Department of Citizenship and Immigration Services. (USCIS) (Form N-550 or Form N-570) [O.C.G.A. § 50-36-2(b)(3); 6 CFR § 37.11]
- In addition to the documents listed herein, if, in administering a public benefit or program, an agency is required by federal law to accept a document for proof of or documentation of identity, that document will be deemed a secure and verifiable document solely for that particular program or administration of that particular public benefit. [O.C.G.A. § 50-36-2(c)]

SAVE AFFIDAVIT

STATE OF GEORGIA
HOUSTON COUNTY

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By executing this affidavit under oath, as an applicant for a public benefit, as referenced in O.C.G.A. §50-36-1, administered by the Georgia Department of Community Affairs, the undersigned applicant verifies on of the following with respect to my ability to enter into a contract with the City of Perry.

- 1. _____ I am a United States Citizen
Or
- 2. _____ I am a legal permanent resident of the United States.
Or
- 3. _____ I am an otherwise qualified alien or non-immigrant under the Federal Immigration and Nationality Act and lawfully present in the United States with an alien number issued by the Department of Homeland Security or other federal immigration agency. My alien number issued by the Department of Homeland Security or other federal immigration agency is: _____.

The undersigned applicant also hereby verifies that he or she is 18 years of age or older and has provided at least on secure and verifiable document, as required by O.C.G.A. §50-36-1(f)(1), with this affidavit.

The secure and verifiable document provided with the affidavit can best be classified as:

In making the above representation under oath, I understand that any person who knowingly and willfully makes a false, fictitious, or fraudulent statement or representation in an affidavit shall be guilty of a violation of O.C.G.A. §16-10-20, and face criminal penalties as allowed by such criminal statute.

Executed this ____ day of _____, 202_ in _____(city) _____ (state).

Signature of Applicant

Printed Name of Applicant

SUBSCRIBED AND SWORN BEFORE ME ON THIS ____ DAY OF _____, 202_.

NOTARY PUBLIC

My Commission Expires:_____