



CONTRACTUAL DOCUMENTS

**GEORGETOWN COUNTY WATER & SEWER DISTRICT
PAWLEYS ISLAND, SOUTH CAROLINA**

WACCAMAW NECK WTP BELT PRESS SYSTEM

BIDS DUE 02/03/2026

2:00 PM

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ADVERTISEMENT FOR BIDS

PROJECT: **Waccamaw Neck WTP Belt Press System**

Furnish, deliver, and start-up one (1) belt press dewatering system and associated equipment as specified herein and in accordance with the Contract Documents. All work shall be in accordance with the specifications listed in the Bid Package and the recommended practices of American Water Works Association (AWWA), and the South Carolina Department of Environmental Services (SCDES).

OWNER: **Georgetown County Water and Sewer District**
456 Clearwater Drive
PO Drawer 2730
Pawleys Island, SC 29585

CONTACT: **Paul Muzyczyn, Water Operations Supervisor**
Office: (843) 237-9727

RECEIPT OF BIDS: Sealed bids for the Waccamaw Neck WTP Belt Press System in Georgetown County will be received by the Owner at their Pawleys Island Administration Building (address above) until February 3, 2026, 2:00PM, local time, and then at said office will be publicly opened and read aloud. Bid packages can be picked up at the Georgetown County Water and Sewer District office at 456 Clearwater Drive, Pawleys Island, South Carolina.

OWNER'S RIGHTS: The Owner reserves the right to waive any informalities in bidding and to reject all bids if it is in the Owner's best interest to do so. Unless all bids are rejected, award will be to the low, responsive, responsible bidder.

INSTRUCTIONS TO BIDDERS

Receipt and Opening of Bids:

Bids will be received at the time and place as specified in the Advertisement for Bids, and then at said office, publicly opened and read aloud. No oral, telegraphic, or telephone bids or modifications will be accepted. All bids must be submitted with all the required information and the provided bid form completely filled out. All bids submitted shall remain in full force and effect for a period of thirty (30) days and may be accepted or rejected by the Georgetown County Water and Sewer District (**Owner**) at any time prior to the expiration date.

Laws and Regulations:

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over completion of the project shall apply to the Contract throughout, and they will be deemed to be included as though herein written out in full.

The Bidder shall have all equipment, personnel, and procedures necessary to ensure a safe work area.

The Bidder agrees that they will not discriminate against any employee or applicant for employment because of race, color, religious creed, ancestry, physical handicap, sex or political affiliation, and that he will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to race, color, religious creed, physical handicap, ancestry, sex or political affiliation.

Examination of Specifications:

Each Bidder shall carefully examine Specifications and drawings and thoroughly familiarize himself with the detailed requirements, thereof, prior to submitting a bid. If the Bidder is in doubt as to the true meaning of any part of the Specifications or other documents, or if any error, discrepancy, conflict, or omission is noted, the Bidder should immediately contact Mr. Paul Muzyczyn, Water Operations Supervisor for Georgetown County Water and Sewer District by email at paulm@gcwsd.com, or USPS at PO Box 2730, Pawleys Island, SC 29585. The Water Operations Supervisor will clarify the intent of the said documents and/or correct such error, discrepancy, conflict, or omission, and will notify all known participating Bidders by written Addendum. No telephonic inquiries will be accepted.

Information Not Guaranteed

1. All information given in the Specifications and drawings or in the Contract Documents, relating to existing conditions or other information on existing facilities, is from the best sources available to the Owner. All such information is furnished only for the information and convenience of the Bidders.
2. It is further agreed and understood that the Bidder will not use any of the information made available to him or obtained in any examination made by him, in any manner, as a basis or grounds for claim or demand of any nature, against the Owner, arising from, or by reason of

any variance, which may exist between the information offered by the actual materials or structures encountered during the completion of the work, except as may be otherwise provided for in the Contract Documents.

3. If any work is performed by the Manufacturer, prior to adequate verification of applicable data, any resultant extra cost for adjustment of work necessary to conform to existing conditions, or damage to existing facilities, shall be assumed by the Manufacturer without reimbursement or compensation by the Owner.

Addenda and Interpretations

1. No interpretation of the meaning of the Specifications or other Bid Documents will be made orally to any Bidder by the Owner prior to award of the Contract.
2. Every request for such information should be in writing to GCWSD, PO Box 2730, Pawleys Island, SC 29585, or by email to paulm@gcwsd.com. To be given consideration, such request must be received at least seven (7) days prior to the date fixed for the opening of Bids. Any and all such interpretations and any supplemental instructions will be made in the form of written Addenda to the Specifications.
3. Addenda will be mailed or delivered to all who are known to have received a complete set of Contractual Documents.
4. Every attempt will be made to issue addenda no later than four (4) days prior to the date for receipt of Bids except an Addendum withdrawing the Request for Bids or one which includes postponement of the date for receipt of Bids. Should an Addendum be required closer to the Bid date than the specified four (4) days, Bidders shall be notified via fax or telephone that an Addendum is being released. Bidders shall be responsible for making necessary arrangements to obtain late-issue Addenda. No attempt shall be made to provide the changes verbally.

Ability and Experience of Bidder

1. It is the purpose of the Owner not to award this Contract to any Bidder who does not furnish satisfactory evidence that he has the experience of successfully completing projects of this type and magnitude and that he has sufficient capital, equipment, and personnel to enable him to accomplish the work successfully and to complete in the time stipulated.
2. The Owner may make such investigation as it deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner, under oath if so required, all such information and data for this purpose as the Owner may request.
3. The successful Bidder will be required to construct the work with his own, directly employed personnel.

Bids and Qualifications:

Before a Bid is considered for award, the Bidder may be requested by the Owner to submit a statement of facts, in detail, as to his previous experience in performing similar or comparable work, and of his business and technical organization and financial resources available to be used in performing the contemplated work.

Modification of Bids:

Bids may be modified, in writing, executed (in the manner that a bid must be executed), and delivered to the place where bids are to be submitted, at any time prior to the opening of bids. Telegraphic modifications of the Bid will not be accepted.

Withdrawal of Bids:

1. Any Bidder may withdraw his Bid, either personally, or by written request, at any time prior to the scheduled time for opening Bids or authorized postponement thereof.
2. No Bidder may withdraw his Bid for a period of thirty (30) calendar days after the date set for the opening, thereof, and all Bids shall be subject to acceptance by the Owner during this period.

Irregular Bids:

1. If the Bid is on a form other than that furnished by the Owner, or if the form is altered or, any part, detached.
2. If there are unauthorized additions, conditional, or alternate bids, or irregularities of any kind which may tend to make the Bid incomplete, indefinite, or ambiguous to its meaning.
3. If the Bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
4. If there is a reason to believe that any Bidder is interested in more than one Bid on the same project, or that there has been collusion among the Bidders.

Disqualification of Bidders:

More than one Bid from an individual, a firm or partnership, a corporation or any association, under the same or different names, will not be considered. Reasonable grounds for believing that any Bidder is interested as a principal in more than one Bid for the work contemplated will cause the rejection of all Bids in which such Bidder is believed to be interested. Any or all Bids will be rejected if there is reason to believe that collusion exists among the Bidders. Contracts will be awarded only to the responsible Bidders capable of performing the class of work contemplated within the time specified, and having sufficient resources and finances to carry on the work properly.

Acceptance or Rejection of Bids:

The Owner reserves the right to reject any and all Bids when such rejection is in the best interest of the Owner; to reject the Bid of a Bidder who has previously failed to perform properly or complete on time contracts of a similar nature; and to reject the Bid of a Bidder who is not, in the opinion of the Owner, in a position to perform the Contract. The Owner also reserves the right to waive any informalities and technicalities in bidding.

Method of Award:

Unless all Bids are rejected, the Contract will be awarded to the lowest responsive, responsible Bidder. A responsive Bidder is defined as one who's Bid is complete and submitted in accordance with the

Contract Documents without exceptions, special conditions, or alternate bids. A responsible Bidder is defined as one who is legally licensed to bid and perform the work in the State of South Carolina, maintains a permanent place of business, has adequate equipment to complete the work properly and within the established time limit, has adequate financial status to meet his obligations contingent to the work, and is considered by the Owner to be capable of performing the work in accordance with the Contract Documents.

Bid Data:

1. All Bids must be submitted on the blank bid form provided, and must state the total price for which the Bidder will complete the work in accordance with the terms of the Contract Documents. All blank spaces must be filled, and there shall be no alterations or erasures.
2. The Bid form must be signed manually by a principal or an officer duly authorized to make contracts. The Bidder's legal name must be fully stated, and the name and title of the person signing must be printed as indicated.
3. **The References form must be completed with no less than five (5) references.**

Submitting Bids:

1. Each Bid must be submitted on the prescribed bid form. All blank spaces for bid prices must be filled, in ink, or typewritten, and the Bid must be fully completed and executed when submitted. Only one copy of the bid form is required.
2. Bidders are cautioned that it is the responsibility of each individual Bidder to assure that his Bid is in the possession of the Owner prior to the stated time and stated place of the bid opening. Owner is not responsible for Bids delayed by mail and/or delivery services of any nature.
3. Each Bid must be submitted in an opaque sealed envelope, plainly marked on the outside, addressed and delivered as shown below. If forwarded by mail, the sealed envelope containing the Bid must be enclosed in another envelope addressed to the owner at:

Georgetown County Water and Sewer District
Attn: Paul Muzyczyn, Water Operations Supervisor
456 Clearwater Drive
PO Box 2730
Pawleys Island, South Carolina 29585

LOWER LEFT HAND CORNER:

Bid for Waccamaw Neck WTP Belt Press System
February 3, 2026 – 2:00 PM

TECHNICAL SPECIFICATIONS

Georgetown County Water & Sewer District

PART 1 - GENERAL

1.1 SCOPE

- A. Furnish, deliver, and start-up one (1) belt press dewatering system and associated equipment as specified herein and in accordance with the Contract Documents in Georgetown County, South Carolina, located at 1975 Sandy Island Road, Litchfield, SC 29585. All work shall be in accordance with these specifications and the recommended practices of the American Water Works Association (AWWA) and the South Carolina Department of Environmental Services (SCDES).

1.2 REFERENCE SPECIFICATIONS AND STANDARDS

- A. All work shall be in accordance with these specifications, and the recommended practices of the American Water Works Association (AWWA), and the South Carolina Department of Environmental Services (SCDES).
- B. The Owner's decision shall be final as to the interpretation and/or conflict between any of the referenced specifications and standards contained herein.

1.3 MANUFACTURE

- A. The Manufacture shall have five years practical experience and successful history in the application of specified method and products in similar projects. The Manufacture shall substantiate this requirement by furnishing a minimum of 5 reference project completions.

1.4 QUALITY ASSURANCE

- A. General: Quality assurance procedures and practices shall be utilized to monitor all phases of the production, delivery, and start-up of Belt Press System throughout the duration of the project. Procedures or practices not specifically defined herein may be utilized provided they meet recognized and accepted professional standards and are approved by the Owner.
- B. Field Reporting: The manufacture representative shall record and document all important site-specific information each day onto a daily logbook. Important site-specific information shall include, but not be limited to:
 1. Personnel entering and leaving the site

2. Telephone or email conversations regarding site activities
3. Start and stop times of major events
4. Installation and operation of equipment

C. The Owner or the appointed Owner's representative reserves the right to stop work at any time to inspect equipment, equipment preparation, and delivery of the Belt Press System, or anytime the manufacturer exceeds the standards outlined herein.

1.6 SAFETY AND HEALTH REQUIREMENTS

- A. General: In accordance with requirements set forth by regulatory agencies applicable to the construction industry and manufacturer's printed instructions and appropriate technical bulletins and manuals, the Contract shall provide and require the use of personnel protective lifesaving equipment for persons working on or about the project site.
- B. Head and Face Protection and Respiratory Devices: Equipment shall include protective helmets with eye and face protection devices, which shall be worn by all persons while in the vicinity of the work. In addition, an air purifying mask or respirators with appropriate filters shall be worn during any procedures that produce hazardous vapors or the handling of hazardous chemicals. Barrier creams shall be used on any exposed areas of skin.
- C. Ventilation: Where ventilation is used to control hazardous exposure, all equipment shall be explosion-proof. Ventilation, air circulation, and exhaustion of vapors shall be continued until the concentration of air contaminants to the degree that a hazard does not exist.
- D. Sound Levels: Whenever the occupational noise exposure exceeds maximum allowable sound levels, the manufacturer shall provide and require the use of approved ear protective devices.
- E. Illumination: Adequate illumination shall be provided while work is in progress, including explosion-proof lights and electrical equipment. Whenever required by the Owner, the Manufacturer shall provide additional illumination and necessary supports to cover all areas to be inspected. The Owner shall determine the level of illumination for inspection purposes.
- F. Confined Space: When applicable, it is mandatory that all work be performed in compliance with OSHA's rules and regulations for working in confined spaces. Atmospheres within confined spaces, as defined by the Occupational Safety and Health Administration, are classified as being either a Class A, Class B, or Class C environment.
- G. It is mandatory that all work be performed in compliance with OSHA rules and regulations.

PART 2 – PRODUCT SPECIFICATION

2.1 GENERAL

- A. The equipment covered by these specifications is intended to be belt press dewatering equipment of proven ability as manufactured by reputable concerns having long experience in the production of such equipment. The equipment furnished shall be designed and constructed in accordance with the best practices and methods.
- B. All components of the system shall be engineered for long, continuous, and uninterrupted service. Provisions shall be made for easy lubrication, adjustment, or replacement of all parts. Corresponding parts of multiple units shall be interchangeable. Except as otherwise specified, steel plates and shapes shall have a minimum thickness of $\frac{1}{4}$ " and bolts shall have a minimum diameter of $\frac{1}{2}$."
- C. All welding shall be in accordance with the latest acceptable codes of the American Welding Society ANSI/AWS D1.6.
- D. All material used in the construction of the sludge dewatering equipment shall be of the best quality and entirely suitable in every respect for the service required. All structural steel shall conform to the ASTM standard specification for structural steel, designation A36-77A. All iron casting shall conform to the ASTM standard specification for gray iron casting, designation A48-76, and shall be of a class suitable for the purpose intended. Other materials shall conform to ASTM specifications where such specifications exist; the use of such material shall be based on continuous and successful use under similar conditions of service.
- E. Unless otherwise specified herein, all metal parts in contact with or subject to splashing polyelectrolyte or sludge shall be type 304L stainless steel. All fasteners, pins, and anchor bolts shall be type 304L stainless steel.
- F. All fiberglass-reinforced plastics (FRP) shall be manufactured in conformance with NBS standards PS15-69.

2.2 SURFACE PROTECTION

- A. All metals shall be hot-dipped galvanized to the latest revision of ASTM 123 specification. Painted or flame-sprayed galvanizing shall not be allowed.
- B. All pre-painted purchased equipment such as electrical motors, cylinders, gearboxes, etc., shall be painted with a final coat of the below system. All miscellaneous steel items shall be sandblasted and covered with the following paint system:
 1. First coat of Tnemec #66 primer epoxy of contrasting color to a minimum of four (4) dry mils thickness.
 2. Second coat of UV-resistant Urethane Top Coat, finished color, minimum of four (4) mils thickness. Total thickness of the two (2) coats will be a minimum of eight (8) mils dry.
- C. The control panel enclosure shall be NEMA 4X constructed of type 304 stainless steel. Inside of the box will be white.

2.3 MECHANICAL DETAILS

- A. Main Structural Frame
 1. The frame shall be fabricated from tubular steel structural members designed to support all components and accessories. Steel shall meet the requirements of ASTM A123; all welding shall be performed in accordance with ANSI/AWS D1.1. Where frame components are bolted, stainless steel fasteners shall be used. The frame moment of inertia shall be a minimum of 17.4 in.⁴ in the xx axis and 5.8 in.⁴ in the yy axis. The load bearing frame member of the pressure section shall have a moment

of inertia minimum of 69.4 in.⁴ in the xx axis and 9.3 in.⁴ in the yy axis. Channel, plate or I-beam construction will not be accepted. The above moments of inertia must be met, or the unit will not be accepted.

2. The fabricated steel frame shall be designed to withstand the maximum stresses imposed on the individual members with a safety factor of 10. Specifically, the maximum actual stress on any member, connection, plate, etc., shall not exceed 1/10 of the yield strength of the frame material used. The deflection ratio of any structural member shall not exceed L/600 where L is the member span. The tension used for the calculations shall be a minimum of 70 lbs. per linear inch of actual belt width.
3. Drip pans shall be fabricated of a minimum 14-gauge type 304L stainless steel and shall collect filtrate from all gravity and pressure sections.
4. The framework shall be constructed in such a manner that shall insure absolute plane parallelism of all rolling elements by machined bearing pads.
5. The framework shall be of welded and/or bolted construction. No disassembled component, excluding the belt filter frame, shall weigh more than 3,500 lbs.
6. Adjustable leakage seals shall be provided to contain the sludge on the belt through the gravity drainage zone. Seals shall be 304 stainless steel with rubber skirts, designed to provide an effective seal without causing wear to the belt.

B. Flocculation/Conditioning System

1. To achieve rapid contact between sludge particles and a solution of dilute polyelectrolyte provide:
 - a. A static, in-line, adjustable energy non-clogging Venturi mixer shall be provided. The mixer shall be equipped with a Vortex polymer injection ring with four (4) tangentially mounted polymer injectors. The mixer shall be located upstream of the belt filter press. The belt filter press manufacturer shall recommend the proper layout of the system based on actual field conditions. The manufacturer shall provide spool pieces as required for alternate locations. The in-line Venturi mixer shall be fabricated entirely of 316L stainless steel with an adjustable open throat area. The mixer shall include a removable side plate for inspection and maintenance.
 - b. The venturi mixer must be adjustable by means of an electrically actuating valve with a maximum output torque of ≥ 500 In-lbs.
 - c. The venturi mixer must include a pressure indicating transmitter for automatic adjustment of the venturi mixer pressure setpoint.
 - d. An up-flow feedbox shall be provided after the Venturi mixer to insure optimum sludge conditioning. This feedbox shall be vertically baffled and discharged into a stainless steel distributor. The feedbox assembly shall extend across the full width of the belt press and shall be fabricated of type 304 Stainless Steel.

C. Independent Gravity Drainage Area

1. The press shall be furnished with an independent gravity drainage area consisting of a variable speed belt designed to contain and drain conditioned sludge. An inlet distributor shall be provided to evenly distribute the conditioned sludge over the face of the moving filter belt. The inlet shall incorporate a variable speed, 6-blade paddle wheel distributor across the full width of the belt press. The feed distributor must form a uniform slurry depth over the full belt width immediately upon leaving the feed distributor of plus or minus 1/16 inch. The paddle wheel shall be driven by a 1/3 HP AC/VFD TEFC motor and gearbox. The belt system shall be sealed to prevent leakage and shall be easily accessible for operating, viewing, cleaning, and adjusting.

2. All materials in contact with the sludge in the distributor area shall be 304L stainless steel with adjustable angle furrowing plows of UHMW plastic.
3. The gravity drainage area shall have a minimum horizontal area of 25 ft². The gravity drainage area shall be supported by slide strips. Supports shall be designed to prevent deflections greater than 0.05 inches with a loading of 100 lbs. per square foot. Slide strips shall be easily removable without disassembly of any components.
4. The belt support shall be a series of UHMW wear strips within a 304 stainless frame, spaced every 6" and be of a design to support and enhance gravity dewatering. The UHMW wear strips shall be supported by $\frac{1}{4}$ " x 3" 304 stainless steel bar support. Each deck section shall be adjustable in height to provide an extended life of the wear strips and sludge containment seals. Only systems that have been demonstrated as effective in the area shall be considered.
5. Adjustable leakage seals shall be provided to contain the sludge on the belt through the gravity drainage zone. Seals shall be neoprene rubber with 304 stainless steel deckle supports, designed to provide an effective seal without causing wear to the belt.
6. Six rows of swing-up type furrowing plow devices shall be supplied in the gravity drainage section and shall be readily removable. The first two and the last two rows shall be of the "Foil Doctors" design, and two intermediate rows shall be an adjustable furrowing type.
7. The adjustable plows shall be mounted on a support system that can be raised for cleaning via lifting handles.
8. The Foil Doctor design shall consist of a UHMW plastic doctor blade configuration with the doctor blade held flat against the filter cloth and the knife edge pointing toward the feed box. The doctor blade shall be a minimum of 2 inches wide. Plastic supports at 12-inch spacing across the width from an overhead galvanized steel support assembly shall hold the doctor blade flat against the filter cloth. The whole assembly shall be designed to rotate up and away from the cloth.
9. Plows shall be high-density polyethylene with hot-dipped galvanized support holders. Plow position shall be adjustable from 0 to 30 degrees with respect to the direction of belt travel. All plows shall be adjustable in unison for each plow row. To facilitate cleaning, each row of plows shall include a single-lifting handle, designed to raise the entire row of plows a minimum of six inches from the belt.
10. The independent gravity drainage area shall be equipped with a variable speed drive, powered and controlled from the main press panel.
11. The gravity drainage area shall incorporate an independent belt speed at the operator level without the use of catwalks or rolling ladders for operations or maintenance. The gravity belt height shall not exceed four feet. All other gravity section designs shall not be permitted.
12. The independent gravity drainage area shall be provided with a hydraulic tension and tracking system as specified. Manual tensioning or tracking systems shall not be permitted.

D. Curved Wedge Section

1. The belt filter press shall be furnished with a distribution chute to receive sludge from the primary gravity dewatering section for purposes of even distribution of the sludge to the wedge section.
2. The wedge section shall be of a curved belt path design, straight belt path designs will not be allowed. The initial radius of curvature shall be a minimum of 24-inch radius and transition to a final radius of curvature of 16.5 inches. The curved section must be a minimum of 20" in length. The wedge section design shall provide gradual cake pressure through the zone to enhance dewatering. The wedge section shall be supported by construction equal to that of the gravity belt section, shall be a minimum of 2 inches wider than the width of the belt and designed to reduce belt wear.

3. Movement through the wedge section shall be designed to insure a uniform layer of sludge across the entire working width of the belt. It shall be adjustable to allow operator determination of proper relationship between belt speed and cake height, in order to insure optimum dewatering.
4. The materials in contact with the sludge and/or subject to splashing shall be fabricated from type 304L stainless steel. All fasteners, along with mounting and adjustment hardware shall be 304L stainless steel.
5. The use of vacuum assisted drainage sections shall not be permitted.
6. The wedge section shall consist of a curved wedge that shall allow for a gradual pressure increase on both belts to enhance dewatering. The wedge section shall be supported by construction equal to that of the gravity belt section, shall be a minimum of 2" wider than the width of the belt, and designed to reduce belt wear.
7. The wedge section shall have a minimum horizontal area of 20 ft². This calculation is based on only one belt. Vertical wedges or non-curved wedges will not be accepted.
8. The curved wedge zone configuration shall include a tray beneath each roll such that the filtrate is removed from the sludge cake without filtrate hitting the return belt. Each drip pan shall be constructed of 304L stainless steel and directed to a final collection pan and piped to the sump area. The collection pans shall eliminate filtrate from landing on the returning belt.

E. Vertical Pressure Zone

1. The vertical belt filter press shall be furnished with a pressure zone following the wedge section drainage area.
2. The pressure section shall become uniform at the tangent of the first low pressure, 304L stainless steel, and perforated drainage roll. It shall be a minimum of 20 in diameter, followed by a 16" diameter reversing turn, completing a full S with each turn exceeding 200 degrees.
3. The next stage of the pressure zone shall consist of an arrangement of a minimum of five (5) rollers developing a continued 200 degree S-shaped belt travel. The rolls shall decrease from 12" in diameter to 10" in diameter.
4. The decreasing roll diameter shall provide an increasing pressure profile in the pressure zone, made adjustable by changing the belt tension.
5. The seventh and eighth roll in the pressure section shall be 10" diameter drive rollers forming the last 200 degree turn.
6. The minimum bearing size for the compression rollers in the press section shall be 85mm in diameter. The ends of each shaft on the rollers shall be equipped with support bearings as specified under bearings.
7. The pressure section shall have a minimum area of 60 ft². This calculation shall be based on one belt in contact with the roll surface.
8. The vertical pressure zone configuration shall include a tray beneath each roll such that the filtrate is removed from the sludge cake without rewetting of the downstream cake. Each drip pan shall be directed to a final collection pan and piped to the sump area. The collection pans shall eliminate filtrate from landing on the returning belt.

F. Dewatering Belts

1. Belts shall be seamed and fabricated of monofilament polyester, wear resistant plastic material or combination monofilament polyester and stainless steel material. The mesh design shall be selected for optimum dewatering of the sludge with a minimum blinding of the filter fabric.

2. Belt selection shall be based on the manufacturer's experience obtained at other installations dewatering similar sludge's with similar polyelectrolyte conditioning chemicals.
3. The belts shall be warranted for a minimum 2,000 hours of operation. Any belt that fails before that time, provided that the belt press has been operated per the instructions in the operation and maintenance manual, shall be replaced on a pro rata basis.
4. Each belt and connecting splice shall be designed for a minimum tensile strength equal to five times the normal maximum dynamic tension to which the belt shall be subjected. The splice shall be designed to fail before the belt.
5. Belts shall be designed for ease of replacement to minimize belt press downtime. Belt replacement shall be such that disassembly of the unit is not required.

G. Belt Wash System

1. Each filter belt shall be equipped with a belt wash station. The belt wash system shall use high-pressure water spray nozzles equipped with manually operated wire brushes for internal nozzle cleaning. The spray assembly shall be housed in an enclosure in a manner that limits the spray pattern within the housing assembly. The housing enclosure and nozzle assembly shall be readily removable and shall be fabricated from type 304L stainless steel.
2. The housing shall be sealed against the belt with rubber seals. The belt shall be protected from excessive wear by the edges of the wash station housing by replaceable guide surfaces. The belt wash station shall extend over the full width of the filter belt by a minimum of 2 inches.
3. The shower box shall be designed with adjustable upper seals to maintain contact with the belt as the seals wear. The bottom seals shall be attached to sliding panels, adjustable with four bolts in slotted openings in order to maintain seal contact with the belt as the seals wear. The pans for the shower boxes shall direct the washwater into the filtrate pans for self-cleaning of the belt press. The pans will also be capable of separating washwater from filtrate to keep the two process streams independent.
4. The shower system shall include the MNR Quiet Package, including a specially designed shower box enclosure and shower pan that completely eliminates all misting and reduces the noise from the shower bar. While operating, the shower box shall have noise ratings of less than 77 dB at 3 feet from the shower box.
5. Wash water demand shall not exceed 45 GPM at 120 psig. The dewatering system manufacturer shall provide a complete pressure boosting system for the press to achieve the required pressure. The wash water and pressure boosting system shall be designed by the dewatering system manufacturer based on the system requirements.
6. The booster pump shall be a centrifugal type pump with replaceable stainless steel shaft sleeve and casing wear ring. The impeller shall be equipped with a high pressure O-ring seal. The motor shall be a standard NEMA frame, C Face mounting with JM shaft, maximum of 7.5 HP, 3500 RPM, 480 volt, 60 hertz, 3-phase power, with a TEFC enclosure. The belt press manufacturer shall supply a 4-1/2 inch pressure gauge with isolation diaphragm with a scale of 0 to 200 PSI. The wash water booster pump shall be a Goulds model eSH, 3656 or equal. The shower system shall include a dual basket Titian strainer.
7. All piping from the booster pump shall be Schedule 80 PVC pipe.

H. Belt Alignment System

1. The belt aligning devices shall be hydraulically operated to align each belt and locate it centrally on the rollers by means of a sensing arm. Pneumatic systems shall not be permitted. This arm shall operate a pilot valve, which shall modify the position of the hydraulic actuator. The actuator shall be

connected to a pivot belt-aligning roller, causing this roller to skew from its traverse position.

2. The alignment system 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 a minimum of belt travel from side to side. The use of electric servos shall not be permitted.
3. Backup limit switches for the belt aligning system shall be provided with sufficient contacts to de-energize all drives and sound an alarm in case of a belt over travel.
4. A complete simplex hydraulic system shall be provided. This system shall include pump, 2 HP TEFC motor, valves, 20-gallon 304 stainless steel storage reservoir, all controls and piping as necessary to provide a complete and functional system. The pump shall be an adjustable flow and pressure vane pump. The unit shall include a low-pressure switch, system pressure gauge, temperature gauge, and tank level gauge. The system shall include a high-pressure line filter and low-pressure return filter. The hydraulic unit shall be floor mounted away from the press to eliminate wash down spray. A minimum of $\frac{1}{2}$ " 316L stainless steel tubing shall be provided from the hydraulic unit to the press.
5. The hydraulic unit shall be supplied with a 304L stainless steel support stand to allow for the tank oil to be easily drained. The tank shall also include a 304L stainless steel drain valve to allow for draining of the hydraulic oil.
6. All hydraulic lines and fittings shall be 316L stainless steel and rigidly supported on the structural frame and properly sized for the intended use with adequate factors of safety for the rated pressure.
7. All belt alignment control equipment shall be fabricated from aluminum or stainless steel. The hydraulic cylinders shall be composite material with stainless steel rods and hardware.

I. Belt Tensioning System

1. Each belt shall be provided with a belt tensioning system. The belt tensioning system shall be hydraulically actuated and shall be such that the dewatering pressure is directly proportional to belt tension and that adjustments in the tension shall result in immediate changes in dewatering pressure. Manual or electric servo tensioning systems are shall not be permitted.
2. Each belt tensioning system shall be furnished with an individual control station such that independent adjustment for each belt is possible. The control stations shall incorporate an on/off selector, calibrated pressure regulating valve and a pressure gauge to indicate actual operating pressure on each system.
3. The design of the belt tensioning system for the pressure section shall insure parallel movement of the cylinders on each end of the tensioning roller by use of a rack and pinion assembly. The gravity belt tensioning roller shall be mounted on a rugged yoke assembly, with hydraulic cylinders at each end. Plastic components will not be accepted. The belt tensioning system shall accommodate a minimum of 2.5% increase in belt length. The system must be capable of producing up to 70 PLI belt tension at a system pressure of 1,000 PSI or less.
4. Sensing devices shall be furnished to determine belt travel beyond normal operating limits. The sensing devices shall be electrically connected within the alarm system to cause "an alarm shut down". Manual reset of the system shall be required.
5. The hydraulic cylinders shall be composite cylinders with stainless steel hardware. The cylinder rods shall be constructed with 316 stainless steel.

J. Press Drives

1. The three belt drives shall be 1.5 HP gravity drive and dual 1.5 HP press section drive. Each shall be variable speed with a variable frequency AC drive unit. The feedbox paddle wheel shall be driven by 1/3 HP AC/VFD drive. Speed indicator readout for each shall be installed in the main press control

panel. All motors shall be TEFC.

2. The gravity belt drive shall be capable of varying output speed from 8 to 75 feet per minute and the press section drive, 3 to 15 feet per minute.
3. The nominal input horsepower rating of each gear or speed reducer shall be at least equal to the nameplate horsepower of the drive motor. Each drive unit shall be rated IP65 and designed for 24-hour continuous service.
4. Each gear reducer shall be totally enclosed, water spray proof, oil lubricated with anti-friction bearings throughout.
5. The drives shall operate on 480 volt, 60 hertz, 3-phase power supply.
6. The belt drive for the pressure section shall be driven by a single roller. The gearbox shall be shaft mounted. Spur gears or chain driven rollers shall not be permitted.

K. Safety Guards

1. All equipment having exposed moving parts such as fans, V-belts, gears, couplings, chains, and including the pressure roll section, shall be provided with safety guards as required by State, Local and OSHA standards. All safety guards shall be of a minimum Type 304 stainless steel construction or better.

L. Discharge Blades

1. Discharge blades shall be provided to scrape dewatered sludge from the belt at the final discharge rollers. The doctor blade shall be made of wear resistant UHMW plastic. The blades shall be readily removable. The blade holders shall be secured in place by means of counterweights. Spring tension type fasteners shall not be permitted.
2. The minimum discharge height shall be 6'6" high. If necessary, the belt presses and catwalks shall be supplied with additional support legs by the press manufacturer.

M. Bearings

1. The shafts of all rollers shall be equipped with heavy-duty grease-able type, roller bearings in sealed, split case bearing housings. All bearings in the press shall be spherical roller bearings. The housings shall allow the changing of the bearings without changes in the factory alignment of the roller. The housing shall be sealed to provide adequate sealing from moisture and grime with closed end housing. The outside of the housing on tracking roller bearings shall also incorporate a stainless steel sealed end cap. The bearing housing seal shall incorporate a triple lip, nitrile seal mechanism to eliminate contamination.
2. All bearings shall have a minimum B 10 bearing life of 1,000,000 hours based on ANSI B13.6 1972. The B 10 bearing life of 1,000,000 hours shall be based on the maximum summation of all forces applied to the bearing. The forces shall include both belts at a belt tension of 70 PLI each, a maximum belt speed of 15 ft/min, and the torque of the drive motor.
3. Bearings and housings shall be US-manufactured and shall be manufactured by FMC Corporation, Link-Belt Division, Indianapolis, Indiana; Reliance Electric Company, Dodge Division, Greenville, South Carolina, or equal.
4. All bearings shall be manufactured and supplied with off-the-shelf bearings and housings from the above manufacturers with original part numbers. Any manufacturer that supplies only their belt press manufacturer part number, provides custom bearing manufacturing, or manufactures the bearing housing will not be considered.

N. Rollers

1. All rollers shall be of solid steel or double-separated plate stub end shaft construction. The stub end shafts and roller heads shall be welded in place. Bolted and or through shaft roll construction shall not be permitted. All rollers shall be designed to have a maximum deflection of 0.05 inches at their center when under maximum loading.
2. All rollers except drive and tracking rolls shall be of carbon steel construction, coated with a minimum of 30 mils of thermoplastic nylon, selected by the press manufacturer. Drive and tracking shall incorporate 50 mils of thermoplastic nylon with a 65 Durometer surface or 3/8" vulcanized rubber for abrasion resistance and proper belt tracking and drive. Other types of roller coatings shall not be permitted.
3. All rollers must be US manufactured at the suppliers manufacturing facility. Out sourced roll suppliers will not be accepted.

O. Drainage Pans

1. Drainage pans shall be supplied as necessary to contain all filtrate and wash water within the belt filter press and to reduce rewetting of downstream cake. Filtrate and wash water pans shall be constructed of minimum 14-gauge type 304L stainless steel. All drainage piping shall schedule 80 PVC, adequately sized for the intended service and rigidly attached to the press frame.

2.4 ELECTRICAL REQUIREMENTS

A. General Requirements

1. Provide belt press master control panel constructed of 304 stainless steel, NEMA 4X construction.
2. The Master Control Panel shall include an Allen Bradley 12" color Panel View Plus 7 touch screen for control of all system components including each press, the hydraulic units, wash water booster pumps, polymer make-down unit, polymer aging tanks level/mixers, polymer feed pumps, sludge feed pumps, feed box motor drive, gravity section drive, and pressure section drive. The master control panel shall include the VFDs for the polymer feed pumps, feedbox, gravity section drive and pressure section drives. The sludge pump VFDs shall be NEMA 4X and externally mounted to the exterior of the master control panel. In addition, the master control panel shall include the starter for the polymer aging tank mixer. The control panel shall include motor starters for the hydraulic unit and wash water booster pump. The control panel shall include an Allen Bradley Compact Logix PLC with Ethernet communication and such ancillary drives as hereafter specified.
3. Three phase, 460 volt, 60-Hertz power shall be supplied to the control panels A control transformer will be provided for 120-volt, single phase power source for motor starter coils, lights, relays, timers, controllers, and other related items.
4. Each control panel shall be provided with terminal blocks for power wiring to and from the panel. The incoming terminal blocks shall be provided with a single magnetic circuit breaker disconnect switch. Circuit breaker protected motor starters with thermal overloads shall be supplied for each motor furnished with the unit.
5. All electrical equipment controls located on the belt press shall have NEMA 4X enclosures and wired, through PVC conduit, to a single common NEMA 4X terminal box.
6. All devices within the panel shall be permanently identified. Nameplates shall be provided on the face of the panel or on the individual device as required. Nameplates shall be made of laminated phenolic materials with a white face and a black core.
7. The panel shall be designed for manual starting and stopping of all drives. A master manual/ auto system switch shall be supplied to override the alarm system and allow operation of any drive through

a momentary contact pushbutton. The control panel shall contain start/stop pushbuttons, run lights, and alarm indications for the sludge pumps, polymer systems, conveyors and the booster pumps.

8. The operator interface terminal (OIT) touchscreen shall be equipped with a start/stop switch and run light for each adjustable piece of equipment. The belt drives, feedbox drive, polymer system and sludge pump drives as hereafter specified, shall also incorporate speed control and speed indication. The control panel shall include start/ stop pushbutton, run lights, speed control and 4 to 20 mA signal generators for the polymer solution and sludge pumps controls.
9. Alarm lights, sensors, and related circuitry shall be provided for the following functions: zero speed, emergency stop push button on each side of the press, low water pressure, and low hydraulic pressure. In the event of any of the above malfunctions, the machine will shut down and sound an alarm. The alarm system shall include an audible horn rated at 90 DBA at 10'. The system shall include silencing provisions, but the function alarm indicating light shall remain lit until the alarm condition is satisfied. A separate set of alarm contacts shall be provided for remote alarm indication
10. Arrange the control panel to allow either manual or automatic control of the belt press equipment. When "MANUAL" operation is selected, all equipment associated with the belt press shall be controlled by "START/STOP" push buttons on the touchscreen. When "AUTOMATIC" operation is selected, control of equipment shall be "AUTOMATIC/START" and "AUTOMATIC/STOP" pushbuttons on the touchscreen, and programmable controller:
 - a. Master control panel shall include OIT touchscreens with the following:
 - 1) One control mode selector switch marked "AUTOMATIC/ MANUAL." When "MANUAL" operation is selected, all equipment associated with belt press shall be controlled by "START/STOP" pushbuttons. Provide one "START" and one "STOP" pushbutton for each of the following:
 - a) Feedbox Drive.
 - b) GBT Drive.
 - c) Press Drive.
 - d) Hydraulic Unit.
 - e) Wash Water Pump.
 - f) Sludge Pump Drives
 - g) Polymer System Drive.
 - 2) One speed potentiometer for manual adjustment of each drive speed.
 - 3) Digital indicators for sludge feed flow rate. Indicators shall accept 4 to 20 mADC field input and shall be calibrated in gpm.
 - 4) Green indicating lights for "RUNNING" status for each unit operated from panel, including wash water solenoid valve energized indication.
 - 5) Red indicating lights for "OFF" status for each unit operated from panel, including wash water solenoid valve de-energized indication.
 - 6) One each "AUTOMATIC/START" and one "AUTOMATIC/STOP" momentary pushbuttons, for automatically starting and stopping each belt press system. Sludge cake conveyor shall be manually controlled when belt press control mode selector switch is in either the "AUTOMATIC" or "MANUAL" position.
 - 7) One "EMERGENCY STOP" red mushroom pushbutton.

11. Automatic Controls and Sequencing:

a. General:

- 1) Program the PLC for automatic control of belt press, system sequencing, and interlock functions as specified.
- 2) Configuration and programming of PLC system shall be responsibility of belt press manufacturer. System documentation including memory loading, I/O configuration and program shall be provided.
- 3) Provide and install auxiliary relays and wiring for equipment and devices specified in this Section required for implementing functional requirements specified.

b. "AUTOMATIC START/AUTOMATIC STOP" Cycle:

- 1) Automatic start cycle request to PLC shall be initiated by "AUTOMATIC/START" pushbutton.
- 2) Control logic for an "AUTOMATIC/START" cycle shall start belt press in the following order after "AUTOMATIC/START" command has been initiated and interlocks are complete.
 - a) Wash water pump.
 - b) Belt Shower "Pre-Wash"
 - c) Belt press drive.
 - d) GBT drive.
 - e) Feedbox drive.
 - f) Polymer system drive.
 - g) Sludge feed pump.
- 3) Each drive shall not start until previous drive is running and necessary time delay has elapsed. The belt press manufacturer shall determine where time delays are required and shall program settings to provide smooth start-up of equipment.
- 4) Once all drives are confirmed running by motor run contacts from their respective starters, PLC shall cause the indicating light to illuminate. Loss of run status contact for a drive once cycle logic is complete shall shut down belt press and associated equipment.
- 5) Upon "AUTOMATIC /STOP" command, system shall shut down in order that is reverse of specified start-up order with necessary time delays.

c. Interlocks: The following interlocks shall be satisfied when control mode selector switch is in either "AUTOMATIC" or "MANUAL" position. Failure of any one signal during start cycle or after cycle is complete shall shut down all associated belt press equipment.

- 1) Wash water pump must be on and sufficient wash water pressure must be sensed at a specified level.
- 2) Hydraulic pressure must be sensed at a specified level.
- 3) Control mode selector switch shall be in "AUTOMATIC" position.
- 4) "EMERGENCY STOP" pushbutton shall be in operating position.

12. Annunciation and Alarms:

- a. Provide an audible alarm and detailed alarm history in the belt press control panel for alarming of the following:
 - 1) GBT drive failure.
 - 2) Press drive failure.
 - 3) Feedbox drive failure.
 - 4) Local emergency stop initiated at either the belt press control panel or pull cord switch.
 - 5) High discharge pressure at the sludge feed pump.
 - 6) Low wash-water pressure.
 - 7) Low hydraulic pressure.
 - 8) Polymer pump failure.
 - 9) Sludge pump failure.
- b. Wire all alarms to the PLC system for relaying to a remote location.

13. Additional stations shall be included as hereinafter specified for other ancillary drives or systems.

B. Electric Motors furnished with this equipment shall meet the following requirements:

1. Rated for continuous duty at 40°C ambient and insulated with a minimum of Class F insulation, with Class B temperature rise. All motors shall be totally enclosed, fan-cooled, or non-ventilated. All motors supplied shall be rated at 150% of nameplate horsepower of the required horsepower, maximum service condition.

2.5 FLOW METER

- A. The belt press manufacturer shall supply one (1) totalizing flow meter as supplied by Siemens or approved equal. The flow meter shall include a 4" ANSI flange connection for the sludge feed line and shall have a digital display, and 30 feet of display cord.
- B. The electromagnetic induction flow meter shall generate a voltage linearly proportional to flow for full-scale velocity setting from 2 to 33 feet per second. Standard accuracy of plus output shall be +/- 0.5% of rate for all meters.
- C. The meter shall incorporate a high impedance amplifier of 1012 ohms or greater, eliminating the need for electrode cleaning systems the meter shall utilize bipolar pulsed DC coil excitation with auto-integrated zeroing each half-cycle. Manual zero adjustments shall not be required - even at start-up. Power consumption shall be no more than 15 VA, independent of meter size. Input power required will be from 85 to 120 VAC, 46-65 Hz, with DC input option available.
- D. The power to each flow meter is 120 volt, single phase with a 2 amp breaker fed from the belt press control panel.
- E. The magnetic flow meter shall be microprocessor based with integral electronics. The electronics shall be interchangeable for all sizes from 1/12" to 78". The housing is to be powder coated cast aluminum with a NEMA 4X rating.
- F. The meter's analog and pulse outputs shall be independently selected by push buttons. The analog output shall be an isolated 4-20mA DC into 700 ohms load. The pulse output shall be an open collector output with a maximum frequency of 1,000 Hz with configurable pulse width (0.5 to 2 sec). An open collector status output shall indicate either system or process error or flow direction. An auxiliary input shall be available to positive zero return. A low flow cutoff will be standard which can be turned on or off by

pushbuttons.

G. A 2-line, 16-digit LCD backlit display shall indicate flow rate and/or total flow. The totalizer value is protected by EEPROM during power outages and utilizes an overflow counter. The display shall also be capable of indicating error messages such as empty pipe condition, error condition and low flow cutoff.

2.6 SLUDGE FEED PUMP

A. The press manufacturer shall provide as a part of his total dewatering equipment package, one progressive cavity pumps for feeding sludge to the screw press. The flow capacity of each pump shall be an adjustable range of 60 to 300 GPM at a differential pressure of 50 PSI when operating at a maximum speed of 300 RPM. The pumps shall be sized to handle a minimum 1-5/8" diameter solid.

B. Each pump shall be of the positive displacement, progressive cavity type consisting of a helical rotor, elastic stator, flexible joint and shaft assembly, suction and discharge ports, stuffing box with lantern ring, and drive shaft with bearings and housing. The pumps shall be MXQ, Seepex, Roto Pump, Netzsch or approved equal and shall be capable of continuous operation without cavitation or pulsation. It shall be capable of pumping without imparting any turbulence or shearing to the sludge being pumped.

1. The helical rotor shall be constructed of hard chrome plated stainless steel. The elastic stator shall be vulcanized Buna-N with a minimum Durometer hardness of 65 molded inside the cast iron housing.
2. A minimum of two (2) cardan type universal joints shall be used to connect the rotor to the drive shaft. Each joint shall have a minimum of two (2) pins per joint and shall be grease lubricated and sealed in a rubber boot for extended life and lower maintenance.
3. Joints shall be connected to the drive shaft and rotor by means of solid tapered pins and sleeves for maximum torque handling capability. The drive shaft shall be supported by both single and double row heavy duty, grease lubricated ball bearings to withstand all axial and radial loads without affecting component life expectancy.
4. Both suction and discharge ports shall be ANSI 125-pound flanges for maximum resistance to pipe bending forces and deflections. The suction flange shall be 5" diameter, and the discharge flange 4". The suction flange shall be rotatable in 90 degree increments to accommodate any piping configuration or later modification.
5. The pump shall be furnished completely assembled and mounted on a fabricated steel base, with drive assembly.
6. The drive shall consist of a Severe Duty rated TEFC 0 HP gear motor, with an output RPM of 300. The motor shall have Class F insulation. Connection between the motor and pump shaft shall be flexible coupled, Falk or equal. Each gear motor shall be driven by a variable frequency drive, located in the main press panel and shall be of equal construction to the press drive. All control shall be from the press panel.

2.7 POLYMER FEED SYSTEM

A. General Requirements

1. The press manufacturer shall provide as a part of the total dewatering equipment package, one (1) polymer feed system capable of automatically metering, diluting, activating and feeding a liquid polymer with water. Unit shall be a BDP or approved equal.

B. Polymer Make-Down Unit

1. Polymer and water shall be mixed in a chamber designed to create sufficient mixing energy. This design shall include a progressive cavity metering pump, solenoid valve and pressure regulator.

2. The pumps shall have an adjustable speed with a variable frequency drive. The pumps shall be supplied with a 1/2 hp, 120 volt AC motor.

3. A motor driven impeller mixer shall be provided that will mix the polymer and water into solution.

C. Polymer Feed Pump

1. The polymer system shall be equipped with progressive cavity pump each capable of pumping up to 5 GPH.

2. The pump shall be designed with a high viscosity wet end pump capable of pumping neat polymer solution to the mixing chamber.

3. The pump shall be a Seepex, Rotopump or approved equal.

4. The drive motor shall be a variable speed, 1/2 horsepower, complete with an SCR control unit. The SCR control unit shall have local speed adjustment, ON-OFF switch and running indication. The control unit shall provide adjustments of feed rate over a range of 20 to 1.

D. Dilution Capability

1. The primary dilution shall feed into the motorized mixing chamber and shall be capable of 1200 GPH.

2. The dilution capability shall be adjustable with a clear rotameter with a stainless steel float.

3. Furnish a solenoid valve or ON-OFF control of dilution water supply

E. Emulsion Unit Control Panel

1. The polymer system shall be supplied with a NEMA 4X control panel that provides an automated mixing system. The controls for the polymer make-down system shall be supplied in the belt press control panel.

2. The control panel shall include all timers and relay for a complete manual and auto system. The polymer mixer chamber and metering pump shall turn on and the water solenoid valve shall open.

3. The polymer feed pump shall include start/stop indicating lights, potentiometer and local remote control.

4. The polymer mixer and polymer metering pump shall be provided with start/stop pushbuttons, indicating lights and motor starters.

5. Single phase, 120 volt, 60 Hertz power shall be supplied to the main control panel.

6. All devices within the panels shall be permanently identified. Nameplates shall be made of laminated phenolic materials with a black face and white core.

2.8 DISHCARGE CONVEYOR

A. The press manufacturer shall provide a discharge belt conveyor capable off of loading discharge cake from the dewatering system. The conveyor shall include a fold-up belt conveyor.

B. The conveyor system shall be 8 ft long flat belt conveyor. The conveyor system shall consist of the drive unit, pulleys and bearings, belting, idlers, frame, belt wipers, and related items. The belt conveyor shall be capable of carrying 200 cubic feet / hr. of belt press filter cake with a bulk density of 55 lbs. per cubic ft.

C. The drive unit shall be a severe duty, hydraulic drive motor that shall be driven of the belt press hydraulic unit. The drive shall have a minimum 1.15 service factor. The hydraulic motor shall be mounted on a base attached to the belt conveyor frame. Speed reducer and motor shall be provided with the

manufacturers' standard finish. The drive motor shall be variable speed and shall be controlled by a needle valve mounted to the press frame

- D. The belt conveyor shall incorporate a smooth transition belt, 46" wide, with rated tension of 220 pounds per inch of width (p.i.w.). The belt shall be spliced with a stainless steel mechanical hinged fastener. The belt shall be supplied with a v- groove mounted to the back side of the belt to provide continuous belt tracking.
- E. The head and tail pulleys shall be grooved face type with nylon coating and mounted on AISI 1020 shafting supported by self-aligning ball bearing pillow blocks. The take-ups shall include 316 stainless steel adjusting rods with brass bearing aligning rods.
- F. The belt shall be supported on a 304 stainless steel slide deck.
- G. The belt conveyor and supports shall be designed and fabricated in accordance with CEMA standards and constructed of structural 304 stainless steel channel, sized as required to limit deflection to 1/250 at the longest support span. The conveyor shall be mounted to the press frame and shall be lifted up into a discharge position with hydraulic lift cylinders. The conveyor frame shall fold up so that it allows for the rear trailer doors to close for transportation.

2.9 EQUIPMENT SKID

- A. **The manufacturer shall supply a complete skid-mounted dewatering system. The skid-mounted unit shall be designed to operate as a complete dewatering package. Items affixed to the skid shall include the following: belt press, electrical control panel, wash water booster pump, polymer system, sludge feed pump, discharge conveyor, hydraulic unit and flow meter. The frame of the skid shall be HDG channel and I-beam construction. The skid shall include a 304L stainless steel sump pan with a 4" drain connection. All wiring shall be contained in PVC conduit.**
- B. General - The belt press supplier shall mount the belt press unit, electrical control panel, wash water booster pump, polymer system, sludge pump, hydraulic unit, discharge conveyor and flow meter on the equipment skid.
- C. Plumbing - The skid shall be pre-plumbed with SCH 80 PVC on the sludge feed line and 1 ½" wash water line. All drainpipes will be Schedule 40 PVC.
- D. Equipment Skid Frame - The skid side rails shall be constructed of a minimum 10" channel, HDG steel. Internal cross support will be HDG steel members. The collection pan of the skid will be a 14-gauge, 304 stainless steel filtrate sumps. The sump will allow filtrate to exit the side of the skid through a 4" stainless steel nipple.
- E. Skid Design – The equipment skid shall have an operator walkway on both sides of the belt press unit. The walkways shall be minimum 12" wide and shall have aluminum grating over the skid collection sump pan.
- F. Testing - The equipment affixed to the skid will be factory pre-wired to the control panel and all equipment will be pre-plumbed. The system will be tested prior to shipment. Electrical conduit will be pre-wired with PVC conduit to make a complete equipment skid.

2.10 TOOLS AND SPARE PARTS

- A. The following minimum spare parts shall be furnished with the system:
 1. Ten (10) spare spray nozzles.
 2. Two (2) relays of each type and size.
 3. One (1) spare level pressure sensor of each type.

4. One (1) complete set of replacement belts.
5. One (1) complete set of replacement seals.

B. Manufacturer shall furnish a list of additional recommended spare parts for an operating period of one year. The list shall describe each part, the quantity recommended, and the unit price of the part.

C. Spare parts shall be packed in sturdy containers with clear, indelible identification markings and shall be stored in a dry, warm location until transferred to the Owner at the conclusion of the Project.

PART 3 – SCOPE OF WORK

3.1 SCOPE OF WORK

- A. The manufacturer shall furnish, deliver, and start-up one (1) belt press dewatering system (referred to as "system" or "belt press system" or "dewatering system") and associated equipment as specified herein and in accordance with the Contract Documents. The belt press equipment specified in this section shall be provided by a single supplier to ensure coordination and compatibility of equipment.
- B. The belt press manufacturer is advised to familiarize themselves with the overall plant process in order to evaluate the compatibility of the manufacturer's equipment to dewater the particular sludge generated.
- C. The manufacturer shall provide one (1) complete Belt Press dewatering system as specified herein. The system shall include the following: belt press, polymer system, control panel, water supply booster pump, discharge chute, and totalizing flow meter. The belt press system must be complete and integrated such that it can operate in a fully interlocked manner while achieving the performance requirements as specified in this document.
- D. The dewatering system shall be designed to thicken and dewater wastewater sludge by means of a belt press with a 3-belt design. The connected ancillary equipment shall be supplied by the Belt Press Manufacturer to ensure system compatibility and system responsibility.

3.2 ACCEPTABLE MANUFACTURERS

- A. The Manufacturer shall furnish and install Belt Press equipment as manufactured by BDP Industries, Inc., or a pre-approved equal.
- B. The Contract Documents are based upon the specific dimensions and operating characteristics of the products of the manufacturer as stated. Exact details of construction, operating clearances, and the like may differ between manufacturers. Provision of equivalents or substitutes, therefore, may require partial re-design or modifications of associated facilities (i.e., piping arrangements, structural dimensions, etc.), which shall be at the Manufacturer's own expense and shall require approval by the Owner.
- C. It is the intent of these specifications that a single manufacturer-supplier, regularly engaged in the design, manufacture, assembly, and production of dewatering equipment, shall have complete responsibility for furnishing, coordination, and supervision of all components of the system described in this section. It is also intended that such a manufacturer-supplier make all adjustments, alterations, replacements, and tests specified and required, for a complete, satisfactory, and trouble-free operating installation. The single-source supplier shall provide a performance affidavit stating strict compliance with the specifications and accepting system responsibility. Furnishing of the equipment other than from a single supplier will not be allowed.
- D. General:
 1. In order to centralize responsibility, it is required that all equipment provided under this Section be

obtained from a single supplier or manufacturer who shall assume full responsibility for the completeness of the system. The supplier or manufacturer shall be the source of information on all equipment furnished, regardless of the manufacturing source of that equipment.

2. All components shall be specifically constructed for the specified service conditions and shall be integrated into the overall assembly by the pump equipment manufacturer.
- E. The Belt Press system described herein establishes a standard of required type, function, and quality to be met. No "or-equal" system shall be considered by the Owner. If any exception to this detailed specification is taken by an equipment manufacturer, they will be considered an "Alternate" to this bid specification. Any "alternate" equipment suppliers shall be submitted for approval 14 days prior to Bid. The submittal shall include a complete equipment submittal, including room layout drawings, an on-site pilot test, an on-site pilot test report, electrical drawings, equipment design calculation, component catalog cuts, contact list, and performance guarantee. All exceptions shall be clearly identified by the manufacturer with the cost to supply the component specified. Any exceptions not identified will lead to immediate rejection of the submittal by the owner. The cost of the engineer review shall be paid by the manufacturer submitting the alternate substitution. The cost of the review shall be billed at \$350 per hour. A minimum of 40 hours will be required to review each alternate equipment submittal. The burden of proof of merit for the proposed item is upon the prospective bidder. Any modifications to the contract drawings that are required for the alternate units shall be borne by the installation manufacturer. The owner reserves the right to reject any and all alternate requests based upon their review.

3.3 PERFORMANCE CRITERIA

- A. Belt Press Operational Requirements: The Belt Press (referred to as "belt press" or "press" in the remainder of this document) shall meet the following operating parameters when processing the sludge specified.
 1. The solids shall be derived from an anaerobic digestor with a concentration of .5% to 1.0%.
 2. The belt press unit shall be capable of meeting the performance criteria as set forth below:

PARAMETER	REQUIREMENT
Sludge Feed Solids (%wt)	0.5% - 1.0%
Solids Loading (lbs/hr)	250 – 500
Feed Rate (GPM)	100 - 200
Maximum Polymer Dosage (act. lb/dry ton)	18 – 23
Minimum Discharge Cake Solids (%wt)	20
Minimum Solids Capture (%)	90

- B. Process Performance Test and Guarantee

1. There shall be a performance test for the dewatering test:
 - a. Once a representative sludge has been established, the manufacturer shall operate the press at or above the required flow rate and solids loading for a minimum period of 6 hours with samples of feed, discharge cake, and filtrate collected hourly. Samples will be analyzed per ASTM standards for total suspended solids (TSS) for filtrate and total solids (TS) for feed solids, and the results

averaged. The average cake solids must exceed the above requirements in order to demonstrate compliance. The average polymer dosage must be less than the above requirements in order to demonstrate compliance. Should the belt press fail to meet the minimum standards specified, the following shall occur:

2. Plant operating procedures shall be reviewed to determine that the sludge is, in fact, representative of normal operation and within the design specifications.
3. If it is determined that the sludge is representative and within these specifications, the manufacturer shall make any modifications necessary to accomplish the specified performance levels.
4. If the sludge can be demonstrated as representative and within specified parameters and if the manufacturer cannot meet the performance, the owner may elect to have the manufacturer remove the unit and refund any monies paid.

3.4 SUBMITTALS

- A. The supplier shall submit a complete list of equipment and materials required for shop drawing or submittal approval. The term "shop drawing" as used herein shall be understood to include detailed arrangement drawings, foundation layout drawings, control drawings, hydraulic control systems, catalog sheets, and similar items. Unless otherwise required, these drawings shall be submitted in sufficient time to be reviewed by the OWNER, and to accommodate the construction schedule required under the contract.
- B. If representative sludge is available, the manufacturer shall supply written bench test reports to include in the equipment submittal that have been taken two times during a minimum of a 6-month period to confirm the performance of the equipment. Any equipment submittals that do not include the bench test reports will be returned and rejected by the owner.
- C. The manufacturer shall furnish an electronic copy or five copies of shop drawings in three ring binders to the owner. Submitted packages shall include a complete bill of materials for all equipment, recommended spare parts list, list of any deviations from the contract documents and a statement of machine warranties.
- D. Submit shop drawings and product data required to establish compliance with this Section. Submittals shall include the following:
 1. Certified shop and erection drawings showing all important details of construction, sludge feed, wash water, drainage connections, wiring diagrams, itemized motor horsepower, dimensions and anchor bolts.
 2. Descriptive literature, bulletins and/or catalogues of the equipment. This material shall include, but not be limited to, the following:
 - a. Functional description of internal and external instrumentation and controls to be supplied, including list of parameters monitored, controlled or alarmed and testing plan.
 - b. Materials of construction and of all coatings of all major components, including bearings. Include sizes of materials and thickness of coatings.
 - c. Details of the drive system for belts.
 - d. Details of the static sludge/polymer mixer supplied.
 - e. Information on field erection requirements, including total weight of assembled components, weight of the single largest component that will require removal during the life of the unit and gross operating weight.
 - f. Statement of roller, bearing, frame and belt guarantees for units furnished. Also, describe typical

range of belt tension and recommended belt tension for this application.

- g. Total connected nameplate horsepower and operating horsepower for each belt press dewatering system motor. Itemize this information for each motor. Include motor data as required by Section 01 60 01.
- h. Statement of water requirements (flow and pressure) and any other utility requirements.
- i. Description of gravity drainage and low, medium and high pressure stages.
- j. For the baseplate of the belt filter press, furnish the loads including all horizontal and vertical components as follows:
 - 1) Deadloads due to unit weight empty.
 - 2) Deadloads due to unit weight full of sludge, drain pans full and similar circumstances.
 - 3) Dynamic loads.
 - 4) Combination of 2) and 3) above.
 - 5) Loads exerted during belt changing procedures.
- k. Control panel elevation drawings showing construction and placement of operator interface devices and other elements. Control panel data to include:
 - 1) Dimension and layout details.
 - 2) Materials of construction.
 - 3) Brand names and catalog literature on all control devices such as, but not limited to:
 - a) Fused disconnects
 - b) Thermal Magnetic Circuit Breakers
 - c) Motor starters
 - d) Motor Circuit Protectors
 - e) Terminal blocks
 - f) Fuse blocks
 - g) Variable Frequency Drives
 - h) Audible and Visual Alarm Indicators.
 - i) All switches, pushbuttons and lights
 - j) Timers, relays and related equipment
 - k) Programmable logic controllers (PLC)
 - l) Surge Protection Enclosures
 - l. A complete total bill of materials for all equipment.
 - m. A complete parts list, showing current price and delivery time for each part. Include manufacturer's recommended spare parts and a firm price quotation good for one (1) year after Substantial Completion.
 - n. A maintenance schedule, showing the required maintenance, frequency of maintenance and lubricants and other items needed at each regular preventive maintenance period.
 - o. Provide certified safety factor calculations as described in Paragraph 2.03 below for structural

frame, every roller bearings and every roller shafts, as well as maximum roller and frame deflection based on maximum design belt tension of 70 PLI (lbs per lineal inch of belt width) or total of 280 PLI for both belts at a belt speed of 5 meters per minute. The roller calculations shall be completed on all of the rollers in the s-wrap compression section including the drive rollers and perforated roller. These calculations shall be signed and sealed by a professional engineer.

- p. Complete data on motors and controls as specified in Paragraph 2.05 below.
- q. Addresses for alarms/data to SCADA.
- r. Cut sheets on wash water booster pump and motor.

E. In the event that it is impossible to confirm certain details of this Section due to different manufacturing techniques, describe all non-conforming aspects.

F. Submit to the Owner operating and maintenance data as specified. Manuals shall be provided for all BFP-related equipment specified in this or other Sections. This data shall be prepared specifically for this installation and shall include all necessary Drawings; equipment lists that are required to instruct operations and maintenance personnel unfamiliar with such equipment.

G. Operations Maintenance Manuals

- 1. Installation shall be in accordance with written instructions provided by the manufacturer. Comprehensive instructions supplied at time of shipment shall enable personnel to properly operate and maintain all equipment supplied. Content and instructions shall assume operating personnel are familiar with pumps, motors, but lack experience on exact equipment supplied.
- 2. Three (3) copies of operation and maintenance manuals shall be furnished. The manuals shall be prepared specifically for this installation and shall include detailed operating and maintenance instructions and specifications relative to the following; assembly, alignment, checking, lubrication, placing in operation, adjustment, maintenance of each unit of equipment, auxiliaries furnished under this contract, together with complete parts lists, and copies of dimension drawings.
- 3. Documentation shall be specific to the pump supplied and collated in functional sections. Each section shall combine to form a complete system manual covering all aspects of equipment supplied by the pump manufacturer. Support data for any equipment supplied by others, even if mounted or included in overall station design, shall be provided by those supplying the equipment. Instructions shall include the following as a minimum:
 - a. Functional description of each major component, complete with operating instructions.
 - b. Instructions for operating equipment.
 - c. Calibration and adjustment of equipment for initial start-up, or as required for routine maintenance
 - d. Support data for commercially available components not produced by the manufacturer, but supplied in accordance with the specifications, shall be supported by literature from the prime manufacturer and incorporated as appendices.
 - e. Mechanical layout drawing of the equipment and components, prepared in accordance with good commercial practice, shall provide installation dimensions and location of equipment.
- 4. Operation and maintenance instructions that rely on vendor cut-sheets and literature, which include general configurations or require operating personnel to selectively read portions of the manual, shall not be acceptable. Operation and maintenance instructions must be specific to the equipment supplied in accordance with these specifications.

H. Contract Closeout Submittals:

1. Equipment Operation and Maintenance Data.
2. Manufacturer's warranty
3. List of recommended spare parts and tools for an operating period of one year. The list shall describe each part, the quantity recommended, and the unit price of the part.
4. Submit a written equipment alignment report for each unit.
5. Submit a written field startup report giving the results of the required field tests.
6. Submit a written report of the results of each visit by a manufacturer's serviceman, including purpose and time of visit, tasks performed, and results obtained.

3.5 QUALITY ASSURANCE

A. Manufacturer's Qualifications:

1. Manufacturer shall have a minimum of twenty years' experience producing identical equipment and shall be able to show evidence of at least ten installations of 3-belt units of 1m width (effective width), manufactured to 70 PLI design standards that meet the structural requirements of this specification. The reference installations must have been in satisfactory operation for at least ten years. Upon request by the owner, the manufacturer shall provide proof of such experience by providing installation lists, including calculations supporting the 70 PLI design, that are sealed by a professional engineer. These calculations shall include the frame safety factor, bearing life, and roll deflection, with calculations verifying that the design exceeds the requirements of this specification.

B. These specifications include certain areas affecting process functions, operation, and maintenance reliability under which no exceptions shall be allowed. These are as follows:

1. High Strength Tubular Steel Frame Construction
2. Up-Flow Feedbox
3. Variable Speed Paddle Wheel Distributor
4. Independent Variable Speed Gravity Drainage Section at Operator Level
5. Curved Wedge Zone
6. Vertical Pressure Section
7. Machined Bearing Pads
8. Double Flange Roll Construction
9. 70 PLI Self-Compensating Hydraulic Tensioning System
10. Dual Press Drive Motors in the Pressure Section
11. Hot-Dipped Galvanized Corrosion Protection System

C. The equipment manufacturer must meet all of the following criteria:

1. Full manufacturing facility and service center located within 700 miles of Georgetown County, SC.
2. The manufacturer shall design, build, program, and test the control panel at their facility, and must be a UL508 certified panel shop.
3. All buy-out items on the belt press shall be standard off-the-shelf mounts. The belt press manufacturer must also supply all of the original part numbers for all original equipment manufacturers' buy-out items, as well as a list of local suppliers located near the installed location.

D. Upon request from the owner, the manufacturer shall prove financial stability and ability to produce the

equipment within the specified delivery schedules. Evidence of facilities, equipment and expertise shall demonstrate the manufacturer's commitment to long-term customer service and product support.

- E. The BDP system described herein and shown on the drawings establishes a standard of required type, function, and quality to be met. No "or-equal" system will be considered by the Owner. Any alternate equipment suppliers shall be submitted for approval 14 days prior to the Bid. The submittal shall include a complete equipment submittal, including room layout drawings, electrical drawings, equipment design calculations, component catalog cuts, contact list, and performance guarantee. All exceptions shall be clearly identified by the manufacturer with the cost to supply the component specified. Any exceptions not identified will lead to immediate rejection of the submittal by the owner. The cost of the engineer review shall be paid by the manufacturer submitting the alternate substitution. The cost of the review shall be billed at \$350 per hour. A minimum of 40 hours will be required to review each alternate equipment submittal. The burden of proof of merit for the proposed item is upon the prospective bidder. Any modifications to the contract drawings that are required for the alternate units shall be borne by the installation manufacturer. The owner reserve the right to reject any and all alternate requests based on their review.
- F. The owner reserves the right to reject any or all bids based on the qualifications listed above.

3.6 MANUFACTURER'S WARRANTY

- A. Provide a two (2) year non-prorated warranty covering all defects in materials and workmanship. Warranty shall be in effect from the date of acceptance by the owner. Provide a three (3) year non-prorated warranty covering the frame, frame coating, rollers, roller coatings, bearings and bearing housings.
- B. Warranties by the suppliers of various components in lieu of a single source responsibility by the manufacturer will not be accepted. The manufacturer shall assume prime responsibility for the warranty of the complete system.
- C. Components failing to perform as specified by the owner, or as represented by the manufacturer, or as proven defective in service during the warranty period, shall be replaced, repaired, or satisfactorily modified by the manufacturer.
- D. In the event the component fails to perform as specified or is proven defective in service during the warranty period, the manufacturer shall provide a replacement part without cost to the owner. The manufacturer shall further provide, without cost, such labor as may be required to replace, repair, or modify major components such as pump, pump motors, controls, etc.
- E. The manufacturer shall supply the services of a factory-trained technician to inspect the installation, test the equipment for proper performance, start up, and instruct maintenance personnel on the operation and care of the system.

PART 4 – EXECUTION

4.1 EXAMINATION

- A. The Owner will offload equipment at the installation site using equipment of sufficient size and design to prevent injury or damage. Immediately after off-loading, the Owner will inspect the complete system and appurtenances for shipping damage or missing parts. Any damage or discrepancy shall be noted in a written claim with the shipper prior to accepting delivery. Validate all serial numbers and parts lists with shipping documentation. Notify the manufacturer's representative of any unacceptable conditions noted with the shipper.

4.2 INSTALLATION

- A. Installation must be in accordance with the written instructions supplied by the manufacturer at the time of delivery.
- B. Fasteners at all pipe connections must be tight. Install and secure all service lines (hydraulic lines, water lines, etc.) as required.
- C. The Owner will check motor and control data plates for compatibility with the site voltage. Install and test the pumps' grounds prior to connecting line voltage to the station control panel.
- D. Prior to applying electrical power to any motors, the Owner will check all wiring for tight connections. Verify that protective devices (fuses and circuit breakers) conform to the project design documents. Manually operate circuit breakers and switches to ensure operation without binding. Open all circuit breakers and disconnects before connecting utility power. Verify line voltage, phase sequence, and ground before actual start-up.
- E. Pumps and motors shall be installed in accordance with manufacturer's installation instructions, and in accordance with all OSHA, local, state, and federal codes and regulations.
- F. The manufacturer shall provide the services of a qualified factory representative to advise the installing manufacturers on proper installation, setting, piping, and wiring procedures. This time shall be above and beyond the start-up services described below.

4.3 INSPECTION

- A. A factory-qualified service representative shall be present at initial startup of the system to ensure correct installation and rotation of the unit, supervise a review of the operation and testing of the equipment, and provide training on operation and maintenance requirements of the equipment. Any deficiencies shall be noted and corrected prior to the commissioning of the system.
- B. Manufacturer's inspection shall include, but not be limited to, the following parameters as applicable:
 1. Soundness
 2. Completeness in all details, as specified,
 3. Correctness of setting, alignment and relative arrangement of various parts; and
 4. Adequacy and correctness of sealing and lubricants.

4.4 FIELD QUALITY CONTROL

- A. Operational Test
 1. Prior to acceptance by the Owner, an operational test of all pumps, drives, and control systems shall be conducted to determine if the installed equipment meets the purpose and intent of the specifications. Tests shall demonstrate that all equipment is electrically, mechanically, structurally, and otherwise acceptable; it is safe and in optimum working condition; and conforms to the specified operating characteristics.
 2. After construction, in the presence of the Owner and Operator, the Manufacturer shall operate the system through several pumping cycles and shall observe and record operation of components; check calibration of all instrumentation equipment, test manual control devices, and automatic control systems. Be alert to any undue noise, vibration, or other operational problems.
- B. Manufacturer's Start-up Services
 1. Before the equipment is started, the manufacturer shall make a thorough inspection of the installation to make sure the press has been installed properly and that all equipment relating to it has been installed according to the needs of the press.

2. The manufacturer shall provide twelve (12) days of on-site services spread over four (4) trips of a qualified factory representative to place the units in operation. The owner shall assist the manufacturer by starting up and operating all support systems such as water, sludge pumping, polymer mixing and feed, electrical power and instrumentation, and other ancillary equipment as needed. This trip will be separate from training and performance. The services provided by the manufacturer shall be as detailed in the O&M manuals and shall include, at a minimum, the following:
 - a. Check equipment alignment and assure that there are no unusual internal stresses.
 - b. Calibrate all instrumentation such as hydraulic systems.
 - c. Check hydraulic systems to insure proper operation.
 - d. Check lubrication in all drives.
 - e. Adjust all edge seals, discharge scraper blades, drive chains, etc.
 - f. Adjust spray wash, cloth tension, and belt aligning system.
 - g. Start the drives and ensure they are operating properly with no binding and with correct rotation.
 - h. Ensure that all ancillary systems have been properly adjusted, including polymer and sludge feed.
3. Start-up services shall be considered completed when the manufacturer has demonstrated to the owner that the units are operating without mechanical problems.

C. Training supervision

1. During the start-up procedures, the equipment manufacturer shall provide two separate trips, five days of on-site training to the owner's employees for proper operation and maintenance of the sludge dewatering equipment.
2. Two (2) emergency service trips with one day of on-site service for each trip.

4.5 TESTING

- A. In the presence of the owner and the Operator, field testing of all equipment shall be performed to determine that operation is satisfactory and in compliance with the specifications. Testing shall be completed after the installation is complete, the equipment has been operated, and all necessary adjustments have been made. Testing shall be completed using aerobically digested sludge produced from the aerobic digesters after the installation of the aerobic digesters and belt press system is complete.
- B. During the field tests, as a minimum, the following items shall be recorded:
 1. Sludge flow rate (gpm)
 2. Polymer dosage (act. lb/dry ton)
 3. Discharge cake solids (%wt)
 4. Minimum solids capture (%)
- C. Testing shall meet the performance criteria of this specification before final acceptance by the owner.
- D. A written report shall be supplied to the owner upon completion. Repeat tests if necessary, to obtain results acceptable to the owner.
- E. The Manufacturer shall take corrective action to ensure full compliance with performance criteria.

BID FORM

Georgetown County Water & Sewer District

BID TITLE: Waccamaw Neck WTP Belt Press System

DATE BID OPENING: February 3, 2026

TIME: 2:00 PM

LOCATION: GCWSD PAWLEYS ISLAND ADMINISTRATION BUILDING, 456 CLEARWATER DR., PAWLEYS ISLAND, SOUTH CAROLINA.

The Georgetown County Water and Sewer District reserves the right to accept or reject any or all bids or any portion thereof, to waive technicalities, and to award the contract as deemed to best serve the public interest.

Include All State and Federal Taxes As Applicable.

Pursuant to and in accordance with the Invitation to Bid, General Information for Bidders, and specifications relating thereto, the undersigned hereby offers to furnish, deliver, and start-up one (1) belt press dewatering system and associated equipment as specified herein and in accordance with the Contract Documents in Georgetown County, South Carolina., as described in the specifications, and in the sequence as referenced in the specifications and indicated below, for the price entered below:

ITEM NO.	ITEM DESCRIPTION	Total (Lump Sum):
1.	Furnish, deliver, and start-up one (1) belt press dewatering system and associated equipment as specified herein and in accordance with the Contract Documents.	

Company: _____

Phone: _____

Address: _____

Fax: _____

Email: _____

Submitted By (signature): _____

Signed By (print/type): _____

Title: _____

Dated: _____

REFERENCES

Georgetown County Water & Sewer District

List below at least five (5) references for similar projects, including all information requested. THIS PAGE MUST BE COMPLETED. If Bidders wish to keep their references confidential, this page may be removed from the bid package and submitted with the bid in a separate sealed envelope marked "REFERENCES - CONFIDENTIAL". The District is not responsible for maintaining the confidentiality of the references unless this procedure is followed.

1) Client

Project Address

Approximate \$ Value _____ Date: Started _____ Completed _____
Contact Name: _____ Telephone #: _____

2) Client

Project Address

Approximate \$ Value _____ Date: Started _____ Completed _____
Contact Name: _____ Telephone #: _____

3) Client

Project Address

Approximate \$ Value _____ Date: Started _____ Completed _____
Contact Name: _____ Telephone #: _____

4) Client

Project Address

Approximate \$ Value _____ Date: Started _____ Completed _____
Contact Name: _____ Telephone #: _____

5) Client

Project Address

Approximate \$ Value _____ Date: Started _____ Completed _____
Contact Name: _____ Telephone #: _____

Company

Bid Title
