

AUGUSTA COUNTY SERVICE AUTHORITY

18 Government Center Lane
P. O. Box 859
Verona, Virginia 24482-0859



REQUEST FOR SEALED BIDS Wastewater Screening Equipment

ITB No. 2201

Issue Date: September 22, 2021

Sealed Bids, subject to the conditions and instructions attached hereto, will be received at the above office until, but not later than **2:00 o'clock p.m. local Verizon time, October 7 2021**, then publicly opened, for furnishing the specified wastewater screening equipment, delivery/transportation to be F.O.B., to the treatment plants for the Augusta County Service Authority (OWNER).

ITB questions: Casey McCracken, Purchasing Officer - 540-245-5680 - email cmccracken@co.augusta.va.us

Technical questions: Timothy Castillo, Director of Treatment Operations— 540-487-8263 - email tcastillo@co.augusta.va.us

Notes: 1. Bids are to include delivery, F.O.B. delivery site in Augusta County.
2. **EMAIL or FAX** Bids will **NOT** be accepted.

Terms: _____ % _____ days

Company: _____

Address: _____

City: _____

Phone No. (_____) _____

Official Signature: _____

Printed Name: _____

Title: _____

Date: _____

Email Address: _____

THIS COMPLETED PAGE MUST BE INCLUDED WITH YOUR BID SUBMITTAL

GENERAL TERMS AND CONDITIONS

1. **PRECEDENCE OF TERMS:** In the event there is a conflict between the general terms and conditions and any special terms and conditions which may be included in this solicitation, the special terms and conditions shall apply.
2. **CLARIFICATION OF TERMS:** If any prospective Bidder has questions about the specifications or other solicitation documents, the prospective Bidder should contact the Technical person whose name appears on the first page of the Invitation to Bid, no later than five (5) days before the opening date. Any revisions to the solicitation will be made only by addendum, issued by OWNER.
3. **ADDENDA:** In the event there are any addenda, they will be posted to the OWNER's website at www.acsawater.com/bids. It is the Bidder's responsibility to check the website prior to the submittal deadline to ensure that the Bidder has a complete, up-to-date package.
4. **PAYMENT TERMS:** Payments will be made upon verification of delivery and receipt of materials. All pay requests and supporting documentations must be approved by OWNER and will be submitted for payment in accordance with OWNER's payment policies. Approvals for payment under this procurement will be by the OWNER's designated technical representative, or their designee, as noted on Page 1 of this solicitation.
5. **QUALIFICATIONS OF BIDDERS:** OWNERS may make such reasonable investigations as deemed proper and necessary to determine the ability of the Bidder to perform the work and the Bidder shall furnish to OWNER all such information and data for this purpose as may be requested. OWNER reserves the right to inspect Bidders physical facilities prior to award to satisfy questions regarding the Bidders capabilities. OWNER further reserves the right to reject any proposal if the evidence submitted by, or investigations of, such Bidder fails to satisfy OWNER that such Bidder is properly qualified to carry out the obligations of the contract and to complete the work/furnish the item(s) contemplated therein.
6. **ASSIGNMENT OF CONTRACT:** A contract shall not be assignable by the Bidder in whole or in part without the written consent of OWNER.
7. **ANTI-DISCRIMINATION:** By submitting their proposals, all Bidders certify to OWNER that they will conform to the provisions of the Presidential Order #11246, the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Act of 1975, as amended, where applicable, and Section 2.2-4311 of the Virginia Public Procurement Act and that during the performance of this contract, the Bidder agrees as follows:

The Bidder will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by the state law relating to discrimination in employment, except when there is bona fide occupational qualification reasonably necessary to the normal operation of the Bidder. The Bidder agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

Notices, advertisements and solicitations placed by or on behalf of the Bidder will state that such contractor is an equal opportunity employer.

Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

The Bidder will include the provisions of the foregoing paragraphs in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

- 8. NONDISCRIMINATION AGAINST FAITH-BASED ORGANIZATION:** In accordance with the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, P.L. 104-193, the OWNER will not discriminate against faith-based organizations. The bidder also agrees to abide by § 2.2-4343.1 of the Virginia Public Procurement Act.
- 9. MINORITY AND WOMEN-OWNED BUSINESSES:** In accordance with Presidential Executive Orders #12138 & #11625 OWNER actively solicits both minority and women-owned businesses to respond to all Invitations to Bid and Requests for Proposal, and if not already on the Authority's mailing list, you may request application for inclusion on the list. Should you be interested, please contact the Authority at (540) 245-5670 and request information.

Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees.

- 10. DRUG-FREE WORKPLACE:** During the performance of this contract, the Contractor agrees to (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violation of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

For the purposes of this section, "*drug-free workplace*" means a site for the performance of work done in connection with a specific contract awarded to a contractor in accordance with this chapter, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

- 11. ETHICS IN PUBLIC CONTRACTING:** By submitting their proposals, all Bidders certify that their proposals are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other Bidder, supplier, manufacturer or subcontractor in connection with their proposal.
- 12. PUBLIC INSPECTION OF PROCUREMENT RECORDS:** Proposals submitted shall be subject to public inspection only in accordance with Virginia Code § 2.2-4342.
- 13. COSTS OF PROPOSAL PREPARATION:** Any costs incurred by the Bidders in preparing or submitting proposals are the Bidders' responsibility. OWNER will not reimburse any Bidder for any costs incurred as a result of a response to this Invitation to Bid.
- 14. OWNERSHIP OF MATERIAL:** Ownership of all data, material and documentation originated and prepared for OWNER, including any electronic media, shall belong exclusively to OWNER and be subject to public inspection in accordance with the Virginia Freedom of Information Act. Trade secrets or proprietary information submitted by a Bidder shall not be subject to public disclosure under the Virginia Freedom of Information Act; however, the Bidder must invoke the protection of this section prior to, or upon submission, of the data or other materials, and must identify the data or other materials to be protected and state the reasons why protection is necessary to the extent that such protected material is separately packaged and so identified in the Bid Submittal envelope.

15. CANCELLATION OF CONTRACT: Unless otherwise specified in the ITB, the OWNER may terminate the resulting contract for its convenience upon thirty (30) days written notice to the Bidder. The Bidder shall not be paid for any service rendered or expense incurred after receipt of such notice except such fees and expenses incurred prior to the effective date of termination that are necessary for curtailment of the Bidder's work under this contract.

16. INSURANCE COVERAGE: Unless otherwise specified in the ITB, the Bidder shall maintain the following insurance to protect it from claims under the Workmen's Compensation Act, and from any other claims for personal injury, including death, and for damage to property that may arise from operations under the Contract, whether such operations be by itself or by any subcontractor, or anyone directly or indirectly employed by either of them.

<u>TYPE OF COVERAGE</u>	<u>LIMITS</u>
Workers' Compensation and Employer's Liability including coverage under United States Longshoremen's and Harbor Worker's Act where applicable	Statutory, including Employer's Liability of \$100,000.00 Each Accident \$500,000.00 Disease-Policy Limit \$100,000.00 Disease-Each Employee
Comprehensive General Liability endorsement coverage.	Including the Broad Form C.G.L.
Premises – Operations Bodily Injury Liability and Property Damage Liability Combined	\$500,000 Each Occurrence \$1,000,000 Aggregate
Automobile Bodily Injury Liability and Property Damage Liability Combined covering all automobiles, trucks, tractors, trailers, or other automobile equipment, whether owned, non-owned, or hired by the Bidder	\$500,000 Per Accident
Umbrella/Excess Liability	\$1,000,000 Each Occurrence \$2,000,000 Aggregate

The Bidder shall purchase and/or maintain insurance coverage on his tools, equipment and machinery and shall waive subrogation to the OWNER for damage thereto.

The OWNER reserves the right to require insurance of any Bidder in greater amounts provided notice of such requirements is stated in the Solicitation.

17. OBLIGATION OF BIDDER: By submitting a proposal, the Bidder covenants and agrees that he has satisfied himself, from his own investigation of the conditions to be met, that he fully understands his obligation and that he will not make any claim for, or have right to cancellation or relief from the contract because of any misunderstanding or lack of information.

18. UNAUTHORIZED ALIENS: In accordance with Virginia Code § 2.2-4311.1. Compliance with federal, state, and local laws and federal immigration law requires that the contractor does not, and shall not during the performance of any awarded contract, knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986.

19. COOPERATIVE PROCUREMENT

- i. This procurement is being conducted on behalf of the OWNER in accordance with the provisions of §2.2-4304 of the Virginia Public Procurement Act.
- ii. If approved by the bidder, the contract resulting from this procurement may be used by other public bodies to purchase at contract prices and in accordance with the contract terms. The bidder shall deal directly with any public body it approves to use the contract. Failure to extend a contract to another public body will have no effect on consideration of bidder's bid/proposal.
- iii. With the approval of the bidder, any public body using the resultant contract has the option of executing a separate contract with the bidder to add terms and conditions required by statute, ordinances, or regulations, or to remove terms and conditions which conflict with its governing statutes, ordinances, or regulations.
- iv. The OWNER, its officials and staff are not responsible for placement of orders, invoicing, payments, contractual disputes, or any other transactions between the bidder and any other public bodies, and in no event shall the OWNER, its officials or staff be responsible for any costs, damages or injury resulting to any party from use of an OWNER contract. If, when preparing such a contract, the additional terms and conditions of a public body seeking to purchase pursuant to cooperative procurement are unacceptable to the bidder, the bidder may withdraw its consent to extension of the contract to that particular public body.
- v. The OWNER assumes no responsibility for any notification of the availability of the contract for use by other public bodies, but the bidder may carry out such notification.

SPECIAL TERMS AND CONDITIONS

- A. AWARD:** The OWNER reserves the right to reject any or all bids, to waive informalities in any bid, to purchase any whole or part of the items listed in the bid, and the right to award either to the lowest bidder per item or to the bidder who submits a bid for all items, with one Grand Total, in lieu of the lowest bidder, item-by-item as deemed to be in the best interest of the Authority.
- B. AWARD CRITERIA:** The contract will be awarded to the lowest responsive and responsible bidder in accordance with section A above.
- C. AVAILABILITY OF FUNDS:** It is understood and agreed between the parties herein that OWNER shall be bound hereunder only to the extent of the funds available or which may hereafter become available for the purpose of this agreement. Unless canceled or rejected, a responsive bid from the lowest responsible bidder shall be accepted as submitted, except that, if the bid from the lowest responsible bidder exceeds available funds, the OWNER may negotiate with the apparent low bidder to obtain a contract price within available funds in accordance with Terms and Conditions, Item K, below.
- D. BID ACCEPTANCE PERIOD:** Any bid in response to this solicitation shall be valid for (60) days. At the end of (60) days the bid may be withdrawn at the written request of the bidder. If the bid is not withdrawn at that time it remains in effect until an award is made or the solicitation is canceled.
- E. BID PRICES:** Bids shall be in the form of a firm total price.
- F. DELIVERY AND STORAGE:** It shall be the responsibility of the bidder to make all arrangements for delivery and unloading of materials at the designated receiving areas. Deliveries must be made during normal working hours (8:00 am - 4:00 pm, local time), Monday through Friday.

G. EXTRA CHARGES NOT ALLOWED: By submitting their (bids/proposals), all (bidders/offerors) certify and warrant that the price offered for *F.O.B. destination* includes only the actual freight rate costs at the lowest and best rate and is based upon the actual weight of the goods to be shipped. Except as otherwise specified herein, standard commercial packaging, packing and shipping containers shall be used. All shipping containers shall be legibly marked or labeled on the outside with purchase order number, commodity description, and quantity.

H. IDENTIFICATION OF BID/PROPOSAL ENVELOPE: The signed bid/proposal should be returned in a separate envelope or package, sealed and identified as follows:

<u>ITB No 2201</u> <u>Screening Equipment</u>		
From: _____	<u>October 7, 2021</u>	<u>2:00PM</u>
Name of Bidder	Due Date	Time Due

Street or Box Number		

City, State, Zip Code		
ATTN: <u>Casey McCracken, Purchasing Officer</u>		

The outer (or delivery envelope) should be addressed as directed on Page 2, second bullet of the solicitation.

If a bid/proposal not contained in the special envelope is mailed, the bidder takes the risk that the envelope, even if marked as described above, may be inadvertently opened and the information compromised which may cause the bid or proposal to be disqualified. Bids/proposals may be hand delivered to the designated location in the office issuing the solicitation. No other correspondence, other than bid documents, should be placed in the inner envelope.

I. PRODUCT INFORMATION: The Bidder shall clearly and specifically identify the product being offered and enclose complete and detailed descriptive literature, catalog cuts and specifications with the bid to enable OWNER to determine if the product offered meets the requirements of the solicitation. Failure to do so may cause the bid/proposal to be considered nonresponsive.

J. SITE DAMAGES: Any damage to existing utilities, equipment or finished surfaces resulting from the Bidder's performance of this contract shall be repaired to OWNER's satisfaction at the bidder's expense.

K. NEGOTIATION WITH THE LOWEST BIDDER: Unless all bids are cancelled or rejected, OWNER reserves the right granted by § 2.2-4318 of the *Code of Virginia* to negotiate with the lowest responsive, responsible bidder to obtain a contract price within the funds available to the agency whenever such low bid exceeds OWNER's available funds. For the purpose of determining when such negotiations may take place, the term "available funds" shall mean those funds which were budgeted by OWNER for this contract prior to the issuance of the written Invitation to Bid. Negotiations with the low bidder may include both modifications of the bid price and other items required to be performed. The OWNER shall initiate such negotiations by written notice to the lowest responsive, responsible bidder that its bid exceeds the available funds and that the agency wishes to negotiate a lower contract price. The times, places, and manner of negotiating shall be agreed to by OWNER and the lowest responsive, responsible bidder(s).

**ATTACHMENT A
SPECIFICATIONS**

**Weyers Cave WWTP Vertical Bar Screen with Integrated Washer/Compactor
356 Chapel Hill Lane, Weyers Cave VA 24486**

Peak Flow 1.4 MGD, 15'2" Total Depth, 3/8" Bar Spacing, 304L Stainless Steel

MECHANICALLY CLEANED SCREENS WITH INTEGRATED
WASHER/COMPACTOR AND APPURTENANCES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Provide and test mechanically cleaned screen, washer/compactor motors, controls and appurtenances as indicated and specified.
- B. The screen, washer/compactor and control panels shall be a complete factory manufactured unit.

1.02 REFERENCES SPECIFICATIONS, CODES, AND STANDARDS

- 1. American Gear Manufacturers Association (AGMA)
- 2. National Electrical Manufacturers Association (NEMA)
- 3. American Federation of Bearing Manufacturers Association (AFBMA)
- 4. American Society for Testing and Materials (ASTM)
- 5. Underwriters Laboratory

1.03 POST AWARD SUBMITTALS

- A. Submit the following shop drawings:
 - 1. Certified shop and erection drawings. Bidder shall submit electronic files of the proposed equipment in the capacity, size, and arrangement as indicated and specified.
 - 2. Drawings showing materials of construction, thicknesses, operating and maintenance envelope and assembly weight.
 - 3. Hydraulic calculations verifying compliance to the design criteria.
 - 4. Shop drawing data for accessory items.
 - 5. Operating and maintenance instructions and parts lists.
 - 6. List of recommended spare parts other than those specified in the item 5 above.
 - 7. Shop and field-testing procedures, set up and equipment to be used.
 - 8. List of special tools required.
 - 9. Gear reducer data including service factor, efficiency, torque rating and materials.
 - 10. Schematic control and power wiring diagrams including interconnecting and internal wiring diagrams.

11. Control panel drawings.
12. Equipment weight and lifting points for installation and removal purposes.
13. Number, size and weight of pieces shipped.
14. Material Certification:
 - a. Provide certification from the equipment manufacturer that the materials of construction specified are recommended and suitable for the service conditions specified and indicated.

1.04 QUALITY ASSURANCE

- A. Equipment specified shall be the product of one (1) manufacturer.
- B. The Manufacturer of the vertical bar screen and integrated washer/compactor specified herein shall have had at least 50 successful installations of this type of equipment in order to be considered.
- C. Equipment specified shall be manufacturer's standard cataloged product and modified to provide compliance with the drawings, specifications and the service conditions specified and indicated.
- D. Shop tests as specified.
- E. Service of a factory-trained technician shall be provided and specifically trained on type of equipment specified.

Service technician shall be present on site for all items listed below:

1. Functional testing: calibrate, check alignment and perform a functional test.
 2. Field performance testing.
 3. Training: field operation and maintenance instruction including all materials, slides, videos and handouts.
 4. Any additional time required of the factory trained service technician to assist in placing the equipment in operation at no additional cost to the Owner.
- F. Electrical Equipment Labeling Requirements:
 1. Equipment control panel shall be a UL listed assembly.
 - G. Fabrication shall be in compliance with all applicable ASTM 967 standards.
 - H. Factory welding shall use shielded arc, inert gas, TIG method.
 - I. All stainless-steel subassemblies shall be acid passivated after welding for corrosion resistance and to provide a superior surface finish. The passivation shall be done by using an acid passivation paste in the weld and heat-affected areas and spray-on acid solutions elsewhere. After passivation, the weldments shall be thoroughly rinsed with clean water and allowed to air dry.

PART 2 - PRODUCTS

2.01 SYSTEM DESCRIPTION

- A. Screening system capacities and operating data shall be indicated.
- B. Screen shall be installed in the channel as specified and indicated.
- C. Service: Screen raw wastewater.
- D. Screen shall discharge to an integrated washer/compactor.
- E. The screen shall be capable of operating with the screen 30 percent blinded.
- F. Mechanically cleaned screen shall be front-clean, back-discharge, and installed in the existing channel without channel retrofit.
- G. Mechanically cleaned screen with submerged bearings that require regular maintenance are not acceptable.
- H. Mechanically cleaned screen with an inclination different from 90° is not acceptable.
- I. Mechanically cleaned screen without an integrated washer/compactor is not acceptable.
- J. Submerged moving sprockets are not acceptable.
- K. Multiple rake technology is not acceptable.
- L. The screen technology shall be straight bars. Perforated screen basket is not acceptable.
- M. The screen technology using a grappling bucket is not acceptable.

2.02 SCREEN CONSTRUCTION

- A. General
 - 1. Screen: Shall mechanically front-clean and back-discharge.
 - 2. Mechanically-cleaned screen shall be front cleaning since the shovel rake shall remove debris from the upstream side of the screen.
 - 3. Screenings shall be discharged on the downstream side of screen through discharge chute to an integrated washer/compactor.
- B. Frame
 - 1. Frame: Shall be constructed of type 304L stainless steel.
 - 2. The side frames shall be suitably reinforced to support all loads imposed on the mechanism during operation, installation, assembly, or transportation.
 - 3. The total frame length shall be 18'10.75".
 - 4. The total frame width shall be 15.74".
 - 5. Anchor support frames onto the operating floor shall be of type 304L stainless steel hardware.
 - 6. Screen frame shall be supplied in one (1) piece.
 - A. Screen manufacturer representative shall approve screen frame field assembly.
 - 7. Screen Enclosure: screen shall be fully enclosed above the operating floor with hinged access door.
- C. Bar Rack and Baseplate
 - 1. Material: Shall be of type 304L stainless steel.

2. The bar screen shall consist of rectangular 304L stainless steel bars.
3. The bar screen shall be firmly fastened at top and bottom.
4. Bar spacing shall be as specified. Provided screens shall be accurately constructed to provide a clear spacing of 3/8" between the bars.
5. The bars shall be straight and cover the full equipment width and extend 1' above the bottom of the channel.

D. Dead Plate

1. Bar screens shall have a dead plate and stiffeners construct of type 304L stainless steel with a minimum thickness of 1/8" (3 mm).
2. The dead plate shall be 1/8" thick constructed of type 304L stainless steel plate and extend from the top of the bar screen to the point of discharge.

E. Discharge Chute

1. A discharge chute shall be added to divert screenings from screen to self-dumping hopper.
2. Material: Shall be of type 304L stainless steel, minimum thickness of 1/8".

F. Single Shovel Rake

1. The debris shall be removed from the bar screen by a 304L stainless steel single shovel rake assembly designed to mesh with the bar screen.
2. The single shovel rake shall consist of type 304L stainless steel teeth that penetrate the bar screens completely.

G. Scraper

1. A scraper assembly shall be installed to assist removing the debris from the shovel rake.
2. The scraper shall be type of 304L stainless steel and high-density polyethylene (HDPE) and shall penetrate completely in the shovel rake to insure effective debris removal.

H. Side Seals

1. To prevent bypass around the sides of the unit, seals shall be mounted on the upstream face of the screen and on each side of the unit.
2. The seals shall be secured in place by backing plates and constructed of type 304L stainless steel.

I. Anchor Bolts, Bolts and Nuts

1. Bolts, nuts, lock washers shall be of type 304L stainless steel.
2. Anchor bolts type shall be of type 304L stainless steel.

J. Drive Mechanism

1. The single shovel rake shall be mounted on one (1) sturdy strap resistant to any chemical agents and frost.
2. A pulley shall be used to transmit a rotational motion.
3. The strap shall be capable of lifting no less than 1,000 pounds.
4. The single shovel rake shall be guided by two (2) high-density polyethylene (HDPE) wheels.
5. Two (2) inductive proximity sensors shall be placed at the top of the equipment to command the sense of rotation.
6. The gravity and the weight of the shovel rake shall insure the closing motion.

K. Overload Protection

1. A sensor torque overload protection device shall stop the screen and start an alarm.
 - a. Contacts for screen failure shall be provided.

L. Freezing protection

1. A hot air blowing turbine shall be installed at the top of the mechanism to ensure normal operation during severe freezing conditions.
2. The turbine shall be controlled by a thermostat installed on the equipment which will kick ON the blower once the temperature is below the temperature set.

2.03 INTEGRATED WASHER/COMPACTOR

A. Washer/Compactor shall be installed as specified and indicated.

B. Service: Washer/Compactor shall reduce the volume of screenings. The volume reduction shall be at least 50% and shall have a dry solid concentration of at least 30%.

C. The captured solids shall be compacted, dewatered and discharged.

1. Screenings shall be conveyed by a shaftless auger that operates in the forward direction. Then, the captured solids shall be compacted, dewatered and discharged in a self-dumping hopper.

D. Inlet Hoper

1. The inlet hopper shall direct screenings material from the conveyor into the transport tube. The gap between the inlet hopper and the conveyor discharge chute shall be no larger than ¼” in order to keep a perfect odor control. The inlet hopper shall be made of type 304L stainless steel.

E. Transport tube

1. The transport tube shall be made of type 304L stainless steel with a width of no less than 7” and a thickness of ¼”.

2. High-density polyethylene (HDPE) shall cover the transport tube to avoid wear.
3. The easily adjustable compression gate shall allow the screenings to be compacted and a perforated sheet strainer to dewater the screenings.

F. Discharge Chute

1. The discharge chute shall be made of type 304L stainless steel and designed in conformance with the applicable safety standards. The inspection cover shall have an easy access to the wear parts.
2. Solids discharge point must be compatible with a bumper pull, dump trailer. Discharge will be no less than 5' from floor surface.

G. Auger

1. The shaftless auger shall be made of alloy steel with a protective polyurethane coating.

H. Spray Bars

1. The wash zone shall include a spray wash system to wash organic residue from screenings.
2. The spray bars shall activate during the screw rotation in order to increase the washing efficiency.
3. The Washer/Compactor shall be directed by a timer. During peak loading conditions, the frequency of compaction and washing shall be adjusted automatically.
4. Two (2) solenoid valves shall be located on the top of the Washer/Compactor to allow spray bars to work properly on the transport tube and on the perforated sheet strainer.

I. Perforated sheet strainer

1. The drainage trough shall be a perforated inlet area that capture screenings and allows liquid to drain.

J. Anchor Bolts, Bolts and Nuts

1. Bolts, nuts, lock washers shall be of type 304L stainless steel.
2. Anchor bolts type shall be of type 304L stainless steel.

K. Freezing protection

1. A heating trace shall be provided at the compaction zone to ensure normal operation during severe freezing conditions.

2.04 DRIVE SYSTEM

Two (2) motors shall be provided.

A. Motor:

1. Motor shall operate without overheating at the speeds specified and indicated.
2. Motor shall have premium efficiency with nominal and minimum efficiencies per NEMA MG1.

3. Rating: 240/480V, 3-ph, 60 Hertz.
4. Insulation: Shall be class F insulation with Class B temperature rise.
5. Motor shall have high temperature thermal overloads for motor winding high temperature and high motor brake temperature.
6. Motor shall have a sufficient capacity to start and operate screen at 50 percent blinded without exceeding nameplate ratings for current and power and without operating in the service factor.

2.05 CONTROLS AND INSTRUMENTATION

1. Vertical Bar Screen

- A. All controls shall be provided for the fully automatic operation of the screen. The screen shall be factory wired so that the electrician is only required to make the electrical connections to the control panel and from the control panel to a junction box at the screens.
- B. Control panel shall be UL listed and manufactured in the United States.
- C. The mechanically cleaned bar screen shall be furnished with a complete control system housed in an enclosure complying with the specific requirements:
 1. Local control panel shall be delivered to jobsite, prewired ready for installation.
 2. Control panel: NEMA 4X Stainless steel.
 3. Power Requirements: 240/480 Volt, 60 Hz, 3-Phase.
 4. Motor Requirements: 3/4 Hp.
 5. Motor torque limiter.
 6. Touch screen PLC.
 7. Emergency Stop Button.
 8. Audible alarm (beep).
 9. Top mounted red strobe for alarm.
 10. Switches for controls.
 11. Unit shall be controlled manually, on timer and a float.
 - a. In HAND: The equipment is controlled with switch(es).
 - b. In AUTO: The equipment follows the settings. The equipment works on timer or cycle. The timer can be overridden by the float.
- D. The following controls shall be provided with the control panel:
 1. Emergency stop push button.
 2. HAND/OFF/AUTO selector switch (HOA).
 3. UP/OFF/DOWN spring return selector switch to drive the rake in HAND.
 4. Main circuit breaker mounted outside the panel.
 5. System safety reset button.
 6. Audible alarm.
 7. Motor torque limiter.
 8. Float sensor status.

E. The following lights shall be provided on the control panel layout:

1. Red strobe top mounted.
2. Alarm (red).
3. System Power ON (white).
4. System ready (green).
5. Compactor running (green).
6. Bar screen running (green).
7. Float active (blue).

F. The PLC controller shall have at least the following functionalities:

1. Color display.
2. Touch screen shall display all alarms including emergency stop and safety cover.
3. Touch screen shall display the amperage of the motor(s) live.
4. Touch screen shall display the motion of the rake.
5. The setup of all settings of the equipment shall be accessible by the operator.
6. The alarm history shall be accessible by the operator.
7. The torque limiter shall be adjustable by the operator.

G. Operation

1. One float switch shall be provided with the equipment. The screen shall be activated by the float primarily. Back up timer keeps the equipment working every certain period of time.

H. The local control panel plus other accessories shall perform the functions of:

1. Circuit breaker.
2. Motor starter.
3. Control power transformer.
4. Obstruction alarm.

2. Integrated Washer/Compactor

A. The following controls shall be provided with the control panel:

1. Panel disconnect.
2. Emergency stop red and mushroom type.
3. Hand/Off/Auto selector switch. (HOA).
4. Compactor Hand mode Forward/Reverse selector.
5. Solenoid valve(s) HAND/OFF/AUTO.
6. Reverse switch with spring return useable in HAND mode.
7. System safety reset.
8. Audible alarm.
9. Motor torque limiter.
10. Float sensor status.

B. The following lights shall be provided on the control panel layout:

1. Red strobe top mounted for alarm.
2. Alarm (red).
3. System power on (white).
4. System ready (yellow).
5. Compactor running (green).
6. Float active (blue).
7. Maintenance mode active (amber).

C. The PLC controller shall have at least the functionalities below:

1. Color display.
2. Touch screen shall display the amperage of the motor in live.
3. The setup of all settings of the equipment shall be accessible by the operator (cleaning cycles, working cycles).
4. The alarm history shall be accessible by the operator.
5. Torque limiter shall be adjustable by the operator.
6. Touch screen shall display the motion of the screw.

D. Operation of integrated Washer/Compactor:

1. One float switch shall be provided with the equipment. The Washer/Compactor shall follow the other screening technology. The Washer/Compactor is activated by the float primarily. Back up timer keeps the equipment working every certain period of time.
2. Spray bars shall be activated while the Washer/Compactor is working. The washing cycles shall be adjustable by the operator.

2.06 DESIGN REQUIREMENTS

Mechanically Cleaned Screen	Data
Number of screens with integrated Washer/Compactor	1
Peak/normal flow	1,400,000/720,000 GPD
Clear opening between bars	3/8"
Angle of inclination	90 Degrees
Channel depth	26"
Channel total depth	15'2"
Channel width	18"
Maximum allowable water level before screen at peak flow and 30% of blocking	22"
Maximum head loss at peak flow and 30% of blocking	15"

2.07 SHOP TESTING

- A. Motors shall be shop tested.
- B. Control panel shall be shop tested:
 - 1. Test all functions and alarms of the control panel.
- C. Screen shall be shop tested:
 - 1. The bar screen shall be completely factory assembled and inspected prior to shipment.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All installed items shall be in accordance with shop drawings and manufacturer's instructions with no exceptions.
- B. Manufacturer shall furnish one electronic copy of the operation and maintenance manuals.

3.02 FIELD TESTING

- A. After installation, inspection, operation, testing and adjustment of the equipment, a manufacturer's field service technician shall conduct a performance test for the unit in the presence of the Owner to determine its ability to deliver its rated capacity under specified conditions.
 - 1. Performance Test: During tests, observe and record flow rates, channel water depths, headloss, and motor inputs. Repeat tests until specified results are obtained.
- B. Make all adjustments necessary to place equipment in specified working order at time of above tests.

END OF SECTION

**ATTACHMENT B
BID SHEET**

(THIS COMPLETED PAGE MUST BE INCLUDED WITH YOUR BID SUBMITTAL)

Weyers Cave WWTP Vertical Bar Screen with Integrated Washer/Compactor
Peak Flow 1.4 MGD, 15'2" Total Depth, 3/8" Bar Spacing, 304L Stainless Steel

Total Cost: \$ _____

**ATTACHMENT C
REFERENCES**

(THIS COMPLETED PAGE MUST BE INCLUDED WITH YOUR BID SUBMITTAL)

The bidder must have the capability and capacity in all respects to fully satisfy all of the contractual requirements. To that end, please provide the following information:

1. **YEARS IN BUSINESS:** Indicate the length of time you have been in business providing this type of equipment _____ years _____ months.

2. Number of successful U.S. Installations: _____

3. **REFERENCES:** Indicate below, at a minimum, two (2) recent references for whom you have provided this type of equipment. Include the date service was furnished and the name and address of the person the Service Authority has your permission to contact.

Date Provided	Client and Address	Contact Person and Phone Number
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

THIS COMPLETED PAGE MUST BE INCLUDED WITH YOUR BID SUBMITTAL

**ATTACHMENT D
AFFIDAVIT OF NON-COLLUSION**

(THIS COMPLETED PAGE MUST BE INCLUDED WITH YOUR BID SUBMITTAL)

TO THE AUGUSTA COUNTY SERVICE AUTHORITY:

The undersigned hereby declares that he (it) is the only person (firm) with an interest in this bid being submitted; that it is made without any connection with any person making another bid for this same contract; that the bid is in all respects fair and without collusion or fraud; and that no official or any person in the employ of the Augusta County Service Authority is directly or indirectly interested in this bid or any portion of the profit thereof.

The undersigned also declares that they have carefully examined the Invitation to Bid specifications, all annexed instructions, addenda, and attachments and will provide all the required services and will fulfill all the terms of the bid.

Signature: _____

Title: _____

Date: _____

ADDRESS OF PRINCIPAL PLACE OF BUSINESS:

Telephone: _____

Facsimile: _____

Email Address: _____

*****THIS COMPLETED PAGE MUST BE INCLUDED WITH YOUR BID SUBMITTAL*****