HOPKINSVILLE WATER ENVIRONMENT AUTHORITY

Bid Packet:

FY 2022 - 2023
Sealed Bid # 2223-16
Grinder SPS Rehabilitation Material

Bid Opening:

Thursday, March 16, 2023 @ 1:00 P.M. CST
401 East 9th Street, Hopkinsville, KY, 42240
HWEA Boardroom

BID PACKET

IMPORTANT: In the event any of the documents are not enclosed, please advise the Purchasing Officer immediately.

INVITATION TO BID

Sealed bids for furnishing and delivering the following:

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will be received at HWEA's Main Office, 401 East 9th Street, P. O. Box 628, Hopkinsville, Kentucky, until 1:00 p.m., CST, on March 16, 2023, at which time the bids will be opened and read aloud publicly in the HWEA Board Room, at the same address.

The Bid Packet contains the Invitation to Bid, General Conditions, Specifications, and Detailed Specifications.

GENERAL CONDITIONS

1. INSTRUCTIONS, SPECIFICATIONS AND FORMS

Instructions, specifications and forms may be obtained via the HWEA website, in person, or by email from the HWEA Purchasing Officer at 401 East 9th Street, Hopkinsville, KY, 42240. Telephone number 270-887-2782, email jrenshaw@hwea-ky.com, or see our website at www.hwea-ky.com.

(a) All bids shall be submitted on and in accordance with the attached Bid Form. The form shall be signed and dated in the appropriate space.

(b) Each bid shall be submitted in a sealed envelope and clearly marked on the outside of the envelope with the following:

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(c) If forwarded by mail, the sealed envelope containing the proposal must be enclosed in another envelope: FY 2022 - 2023 - SEALED BID # 2223-16 - GRINDER SPS REHABILITATION MATERIAL and shall be mailed to the HWEA Purchasing Officer, P.O. Box 628 Hopkinsville, KY 42241, allowing sufficient time for such mailing to reach this address prior to the scheduled closing time for receipt of bids.

(d) Additional information or clarifications of any of the instructions or information contained herein may be obtained from the Purchasing Officer.

(e) Any bidder or bidders finding any discrepancy in or omission from the specifications, in doubt as to their meaning, or believing that the specifications are discriminatory, shall notify the Purchasing Officer in writing within 5 days of the scheduled opening of bids. Exceptions as taken in no way obligates HWEA to change the specifications. The Purchasing Officer will notify all bidders in writing, of any interpretations made of specifications or instructions.

(f) HWEA will assume no responsibility for oral instructions or suggestions. All official correspondence in regard to the specifications should be directed to and will be issued by the Purchasing Officer.

(g) The successful bidder may have to purchase a City of Oak Grove vendor's license prior to the official award of the bid, in order to meet the requirements of City of Oak Grove ordinances.

(h) Any bidder may withdraw their bid either in person or in writing at any time prior to the scheduled time for the receipt for bids. Withdrawals after the scheduled time for the receipt of bids will not be permitted.

2. AWARD OF CONTRACTS

(a) The HWEA Board may award the contract to the bidder it finds to be the most responsive (considering price, time of delivery, compliance with specifications and past experiences) and not necessarily the lowest price. HWEA reserves the right to reject any and all bids.

(b) All bids will be awarded based on the most current edition of HWEA's Purchasing Policy, as amended.

(c) All bids will be judged on the basis of best buy to HWEA and compliance with the General Conditions and conformance with the bid specifications. HWEA reserves the right to reject any and all bids.

(d) Any other considerations or basis for judgment will be stated in the specifications.

(e) Unless otherwise stated, the Purchasing Officer reserves the right to award contracts or place orders to a single source or divide awards and orders or enact such combination which in his judgment, shall be in the best interest of HWEA.

3. DELIVERY

(a) Item(s) shall be delivered F.O.B. destination with delivery costs and applicable charges to be included in the bid.

4. COMPETITION

In order to assure fair competition and to permit determination of the best bid:

(a) The Detailed Specifications, which may include a name of any manufacturer, trade name, or manufacturer or vendor catalog number mentioned in the specifications or Bid Form is to designate a standard of quality and type and for no other reason.

(b) Bids which show any omission, irregularity, alteration of forms, additions not called for, conditional or unconditional unresponsive bids, or bids obviously unbalanced may be rejected.

(c) All bids shall be accompanied by such descriptive literature and documents as may be called for by the specifications or Bid Form.

(d) Specifications provided are based on HWEA needs and uses, estimated costs of operation and maintenance, and other significant and / or limiting factors to meet HWEA requirements and shall be consistent with HWEA's policies. Minimum or maximum specifications where included, are not established arbitrarily to limit competition or to exclude otherwise competitive bidders.

5. DISPUTES

In cases of disputes, as to whether or not an item or service quoted or delivered meets specifications, the decision of the Purchasing Officer, or authorized representative shall be final and binding on all parties. The Purchasing Officer may request written recommendation of the head of the Department using the item.

6. EXCEPTIONS

The submission of a bid shall be considered an agreement to all the terms, conditions and specifications provided herein as listed in the various bid documents, unless specifically noted otherwise in the space provided on the Bid Form.

7. BID BINDING

Unless otherwise specified, all formal bids submitted shall be firm and irrevocable for a period of sixty (60) calendar days from the date of opening.

8. UNIT PRICING

Unless clearly shown on the Bid Form that it is the intent of the bidder that a reduced total price is being offered on the basis of receiving an award of all items covered by the total, any totals should be the actual sum of the extension of unit price(s), extended price(s), and/or total price(s). If a mistake is observed in arithmetic, unit prices govern and the bid will be refigured accordingly.

9. DELIVERY TIME

The bidder is to indicate on the Detailed Specification Form the approximate lead time on delivery.

10. WARRANTY

The material furnished in accordance with these specifications shall be guaranteed to be free from defect in workmanship, material, or equipment. Brass must also be free of lead.

SPECIFICATIONS

1. GENERAL SPECIFICATIONS

   (a) All items are to be equipped with all manufacturer's standard equipment as listed in the manufacturer's literature.

   (b) The items shall be manufactured in production and shall be of good listed quality as to workmanship and materials used.

   (c) The material furnished in this bid shall be produced by a domestic manufacturer. Domestic manufacturer means “any producer or manufacturer that produces materials / products in the United States of America.”

2. INFORMATION TO BE FURNISHED BY BIDDER

   (a) Each bid shall have attached the following information:

      1. A copy of manufacturer's warranty.
      2. A copy of the complete descriptive literature to include operation, installation and maintenance instructions.

3. EXCEPTIONS

   (a) Major exceptions to these specifications or failure to submit requested information may be considered cause for rejection of the bid.

DETAILED SPECIFICATIONS

The following are minimum specifications for;

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BIDDER SPECIFICATIONS

Bidder is requested to indicate either by writing “Comply” or “Exceptions” whether his product meets the minimum specifications as listed on this opposite side. If “Exception” is written, please indicate in the space provided the deviation.

ANY AND ALL BIDS WHICH ARE RETURNED MUST HAVE THE FOLLOWING PAGES COMPLETED AND RETURNED OR BID MAY NOT BE CONSIDERED.

DETAILED SPECIFICATIONS

- The grinder style submersible pumps shall have a semi-open, multi-vane, with a self-cleaning impeller with cutters incorporated as a homogenous part, designed to transport wastewater with fibrous materials shall be complete with a submersible electric motor.

- The hydraulics of the pump shall be capable of handling raw domestic wastewater and storm water with fibrous materials like diapers, mops, rags, rope, and wet wipes.

- Each pump shall be fitted with a stainless-steel chain of adequate strength and length to permit raising the pump for inspection and removal.

- The stator casing, oil casing, and impeller shall be wear resistant against sand and grit and made of high chromium cast iron with at least 24% chrome.

- All parts coming in contact with sewage shall be protected by a coat of rubber-asphalt paint.

- Impellers that have surface hardening (by thermal, coating, etc.) will not be accepted.

- All external bolts and nuts shall be stainless-steel or bronze with nitrile rubber O-ring or neoprene O-ring at the inlet of the pump.

- The impeller shall be non-clog design, capable of passing solids, fibrous material, and heavy sludge.

- The impeller blades shall be self-cleaning upon each rotation as they pass across a sharp relief groove in the inert ring and shall keep impeller blades clear of debris.

- The insert ring shall have a guide pin which moves axially upwards to allow larger debris to pass through and immediately return to normal operating position.

- The clearance between the insert ring and the impeller leading edges shall be adjustable.

- Each pump shall be provided with a tandem double mechanical seal running in an oil reservoir, composed of two separate lapped face seals, each consisting of one stationary and one rotating ring with each pair held in contact by a separate spring.

- The lower seal shall be tungsten carbide on tungsten carbide, or silicon carbide on silicon carbide.

- The upper seal shall be either tungsten carbide, silicon carbide, or tool steel on carbon.

- The compression spring shall be protected against exposure to the pumped liquid.

- The pump liquid shall be sealed from the oil reservoir by one face seal and the oil reservoir from the motor chamber by the other.

- The seals shall require neither maintenance nor adjustment, and shall be easily replaced.

- Seal failure detection shall be provided and wired to an indicator light in the control panel.

- The cable entry shall consist of a single cylindrical elastomer grommet, flanked by washers, all having a close tolerance fit against the cable outside diameter and the entry inside diameter.

- The grommet shall be compressed by the body containing a strain relief function, separate from the function of sealing the cable.

- The assembly shall provide ease of changing the cable when necessary, using the same entry seal.

- The cable entry junction chamber and motor shall be separated by a stator lead sealing gland or terminal board, which shall isolate the interior from foreign material gaining access through the pump top.

- The pump shall be supported by a discharge base elbow with clean out and flush connections.

- The discharge base shall support the full weight of the pump and motor.

- Pump Characteristics

    - Maximum Speed - 3450rpm
    - Horsepower - 5hp
    - Discharge Pipe Size - 2 ½”
    - Discharge - To 90° bend as part of Sliding Bracket
    - Power Available - 230 V, 1 ø

- Pre-approved pump manufacturers are Myers, HOMA, and Flygt.

- The pumps currently in operation are Myers products, fitted in a fiberglass wet-well. To preserve the integrity of this structure, pumps requiring new wall or base penetrations will not be accepted.

- The replacement pumps shall utilize the existing guide rail system and utilize any pump to pipe coupling required.

- The adapter shall be of standard manufacture and will require a Shop Drawing submittal.

- The Supplier shall furnish two (2) hard copies and one (1) digital copy of complete Shop Drawings, descriptive drawings, and bulletins with characteristics of the performance curves and showing the operation of the equipment.

- These documents shall be submitted by the Supplier and shall be approved by HWEA prior to pump fabrication and shipment.

- Any work which the Supplier may do or request be done on the equipment prior to HWEA's approval of Shop Drawings, descriptive drawings, bulletins, and performance curves shall be at his own risk.

- HWEA will not be held responsible for any expense incurred by the Supplier in equipment changes in order to conform to HWEA approved Construction Plans.

- The Supplier shall not avail himself of any discrepancy or conflict but shall report same to the Owner immediately for a determination.

- Shop Drawing data submitted shall include, but not limited to, the following:

    - The pump head curve showing the performance, horsepower, and efficiency of the pump
    - Details of the construction of the pump
    - Detailed motor and impeller "grinder / cutter operation" information
    - NEMA 4X Control Panel in stainless-steel, pre-approved manufacturers are Saginaw Control & Engineering and Quality Controls, Inc.
    - Water level pump control system float system by Supplier
    - Stainless-steel pump lift chains

- Pressure gauges shall be complete with a shut off valve, stainless-steel quick-connect, and isolation damper.

- The gauge shall have a graduated scale reading from 0 PSI t 100 PSI.

- The gauge shall be at least 4-inches in diameter and shall be equipped with a red "lazy hand" to show the maximum head reached at any time.

- All piping for gauge shall be stainless-steel.

- Pre-approved manufacturer is Ashcroft.

- The pumps shall be fully tested at the manufacturer's production facility before shipment, at its rated speed, capacity, head, and other conditions of head and capacity to establish properly that it has met all guarantees on the characteristic curves.

- Two (2) certified copies of the results of these tests shall be sent to HWEA.

- A HWEA witnessed pump test is not required.

- The pumping units will be accepted upon basis of the certified copies of the Start-up Report.

- If determined Start-up Report does not indicate a close correlation with the Shop Tests, a complete Start Up procedure will be made under the standards of the Hydraulic Institute.

- The Start-up procedures will be witnessed by the Manufacturer, the Engineer, and HWEA.

- The Manufacturer shall furnish all necessary tools, materials, equipment and supervision for the tests.

- Any defects in the equipment or failure to meet guaranteed requirements of these specifications shall be corrected by the Manufacturer by replacement or otherwise.

- Installation of the pumps and related appurtenances shall be done by HWEA in accordance with written instructions provided by the manufacturer.

- These instructions shall be securely attached to and readily visible on the inside of the sewage pumping station control panel.

- A conspicuous O&M Maintenance Instruction Chart and Daily Maintenance and Inspection Records Chart with ample room for recording daily inspections of the pump station shall be securely mounted in the interior of the control panel.

- In addition to the O&M chart, the manufacturer shall further provide three (3) hard copies and one (1) digital copy of a complete and detailed O&M Manual.

- This manual shall cover general operating procedures, the operation, maintenance, and servicing procedures of the major individual components provided with the SPS.

- After the SPS replacement equipment has been completely installed and ready for operation, it shall first be checked by a Certified Trained Representative of the pump manufacturer.

- The Representative shall make any adjustments if necessary to ensure proper operation.

- Final adjustment and testing of the equipment shall be carried out by the manufacturer's representative with the Engineer and HWEA witnessing all testing.

- The manufacturer shall furnish all necessary tools, materials, equipment, and supervision for the test.

- Two (2) hard copies and one (1) digital copy of the SPS Start-up Report shall be submitted to HWEA for review and approval.

- The pumps shall come with a warranty against defects in workmanship and materials for five (5) years.

- The pump manufacturer shall guarantee clog-free operation for a period of 12 months from date of start-up.

- A certificate shall be provided to HWEA on the day of start up with the local contact information and effective date.

- If the impeller clogs during this period, an authorized representative shall travel to the jobsite, remove the pump, clear the obstruction and re-install the pump at no cost to HWEA.

- The warranty shall be in published form and apply to all similar units.

- The sewage pump control system shall be automatic control for two (2) pumps by variation in level in the wet-well determined by an adjustable wet-well probe with backup mercury free float-switches with break resistant cable.

- Pre-approved level transmitters are Level Rat manufactured by Keller America, Inc.

- Pre-approved float type level transmitter is KwikSwitch.

- Pump control equipment shall be mounted a NEMA 4X stainless-steel enclosure.

- The portion of the cabinet housing the pump control switches shall be separated from the remainder of the control cabinet by a steel lockable cover.
- The control panel shall be equipped with an opening handle.

- The control panel shall not contain lockdown screws.

- The control panel manufacturer shall supply a transient voltage surge protection device for the 240 volt, three phase, four wire, 60 hertz electrical power supply.
- The transient voltage surge protection device shall be connected to a 30 amp, 3 pole circuit breaker and in a NEMA 4X stainless-steel cabinet.

- Pre-approved control panel manufacturers are Saginaw and Control Works.

- The control system shall be provided with the following:

    - Starter with overload protection
    - HOA switches for both pumps
    - High water level alarm lights (Visual Alarm Only), one located in the control panel and one suitable for remote mounting on the side of the cabinet
    - Motor seal failure alarm
    - Motor heat sensor system
    - Level control system
    - Main circuit breaker on outside of cabinet
    - Utility circuit breakers
    - Utility outlets
    - Condensation prevention heater
    - Low voltage, phase loss and phase reversal cutouts
    - Test push buttons for level control system
    - Elapsed time meter and amp meter for pump
    - Automatic pump alternation
    - Lighting Protection / Arrestors

- A bar graph level readout controller shall be provided to indicate level in the wet-well.

- The controller shall provide multiple LED indicators to indicate pump operation, pump faults, alternation sequence, alarm conditions, and all other conditions stated.
- A key board shall be mounted onto the dead front door that will program the following:

    - Pump activation and de-activation points
    - Alternation sequence
    - Time delays for pump on sequence
    - Monitor seal failure and temperature failure
    - Monitoring of critical and non-critical faults
    - Reset all alarm fault indications

- Pre-approved controller unit is a Provu Series Model PD6000 manufactured by Precision Digital.

- The pump motor shall have routine tests and the efficiency and power factor at 100%, 75%, and 50% loading shall be reported with pump shop drawings.

- Motor windings shall have a special Class H insulation system with a tough moisture resistant flexible varnish on each conductor, reliable slot insulation and the ends of coils shall be securely braced.

- Pump motors shall have a 1.15 service factor.

- Pump motors shall a automatic reset thermal overloads provided.

- Pump motors shall have an accurate nameplate firmly attached.

- Nameplate shall at a minimum display manufacturer, HP, phase, Hz, frame, voltage and amps, rpm, continuous rating, design and Service Factor, and serial number.

- The pump motors shall be designed for continuous operation and shall be high efficiency (87% minimum) and high-power factor (85% minimum or furnish capacitors) design.

- The pump motors shall be capable of no less than 30 evenly spaced starts per hour and be able to operate throughout the entire pump performance curve from shut-off through run-out even when the motor is not submerged.

- The pump motors shall be completely sealed explosion proof and submersible

- The pump motors shall be sized to be non-overloading at any point on the pump curve.

- The pump motors shall be designed for Class I, Groups C and D, Division I hazardous location as defined by the National Electric Code.

- The pump motors shall be UL listed.

- The motor shaft shall be stainless-steel, impervious to liquid and sewage.

- All external hardware, including the motor nameplate, shall be stainless-steel.

- The stator windings shall be insulated with moisture resistant Class H insulation rated for 180°C (356°F).

- The stator shall be insulated by the trickle impregnation method using Class H monomer-free polyester resin resulting in a winding fill factor of at least 95%.

- The motor shall be inverter rated in accordance with NEMA MG1, Part 31.

- The stator shall be heat-shrink fitted into cast iron stator housing.

- Oil used shall be able to be disposed of as non-hazardous waste.

- The motor shall be equipped with double shaft seals to prevent leakage between the motor and pump.

- The seals shall consist of two totally independent seal assemblies.

- The seals shall operate in a lubricant reservoir that hydrodynamically lubricates the lapped seal faces at a constant rate.

- The material of construction shall be carbon for the rotating faces and ceramic for the stationary faces, lapped and polished to a tolerance of one light band, with 300 stainless-steel hardware, with all elastomer parts of Buna-N.

- Protection against excessive temperature shall be provided by a heat sensor thermostat attached to the stator windings and connected in series with the contactor coil in the control panel.

- The cable entry seal design shall include specific torque requirements to insure a watertight and submersible seal.

- The cable entry shall consist of a single cylindrical elastomer grommet, flanked by washers, all having a close tolerance fit against the cable outside diameter and the entry inside diameter and compressed by the body containing a strain relief function, separate from the function of sealing the cable.

- The assembly shall provide ease of changing the cable when necessary using the same entry seal.

RECEIPT OF BID PACKET

FY 2022 - 2023
Sealed Bid # 2223-16
Grinder SPS Rehabilitation Material

I hereby acknowledge receipt of the subject bid packet.

_____
Company Authorized Signature

_____
Date

BID FORM

Item Description	Unit	Quantity	Unit Cost	Total Cost	Lead Time
Submersible Grinder Pump - Myers or Approved Equal	Each	6			
Controls for Duplex Operation Mounted in Stainless-Steel Cabinet	Each	3			
Level Float Switches (4) for Shut Off, Lead, Lag, & Alarm	Each	3			
Power Cables from Control Cabinet to Pumps, min. 12ft.	Each	3			
Pressure Gauges & Connections	Each	3			
Freight	LS	1			

Total Lump Sum Bid $_____

BID FORM

FY 2022 - 2023
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Company Name: _____

Address: _____

_____

Telephone: _____ Email: _____

I, the undersigned, do hereby certify that I am a duly authorized representative of _____ located at_____ and I have carefully examined the Invitation to Bid, General Conditions, Specifications and Bid Form and agree to all terms and conditions as set forth therein.

Signature: _____
Title: _____

Acknowledged before me this _____day of _____, 2023

_____
NOTARY PUBLIC
My Commission Expires: _____