**** SPECIFICATIONS ****

2020 SEWER SUBMERSIBLE PUMPS & RELATED MATERIALS

FOR:

ST. JOHN THE BAPTIST PARISH
PUBLIC UTILITIES DEPARTMENT
1811 WEST AIRLINE HIGHWAY
LAPLACE, LOUISIANA 70068

BY:

ST. JOHN THE BAPTIST PARISH
UTILITY DEPARTMENT

November 2019

ADVERTISEMENT FOR BIDS

ST. JOHN THE BAPTIST
2020 SEWER SUBMERSIBLE PUMPS & RELATED MATERIALS

Sealed Bids will be received by St. John the Baptist Parish Purchasing and Procurement Department in the St. John the Baptist Parish Government Complex, 1811 W. Airline Highway, LaPlace, La. 70068, at the receptionist's desk, until **2:45 p.m., November 13, 2019**.

Bids shall be addressed to the St. John the Baptist Parish Purchasing and Procurement. Bid envelopes shall be sealed, display the name and address of the bidder, and be clearly marked on the outside of the envelope **"2019 Sewer Submersible Pumps and Related Materials."** Any bids received after the specified time and date will not be considered. The sealed bids will be publicly opened and **read aloud** at 3:00 o'clock p. m. November 13, 2019 in the St. John the Baptist Parish Government Complex Council Chambers located at 1811 W. Airline Highway, LaPlace, LA 70068.

Bid Forms may be viewed and electronic bids are being accepted at www.centralbidding.com. Bid documents are also available for viewing on www.sjbparish.com and can be obtained by contacting Janice Gauthier at j.gauthier@stjohn-la.gov or Jean Stewart at j. stewart@stjohn-la.gov. All questions must be received in writing by November 6, 2019 to Janice Gauthier or Jean Stewart to the emails listed above.

St. John the Baptist Parish Council reserves the right to accept or reject any and all bids and to waive any irregularities or informalities incidental thereto, and to accept any bid, which St. John the Baptist Parish Council feels, serves their best interest. Such action will be in accordance with Title 38 of the Louisiana Revised Statues.

St. John the Baptist Parish Council, being a government agency, is exempt from all sales tax. Therefore, ***the amount you bid should contain no sales tax.***

The Specifications have been prepared by St. John the Baptist Parish Utility Department setting forth those items deemed necessary by St. John the Baptist Parish personnel.

Pumps and materials will be awarded individually.

Each item of bid shall be awarded to the lowest bidder meeting Specifications and at the same time, best fulfilling the needs of St. John the Baptist Parish. The Utility Department will be the sole judge of equality of products and comparability to Specifications.

The term of this agreement shall be for two (2) years, starting from the award date through December 31, 2021.

Order placement and order quantity will be determined by the St. John the Baptist Parish Council on an "as needed" basis. Purchase orders will be issued for all materials.

No bidder may withdraw his/her bid within thirty (30) days after the actual date of opening thereof.

Any person with disabilities requiring Special Accommodation must contact St. John the Baptist Parish at (985) 652-9569 no later than seven (7) days prior to bid opening. Participation by minority and female owned business, as well as businesses located in this Parish is encouraged.

ST. JOHN THE BAPTIST PARISH COUNCIL

Publish:
October 16, 2019
October 23, 2019
October 30, 2019

INDEX

SPECIFICATIONS FOR
2020 SEWER SUBMERSIBLE PUMPS & RELATED MATERIALS
FOR
ST. JOHN THE BAPTIST PARISH

I. SCOPE:

The following Specifications have been prepared by the St. John the Baptist Parish Utility Department for the purpose of receiving bids on each of the type pumps herein specified for use in the St. John the Baptist Parish sewer system. These proposed pumps are to be delivered to the Parish upon request as replacement units to existing pumps. The request by the Parish shall be by purchase order (PO's) to the successful bidder for each type of pump. Each of the categorized type of pumps as designated in the bid form will be bid and awarded separately and considered as the price for that pump being delivered to the Parish Central Warehouse (FOB delivery site to 1811 West Airline Hwy., LaPlace, LA) within a maximum time limit from receipt of the Purchase Order of 28 days for pumps up to less than 20 hp or 12 weeks for pumps equal to or greater than 20 hp.

The bid for each type of pump shall be awarded to the lowest bidder meeting the specifications that best fulfill the requirements and needs of St. John the Baptist Parish. The Parish Director of Utilities shall be the sole judge of the equality of each pump and motor in determining whether or not each item meets the stated specifications. The Utility Department reserves the right to seek additional bids or pricing for special projects beyond the scope of these bid specifications.

The bid prices for these pumps, motors and related materials are to be in effect until December 31, 2021. This contract will be issued for two years (January 1, 2020 to December 31, 2021). No price adjustments due to materials or manufacturing cost increase shall be allowed or accepted. The Parish shall place orders on an "as needed" basis. The Parish reserves the right to cancel this bid award due to the supplier's inability to provide the specified materials within the stated time limits.

The Parish requests the following information to be submitted with bid package or no later than 10 days after the bid opening. Failure to meet this requirement shall disqualify the bid:

- Exception List and justification for any differences between pump and specifications
- Pump Curve and specifications for each pump submitted.
- Documentation of Authorized Distributor.

II. TECHNICAL SPECIFICATIONS:

PART 1 – GENERAL - SUBMERSIBLE WASTEWATER PUMPS (UP TO 100 HP):

1.01 SUMMARY

The products and services referenced herein pertain to pump stations up for St. John the Baptist Parish Department of Utilities. The pumps shall be provided by a single source supplier to insure complete responsibility for an integrated pumping solution. The equipment performance and material specifications shall be used to establish a level of quality suitable for the intended service. Pumping equipment shall conform to standards

set forth as a minimum level of performance.

The Bidder shall furnish equipment for installation by the Parish. This equipment shall consist of submersible solids-handling pumps with integral electric submersible motors, pump power supply cables and radially cooled by the surrounding media or by closed loop cooling system. Mechanical and electrical connections shall be as required by the Department of Utilities.

The Bidder shall be responsible for supplying the equipment specified herein to meet or exceed these specifications. The Bidder shall be an Authorized Distributor of the proposed products and shall be capable of a form of direct responsive communication within a two (2) hours notification in regards to service requests and parts availability. The responsive Bidder shall routinely stock complete pumps and parts to repair those units in their own facility. All equipment approved for this project shall meet or exceed all performance, service, and warranty requirements of this specification.

1.02 QUALITY ASSURANCE

Manufacturer's Qualifications:

1. All equipment approved for this project shall meet or exceed all performance, service, and warranty requirements of this specification.

2. The solids-handling pumps shall be suitable for domestic sewage containing rag laden solids, pre-treatment effluent, plant effluent, and possible storm water and shall be designed and fully guaranteed for this use. The fluid temperature range shall be from 40 degrees to 104 degrees F. The controls manufacturer shall provide products designed and constructed specifically for water and wastewater applications.

1.03 OPERATING CONDITIONS

Operating conditions for the pumps for each station will be provided on a case by case basis. Pumps shall be provided for 230/460 VAC/Three Phase service. The pumps shall be designed to operate between 30 and 60 Hz. The pump shall be non-overloading throughout the specified range of operation without employing a service factor.

The pumps shall also be capable of continuous operation at full load, fully submersed, without cavitation or overheating of the motor. The pump shall reserve a minimum service factor of 1.15.

Pumps provided under this specification shall meet the following performance requirements. The engineer/owner may approve units of a smaller horsepower in some instances where the published data from the manufacturer demonstrates performance in compliance with the specified requirements. This decision shall be at the sole discretion of the engineer and owner.

1.04 TESTING

A. General

Each pump shall be shop tested and field-tested as specified hereinafter. All costs for the tests shall be borne by the Bidder. In the event any equipment fails to meet the performance values set forth in this specification, the equipment shall be modified and re-tested or replaced with equipment that performs in accordance with this specification.

B. Field Tests

Equipment shall be field tested as specified hereinafter. Field tests shall be composed of preliminary tests and acceptance tests. The Bidder shall provide the services of authorized equipment supplier's representatives to conduct all field tests.

1. Preliminary tests shall be run on all pumps and motors to demonstrate that they are in proper working order. This shall include electrical resistance and 600V megger testing of the motor. Imbalance between stator phase outside of the manufacturer’s recommended tolerance or a meg-ohm value of lower than 500 meg-ohms will not be acceptable.

2. Acceptance tests shall be run to demonstrate that the pumping units, motors and control system meet the following requirements:

    a. The pumping units shall operate as specified without excessive noise, cavitation, vibration, and without overheating of the bearings, or without seal leakage as detected by the control equipment.
    b. All automatic and manual controls shall function in accordance with the specified requirements.

1.05 SUBMITTALS

Furnish detailed specifications and data covering pumps, motors, material used, parts, devices and other accessories forming a part of the equipment furnished shall be submitted for approval in accordance with the procedure set forth in the General Conditions.

Furnish shop drawings and other pertinent data to the Owner and obtain his approval before fabrication. The drawings shall be complete with respect to dimensions, materials of construction, wiring diagrams, and all supporting engineering information.

Data and specifications for the equipment shall include, but shall not be limited to the following:

Setting Plans. Setting plans shall include:

1. Anchor bolt layout
2. Anchor bolt dimensions
3. Outline dimensions and weights of pumps, bases, motors, and control enclosures.

Pumps. Data and drawings shall include:

1. Manufacturer, type and model number.
2. Assembly drawing, nomenclature and material list, O&M manual, and parts list.
3. Type, manufacturer, model numbers.
4. Impeller type, diameter, thru-let dimensions, number of vanes and identification number.
5. Complete motor performance data including: rating, voltage/phase/frequency; design type; service factor; insulation class; motor pole number; actual rotation speed when combined with the specified pumps; current, power factor and active input power (KW) as a continuous function of shaft power from no load to at least 115 percent load, start (max. inrush) current; locked rotor current; NEC code letter; and motor torque as a continuous function through the motor start cycle from no rotation to synchronous speed.
6. Complete performance test curve(s) showing full range (shutoff to run-out) head vs. Capacity, hydraulic efficiency, motor active (KW) input power, and shaft power (BHP).
7. Location and description of Service Centers and spare parts stock.
8. Warranty for the proposed equipment.

The manufacturer shall indicate, by arrows to points on the Q/H curves, limits recommended for stable operation, between which the pumps are to be operated to prevent surging, cavitation, and vibration. The stable operating range shall be as large as possible, and shall be based on actual hydraulic and mechanical characteristics of the units and shall meet the hydraulic performance requirements of the proposed system.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver store and handle items of equipment in a manner that will prevent any damage.

B. Follow manufacturer's instructions for short term and long term storage, particularly with respect to proper lubricants and periodic rotation of shafts and bearing.

C. Touch up shop paint to prevent corrosion.

1.07 COORDINATION

A. Coordinate this work with the work of other trades to avoid interferences and to provide for timely installation.

1.08 WARRANTY

A. See Section 4

PART 2 - PRODUCTS

2.01 GENERAL

Furnish submersible solids-handling pumps as requested via purchase order. Each pump of 10 Hp and below shall be equipped with a radiant cooled submersible electric

motor. For units above 10 Hp, a closed loop cooling system with submersible electric motors connected for operation on either 230/460 volts, 3 phase, 60 hertz, and 3 or 4-wire service as noted. Pumps shall be furnished with a submersible cable with shielded conductors with length as required to reach the termination point plus an additional 5' (five) feet. The cable shall be suitable for submersible pump applications. The power cable shall be sized according to NEC and ICEA standards. Each pump shall be supplied with an ANSI B16.1 bolt pattern drilled on the discharge flange.

1. Acceptable Manufacturers will be those who meet or exceed all performance, material, warranty and service requirements of these specifications

2.02 PUMP DESIGN

The pumps for this application shall be designed to operate in a fully submerged configuration without the need of an external cooling source. The motors and cable entry system shall be capable of complete submergence and capable of handling a liquid temperature of at least 104 degrees F.

2.03 PUMP CONSTRUCTION

Major pump components shall be of gray cast iron, ASTM A-48, Class 30 or 35B, with smooth surfaces devoid of blow holes or other casting irregularities. All exposed nuts or bolts shall be AISI type 300 series stainless steel. All metal surfaces coming into contact with the pumped media, other than stainless steel and/or brass, shall be protected by a factory-applied coating system suitable for sewerage pumping applications.

Sealing design shall incorporate metal-to-metal contact between machined surfaces. Pump/Motor unit mating surfaces where watertight sealing is required shall be machined and fitted with Nitrile or Viton Rubber O-rings. Joint sealing will be the result of controlled compression of rubber O-rings in two planes and O-ring contact of four sides without the requirement of a specific bolt torque limit.

Rectangular cross-sectioned gaskets that require specific torque limits to achieve compression shall not be considered as adequate or equal. No secondary sealing compounds, elliptical O-rings, grease or other devices shall be used in any part of the pump.

2.04 COOLING SYSTEM

Each unit shall be provided with an adequately designed integral cooling system that allows a minimum of 15 motor starts per hour with a partially-submerged motor on a continuous basis in an ambient 104 degree F environment, and in a standard available version, with no damage to motor windings, bearings, or drive shaft seals. The pump supplied under this specification shall be suitable for continuous operation; under, partially submerged conditions. The cooling system shall be either a radiant heat sink type system integral to the stator housing, or closed loop system providing for dissipation of motor heat, regardless of the type of pump installation. All stators shall be heat shrink fitted without the need for external pins or bolts to secure the stator into the housing.

2.05 CABLE ENTRY SEAL

The cable entry seal design shall provide strain relief and preclude specific torque

requirements to insure a watertight and submersible seal. The cable entry shall be a compression type with at least two compression seals on units larger than 10 Hp. A single grommet shall be suitable for units 10 Hp and below. The assembly shall provide ease of changing the cable when necessary using the same entry seal.

The cable junction chamber shall be separated from the stator housing and shall allow connection of the motor leads to the power cable in a separate sealing chamber

2.06 MOTOR

A. The pump motor shall be a NEMA B design, LSPM or induction type with a squirrel cage rotor, shell type design, housed in an air filled or oil filled, watertight chamber. The stator windings shall be insulated with moisture resistant Class H insulation rated for 180°C (356°F). The stator shall be insulated by an impregnation method using Class H monomer-free polyester resin resulting in a winding fill factor of at least 95%. The motor shall be inverter duty rated in accordance with NEMA MG1, Part 31.The stator shall be heat-shrink fitted into the cast iron stator housing. The use of a multiple step dip and bake-type stator insulation process is not acceptable. The use of bolts, pins or other fastening devices requiring penetration of the stator housing is not acceptable. The motor shall be specifically designed for submersible pump usage and designed for continuous duty pumping media of up to 40°C (104°F) with an 80°C temperature rise and capable of at least 15 evenly spaced starts per hour. The rotor bars and short circuit rings shall be made of cast aluminum or copper. Thermal switches shall be embedded in the stator end coils to monitor the temperature of each phase winding. These thermal switches shall be used in conjunction with and supplemental to external motor overload protection and shall be connected to the control panel. The junction chamber shall be sealed off from the stator housing and shall contain a protected connection of power/pilot sensor cables using threaded compression type terminals or a terminal board.

The motor and the pump shall be produced by the same manufacturer.
The combined service factor (combined effect of voltage, frequency and specific gravity) shall be a minimum of 1.15. The motor shall have a voltage tolerance of plus or minus 10%. A performance chart shall be provided upon request showing curves for torque, current, power factor, input/output kW and efficiency. This chart shall also include data on starting and no-load characteristics.

The power cable shall be sized according to the NEC and ICEA standards and shall be of sufficient length to reach the junction box without the need of any splices. The outer jacket of the cable shall be oil resistant chlorinated polyethylene rubber. The motor and cable shall be capable of continuous submergence underwater without loss of watertight integrity to a depth of 65 feet or greater.

The motor horsepower shall be adequate so that the pump is non-overloading throughout the entire specified pump performance range from shut-off through run-out.

B. All motors shall be approved by Factory Mutual (FM) for NEC Class I Division I, Group C & D Locations.

C. Motors greater than 20 hp shall conform to the NEMA Premium Efficiency Electric Motor Program or the IE3 standard.

2.07 BEARINGS

The integrated pump/motor shaft shall rotate on at least two (2) sealed and permanently lubricated bearings. External bearing lubrication ports, which allow bearing contamination and over-packing, will not be allowed. The upper bearing, providing for radial thrust, shall be a single row, roller or ball bearing. The lower bearing shall consist of at least one double row angular contact bearing for combined axial and radial loads. Minimum L_{10} bearing life shall be 50,000 hours at any usable portion of the pump curve.

2.08 MECHANICAL SEAL

Each pump shall be provided with dual tandem mechanical shaft seal system comprising two totally independent seal assemblies. The seals shall operate in a seal lubricant buffer chamber that hydro-dynamically lubricates the lapped seal faces at a constant rate. The inner seal, located between the lubricant buffer chamber and the stator housing, shall contain one stationary and one positively driven rotating ring, functioning as an independent secondary barrier between the pumped liquid and the stator housing. Both inner seal faces shall be corrosion resistant Tungsten Carbide. The outer of the tandem set of seals function as the primary barrier between the pumped liquid and the stator housing. This set shall consist of a stationary ring and a positively driven rotating ring, both of which shall be corrosion resistant. Seal materials of Silicon Carbide, Carbon or other dissimilar materials other than Tungsten Carbide will not be acceptable.

Each interface shall be held in contact by its own spring system supplemented by external liquid pressures. The seals shall require neither maintenance nor adjustment, but shall be easily inspected and replaceable.

Conventional double mechanical seals with a common single or double spring acting between the upper and lower units which require a substantial pressure differential to offset external pressure and effect sealing, shall not be considered acceptable nor equal to the dual independent seal system specified. Cartridge-type seals comprising a single rotating element sandwiched between dual stationary elements will not be considered a dual tandem seal system and will not be accepted but capable of dual rotation with no damage. The shaft sealing system shall be capable of withstanding volute pressures up to 1.5 times pump shutoff head. No seal damage shall result from operating the pumping unit in its liquid environment, from running pump dry, or from reverse pump operation. The drain and inspection plug, with positive anti-leak seal, shall be easily accessible from the outside.

2.09 PUMP SHAFT

The pump and motor shaft shall be a single piece unit. The pump shaft is an extension of the motor shaft. Shafts using mechanical couplings shall not be acceptable. The shaft shall be 416 stainless steel and or – ASTM A479 S43100-T. Shaft sleeves will not be acceptable.

2.10 IMPELLER

The impeller shall be ductile iron for pumps greater than 10 hp and cast iron or approved equal for pumps under 10 hp and shall also be dynamically balanced. The impeller shall be a non-clog design. The impeller to volute clearance shall be adjustable by a single adjustment screw or the impeller shall have a separate wear ring assembly. The Impeller

shall be locked to the shaft, held by an impeller bolt and treated with a corrosion inhibitor.

2.11 VOLUTE

The pump volute shall be a single piece gray cast iron, ASTM A-48, Class 30 or 35B, non-concentric design with smooth passages of sufficient size to pass any solids that may enter the impeller. The volute shall have an integral and replaceable wearing surface constructed of Ductile Iron to provide an interface to the impeller or stainless steel wear ring.

2.12 PROTECTION

A. All stators shall incorporate thermal switches in series to monitor the temperature of each phase winding. At a maximum of 140^{o}C the thermal switches shall open, stop the motor and activate an alarm. Use of voltage sensitive solid state sensors and trip temperature above 140^{o}C shall not be allowed.

B. Each pump/motor unit shall be provided with a stator leakage sensor that will sense water intrusion into the motor housing in the event of seal failure or cable entry failure.

PART 3 - EXECUTION

3.01 INSPECTION

Inspect all equipment upon arrival at job site and prior to installation. Notify manufacturer of any damage and/or shortage.

3.02 PREPARATION

Make corrections and/or repairs as required for items inspected and found being deficient.

3.03 INSTALLATION

Install pumps and accessories in strict accordance with the manufacturer's instructions.

3.04 FIELD QUALITY CONTROL

A. The manufacturer's field engineer or representative shall inspect and check the installation after erection and be on hand for initial start-up of the equipment for a. He shall also instruct waste water personnel in the operation and maintenance of the system.

3.05 ADJUSTING AND CLEANING

A. Adjust equipment as required and within limits of manufacturer's instructions for proper alignment.

B. Apply proper type and quantity of lubricants for short term storage or start-up operation as applicable.

C. Clean equipment of any foreign matter or substances.

D. Field paint all components to be painted in accordance with manufacturers recommendations.

3.06 PROTECTION

After installation and painting protect the equipment from any damage by work of other trades. Repair any damage that nevertheless occurs.

PART 4- SERVICE AND WARRANTY

4.01 SERVICE

The pump manufacturer shall have a direct factory service center/stocking facility capable of completely servicing, and which stocks identical complete drive units, and spare parts for, the proposed pumps up to 100 Hp within a 500 mile radius of the installation. The System Supplier shall be an Authorized Distributor, not a contracted representative of the proposed products and shall be capable of a form of direct responsive communication within a two (2) hours notification in regards to service requests and parts availability. The System Supplier shall maintain local inventory of pumps and parts and factory trained service technicians for the service and repair of the products offered under this contract.

4.02 WARRANTY

The pump manufacturer shall provide a prorated warranty for the units supplied to the Owner against defects in material and workmanship for a period of at least five (5) years or 10,000 operating hours in writing under the operating conditions presented by this project, in accordance with their standard published Municipal Pump Warranty. Pump manufacturer shall demonstrate ability to support claimed warranty coverage by meeting all requirements of this specification.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: St. John the Baptist Parish
1811 West Airline Hwy.
Laplace, Louisiana 70068
(Owner to provide name and address of owner)

BID FOR: St. John the Baptist Parish
2020 Sewer Submersible Pumps
and Related Materials
(*Owner to provide name of project and other identifying information)*

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: St. John the Baptist Parish Utility Department and dated: November 2019
(Owner to provide name of entity preparing bidding documents.)

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) _____ .

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:

Not Applicable Dollars ($ _____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

Not Applicable Dollars ($ _____)

Alternate No. 2 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

Not Applicable Dollars ($ _____)

Alternate No. 3 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

Not Applicable Dollars ($ _____)

NAME OF BIDDER: _____

_____

ADDRESS OF BIDDER: _____

_____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: Not Applicable

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** If someone other than a corporate officer signs for the Bidder/Contractor, a copy of a corporate resolution or other signature authorization shall be required for submission of bid. Failure to include a copy of the appropriate signature authorization, if required, may result in the rejection of the bid unless bidder has complied with La. R.S. 38:2212(B)5.

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: St. John the Baptist Parish
1811 West Airline Hwy.
Laplace, Louisiana 70068
(Owner to provide name and address of owner)

BID FOR: St. John the Baptist Parish
2020 Submersible Pumps
and Related Materials
(*Owner to provide name of project and other identifying information)*

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___4" Submersible Solid Handling Pump, 3 H.P., 1750 Rpm 3/60/230/460 Design Criteria 100 Gpm At 32' Head To 480 Gpm At 5' Head Shutoff Head 40'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
1	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___4" Submersible Solid Handling Pump, 5 H.P., 1750 Rpm 3/60/230/460 Design Criteria 80 Gpm At 40' Head To 540 Gpm At 12' Head Shutoff Head 49'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
2	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___4" Submersible Solid Handling Pump, 7.5 H.P., 1750 Rpm 3/60/230/460 Design Criteria 80 Gpm At 48' Head To 600 Gpm At 16' Head Shutoff Head 53'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
3	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___4" Submersible Solid Handling Pump, 5 H.P., 1750 Rpm 3/60/230/460 Design Criteria 80 Gpm At 42' Head To 750 Gpm At 7' Head Shutoff Head 47'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
4	LUMP SUM	LUMP SUM	$_____/	

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___4" Submersible Solid Handling Pump 7.5 H.P., 1750 Rpm 3/60/230/460 Design Criteria 80 Gpm At 52' Head To 800 Gpm At 13' Head Shutoff Head 58'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
5	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___4" Submersible Solid Handling Pump 10 H.P., 1750 Rpm 3/60/230/460 Design Criteria 80 Gpm At 58' Head To 900 Gpm At 13' Head Shutoff Head 63'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
6	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___4" Submersible Solid Handling Pump 15 H.P., 1750 Rpm 3/60/230/460 Design Criteria 100 Gpm At 72' Head To 850 Gpm At 18' Head Shutoff Head 80'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
7	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___4" Submersible Solid Handling Pump 20 H.P.,1750 Rpm 3/60/230/460 Design Criteria 100 Gpm At 92' Head To 1,150 Gpm At 14' Head Shutoff Head 98'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
8	LUMP SUM	LUMP SUM	$_____/	

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___6" Submersible Solid Handling Pump 5 H.P., 1750 Rpm 3/60/230/460 Design Criteria 80 Gpm At 42' Head To 750 Gpm At 7' Head Shutoff Head 47'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
9	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___6" Submersible Solid Handling Pump 7.5 H.P., 1750 Rpm 3/60/230/460 Design Criteria 80 Gpm At 52' Head To 800 Gpm At 13' Head Shutoff Head 58'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
10	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___ 6" Submersible Solid Handling Pump 10 H.P., 1750 Rpm 3/60/230/460 Design Criteria 80 Gpm At 58' Head To 900 Gpm At 13' Head Shutoff Head 63'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
11	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___6" Submersible Solid Handling Pump 15 H.P., 1750 Rpm 3/60/230/460 Design Criteria 100 Gpm At 72' Head To 850 Gpm At 18' Head Shutoff Head 80'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
12	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___6" Submersible Solid Handling Pump 20 H.P., 1750 Rpm 3/60/230/460 Design Criteria 100 Gpm At 92' Head To 1,150 Gpm At 14' Head Shutoff Head 98'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
13	LUMP SUM	LUMP SUM	$_____/	

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___6" Submersible Solid Handling Pump 25 H.P., 1750 Rpm 3/60/230/460 Design Criteria 200 Gpm At 65' Head To 1,800 Gpm At 22' Head Shutoff Head 70'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
14	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___6" Submersible Solid Handling Pump 30 H.P., 1750 Rpm 3/60/230/460 Design Criteria 200 Gpm At 75' Head To 2,000 Gpm At 22' Head Shutoff Head 82'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

15	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___ 6" Submersible Solid Handling Pump 40 H.P., 1750 Rpm 3/60/230/460 Design Criteria 200 Gpm At 94' Head To 2,400 Gpm At 35' Head Shutoff Head 1100'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
16	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___6" Submersible Solid Handling Pump 50 H.P., 1750 Rpm 3/60/230/460 Design Criteria 200 Gpm At 105' Head To 2,400 Gpm At 35' Head Shutoff Head 110'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
17	LUMP SUM	LUMP SUM	$_____/	

DESCRIPTION:	☒ Base Bid or ❑ Alt.# ___6" Submersible Solid Handling Pump, 60 H.P., 1750 Rpm 3/60/230/460 Design Criteria 200 Gpm At 115' Head To 2,300 Gpm At 50' Head Shutoff Head 125'			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
18	LUMP SUM	LUMP SUM	$_____/	

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner