CITY OF TULARE
NOTICE TO BIDDERS
BID NO. #18-656

REPLACEMENT SANITARY SEWER LIFT STATION PUMPS

Notice is hereby given that the City of Tulare, State of California, will receive sealed bids for the purchase of two (2) replacement sanitary sewer lift station pumps. Bids are to be mailed to the City of Tulare, City Clerk, 2nd floor, 411 East Kern Ave., Tulare, California, 93274.

Clearly mark on the outside of the sealed envelope the following:

SEALED BID NUMBER 18-656, REPLACEMENT SANITARY SEWER LIFT STATION PUMPS

Company name and address should be displayed on the outside of the envelope. The bid deadline will be April 11, 2018, 2:00 p.m. at which time the bids will be opened and read.

Instructions, specifications and proposal forms may be inspected and obtained in the Purchasing Office at 411 E. Kern Avenue, Tulare, California, 93274, or by calling (559) 684-4232. No Bid will be received unless it is made on a proposal form furnished by the City.

The City hereby affirmatively ensures that minority business enterprises will be afforded full opportunity to submit bids in response to this notice and will not be discriminated against on the basis of race, color, national origin, ancestry, handicap, gender or religion in any consideration leading to the award of contract.

No qualified handicapped person shall, on the basis of handicap, be excluded from participating in, be denied the benefits of, or otherwise be subjected to discrimination in any consideration leading to the award of contract.

The City reserves the right to accept or reject any or all bids and to award the contract to the lowest responsible bidder who best complies with the bid specifications as determined by the bid analysis. The Board of Public Utilities will make the final determination to award the contract.

For further information, please contact the City of Tulare at (559) 684-4232.

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Darlene Thompson, Finance Director

CITY OF TULARE
GENERAL INSTRUCTIONS AND CONDITIONS
BID NO. 18-656
REPLACEMENT SANITARY SEWER LIFT STATION PUMPS

INTENT OF SPECIFICATIONS:

These specifications are intended to describe the type, size and quality of two (2) replacement sanitary sewer lift station pumps which will best meet the needs of the City of Tulare, Public Works Department, Wastewater Collections Division. The mention herein of equipment or material merely serves to specify the quality or general type which is required and does not require a specific make or manufacturer's product.

TERMS:

All equipment furnished under this contract shall be new, unused, and the same as the manufacturer's current production model. Accessories not specifically mentioned herein, but necessary to furnish complete unit ready for use, shall also be included. Unit shall conform to the best practice known to the body trade in design, quality of material and workmanship. Assemblies, sub-assemblies, and component parts shall be standard and interchangeable throughout the entire quantity of units as specified in this invitation to bid. The equipment furnished shall conform to all ANSI Safety Standards. Extra Heavy Duty (E.H.D.) as applied in this bid is interpreted to mean that the item to which it applies shall exceed the usual quality, capacity, strength and/or durability of standard productions items as required.

INFORMATION FOR BIDDERS:

All equipment must conform in all respects to the State of California Industrial Safety Orders and must meet all Environmental Protection Agency Standards and Regulations. Completed units to be delivered to the City of Tulare, Corporation Yard, 3981 S. K Street, Tulare, California, 93274.

Prices quoted shall exclude all Federal Excise Tax.

Prices quoted shall include applicable state tax.

Priced quoted shall include cost of delivery.

Proper exempt certificate will be issued by the City to the successful supplier.

Bids must be submitted on the forms supplied by the City of Tulare and include all applicable taxes and charges. It is required that the manufacturer's complete measurements and specifications and the certification that parts are available and stocked within the State of California, be submitted and made a part of the bid.

Supplier shall keep records of parts used in the manufacture of the specified equipment and shall provide three copies to the Department of Public Works, Wastewater Collections Division of any improvement or modification that may improve the specified equipment.

Minimum requirements are detailed in these specifications. All dimensions, sizes, dates, and expressions of quality are minimum specifications, unless otherwise stated. Items which exceed the minimum should be noted under "Bidders Specifications".

In determining the bid that best suits the City's need, the City may waive minor failures to comply with the specifications, if they are stated on the bid form. The City may consider items which exceed the specifications in determining the bid that best meets the City's needs.

Use of a trade or specific name rather than a generic name does not confer a single source status to the named product, but indicates the required quality, capacity, or performance required. A product that fully meets the performance, capacity or quality of the named product may be used if approved by the Director of Public Works. Determination of equivalency will be made by the Director of Public Works only and his decision shall be final.

Bids must be submitted on or before the Closing Date. Any Bids received after the Closing Date shall be returned, unopened, to the Bidder, provided the request number, opening date, and Bidder's return address are on the envelope. Telegraphic, telephonic, electronic and facsimile Bids and withdrawal requests will not be accepted.

Prices submitted are considered accurate for a period of ninety (90) days and cannot be withdrawn after the Closing Date.

The City of Tulare reserves the right to reject any and all bids, to waive any informalities in the bid and to select the bid which appears to be the most economical and advantageous to the Department of Public Works. Delivery shall be made within the time stated by the bidder and shall not exceed ninety (9**0**) days from the date of notice of award.

INQUIRIES:

Instructions to Vendors, Specifications and Bid Forms may be inspected and obtained by visiting our web site at http://www.tulare.ca.gov/ or by calling (559) 684-4232, or by FAX (559) 685-2366. However, to prevent misinterpretations, the City requests that all questions be sent by email to twhitfield@tulare.ca.gov.

INSURANCE REQUIREMENT:

Within ten days of notice of award, the successful bidder shall furnish the City of Tulare with a copy of the insurance declaration page covering the truck and trailer delivering said equipment. The policy limits should cover the value of the equipment as bid.

AWARD AND EXECUTION OF CONTRACT:

The award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed.

GUARANTEE:

Bidder shall state the normal warranty and extended warranty where available.

CITY OF TULARE
BID SPECIFICATION
BID #18-656
TWO (2) REPLACEMENT SANITARY SEWER LIFT STATION PUMPS

It is the intent of the City of Tulare to purchase two (2) replacement sanitary sewer lift station pumps. The specifications herein are for the purpose of stating our minimum requirements. Bidders are encouraged to bid an equivalent model.

SCOPE OF WORK

This specification covers the technical requirements for the furnishing of two 85 HP wet well sewer lift station submersible pumps and 50 foot power/sensor cable.

PART 1: GENERAL REQUIREMENTS

The supplier shall furnish and **deliver 2 wet well submersible non-clogging wastewater** pumps with 6" volute for use with existing guide rail lift IN & OUT system, with semi-open impeller and cutter plate to be constructed out of hard iron /high chrome. The pumps shall be equipped with a minimum 85 horsepower / maximum 100 horsepower submersible electric motor, 1775 RPM, connected for operation on 460volts, 60 hertz, 3 phase 4 wire service, with 50 feet of submersible cable (SUBCAB) suitable for submersible pump applications. The power cable shall be sized according to NEC and ICEA standards and also meet with P-MSHA Approval.

Each of the new pump/motor units must be capable of pumping a flow range of 1700-2000 GPM @ 100 TDH, at pump efficiency of 70.4 % with a wire to water efficiency of 66%. The pump will have a minimum shut off head condition of 210 feet of head. The above operating condition must be with 10% of the pump's best efficiency point (BEP). A secondary operating condition is 800 GPM @ 157 TDH.

The pump system, including the pump, motor and power cable shall be approved for use in areas classified as hazardous locations in accordance with the NEC Class I, Div. 1, Group C and D service as determined and approved by a U.S. nationally recognized testing laboratory (U.L., FM, CSA) at the time of the bidding of the project. **The motor shall be capable of operating in pumped media up to 125 degrees Fahrenheit since this is the typical water temperature coming into the station.** Motor thermal switches shall monitor and protect the motor from excessive temperature. An internal Float Switch, FLS leakage detector shall be in an isolated dry chamber. Service of explosion-proof submersible units shall be performed by qualified personnel. The pump manufacturer must provide training schools to qualify personnel in the proper service and repair of explosion-proof pumps.

PUMP DESIGN CONFIGURATION

The pump/motor unit to be supplied will match-up and function as intended with the existing 6" base discharge elbow and guide rail lift IN & OUT system. The pump volute will be machined and prepared for to accept a mix flush valve.

PUMP CONSTRUCTION
Major pump components shall be of grey cast iron and comply with ASTM A-48, Class 35B, with smooth surfaces devoid of blow holes or other irregularities. The lifting handle shall be of stainless steel. All exposed nuts or bolts shall be of stainless steel construction. All metal surfaces coming into contact with the pumped media, other than stainless steel or brass, shall be protected by a factory applied spray coating of acrylic dispersion zinc phosphate primer with a polyester resin paint finish on the exterior of the pump.

Sealing design shall incorporate metal-to-metal contact between machined surfaces. Critical mating surfaces where watertight sealing is required shall be machined and fitted with Nitrile O-rings. Fittings 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 torque limit.

Rectangular cross sectioned gaskets requiring 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.

CABLE ENTRY SEAL
The cable entry seal design shall preclude specific torque requirements to insure a watertight and submersible seal. The cable entry shall consist of dual cylindrical elastomer grommets, flanked by washers, all having a close tolerance fit against the cable outside diameter and the entry inside diameter. The grommets shall be compressed by the cable entry unit, thus providing a strain relief function. 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 sealed from each other, which shall isolate the stator housing from foreign material gaining access through the pump top. Epoxies, silicones, or other secondary sealing systems shall not be considered equal.

MOTOR
The pump motors shall be a National Electric Manufacturer's Association (NEMA) design B, induction type with a squirrel cage rotor, shell type design, housed in an air 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 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 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 multiple step dip and bake-type stator insulation process is not acceptable. The use of pins, bolts, screws or other fastening devices used to locate or hold the stator and that penetrate the stator housing are not acceptable. **The motor shall be designed for continuous duty while handling pumped media of up to 125°F**. The motor shall be capable of no less than 30 evenly spaced starts per hour. The rotor bars and short circuit rings shall be made of aluminum. Three thermal switches shall be embedded in the stator end coils, one per phase winding, to monitor the stator temperature. These thermal switches shall be used in conjunction with and supplemental to external motor overload protection and shall be connected to the motor control panel.

The junction chamber shall be sealed off from the stator housing and shall contain a terminal board for connection of power and pilot sensor cables using threaded compression type terminals. The use of wire nuts or crimp-type connectors is not acceptable. The motor and the pump shall be produced by the same manufacturer.

The motor service factor (combined effect of voltage, frequency and specific gravity) shall be 1.15. At no point on the pump's performance curve shall the impeller horsepower load be greater than 72 brake horsepower because of the high water temperature being pumped. The motor shall have a voltage tolerance of +/- 10%. The motor shall be designed for continuous operation in up to a 40°C ambient and shall have a NEMA Class B maximum operating temperature rise of 80°C. A motor performance chart shall be provided upon request exhibiting curves for motor torque, current, power factor, input/output kW and efficiency. The chart shall also include data on motor starting and no-load characteristics.

Motor horsepower shall be sufficient so that the pump is non-overloading throughout its entire performance curve, from shut-off to run-out. The motor and cable shall be capable of continuous submergence underwater without loss of watertight integrity to a depth of 65 feet or greater.

BEARINGS

The integral pump/motor shaft shall rotate on two bearings. The motor bearings shall be sealed and permanently grease lubricated with high temperature grease. The upper motor bearing shall be a single ball type bearing to handle radial loads. The lower bearing shall be a two row angular contact ball bearing to handle the thrust and radial forces. The minimum L10 bearing life shall be 50,000 hours at any usable portion of the pump curve.

MECHANICAL SEALS

The pumps shall be provided with positively driven dual, tandem mechanical shaft seal systems consisting of two seal sets, each having an independent spring. The lower primary seal, located between the pump and seal chamber, shall contain one stationary and one positively driven rotating corrosion resistant tungsten-carbide ring. The upper secondary seal, located between the seal chamber and the seal inspection chamber shall be a leakage-free seal. The upper seal shall contain one stationary and one positively driven rotating corrosion resistant tungsten-carbide seal ring. The rotating seal ring shall have small back-swept grooves laser inscribed upon its face to act as a pump as it rotates, returning any fluid that should enter the dry motor chamber back into the lubricant chamber. All seal rings shall be individual solid sintered rings. Each seal interface shall be held in place by its own spring system. The seals shall not depend upon direction of rotation for sealing. Mounting of the lower seal on the impeller hub is not acceptable. Shaft seals without positively driven rotating members or conventional double mechanical seals containing either a common single or double spring acting between the upper and lower seal faces are not acceptable. The seal springs shall be isolated from the pumped media to prevent materials from packing around them, limiting their performance.

The pumps shall be provided with a lubricant chamber for the shaft sealing system. The lubricant chamber shall be designed to prevent overfilling and shall provide capacity for lubricant expansion. The seal lubricant chamber shall have one drain and one inspection

plug that are accessible from the exterior of the motor unit. The seal system shall not rely upon the pumped media for lubrication.

The area about the exterior of the lower mechanical seal in the cast iron housing shall have cast in an integral concentric spiral groove. This groove shall protect the seals by causing abrasive particulate entering the seal cavity to be forced out away from the seal due to centrifugal action.

A separate seal leakage chamber shall be provided so that any leakage that may occur past the upper, secondary mechanical seal will be captured prior to entry into the motor stator housing. Such seal leakage shall not contaminate the motor lower bearing. The leakage chamber shall be equipped with a float type switch that will signal if the chamber should reach 50% capacity.

PUMP SHAFT

The pumps and motor shafts 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 stainless steel – ASTM A479 S43100-T. Shaft sleeves will not be acceptable. The impeller shall be of (ASTM A-48, Class 35B hard iron / high chrome or ASTM A-532 (Alloy III A) 25% chrome cast iron) dynamically balanced, semi-open, multi-vane, back swept, screw-shaped, non-clog design. The impeller leading edges shall be mechanically self-cleaned automatically upon each rotation as they pass across a spiral groove located on the volute suction. The screw-shaped leading edges of the gray iron impeller shall be hardened to Rc 65 and shall be capable of handling solids, fibrous materials, heavy sludge and other matter normally found in wastewater. The screw shape of the impeller inlet shall provide an inducing effect for the handling of up to 5% sludge and rag-laden wastewater. The impeller to volute clearance shall be readily adjustable by the means of a single trim screw.

PROTECTION

The pump motor stator shall incorporate three thermal switches, one per stator phase winding and be connected in series to monitor the temperature of the motor. Should the thermal switches open, the motor shall stop and activate an alarm. A float switch shall be installed in the seal leakage chamber and will activate if leakage into the chamber reaches 50% chamber capacity, signaling the need to schedule an inspection.

The thermal switches and float switch shall be connected to a Mini CAS control and status monitoring unit. The Mini CAS unit shall be designed to be mounted in the pump control panel.

TESTING

The following inspections and tests shall be performed upon the pumps prior to shipment from factory by the manufacturer:

a. Impeller, motor rating and electrical connections shall be checked for compliance with this specification.
b. Prior to submergence, each pump shall be run dry to establish correct rotation.
c. The pumps shall be run submerged in a minimum of 6’ of water for 30 minutes.

d. Motor and cable insulation shall be tested for moisture content and insulation defects both prior to and after test c above.

Upon request, a written quality assurance record confirming the above testing/inspections shall be supplied with the pumps at the time of shipment.

The pumps shall be tested in accordance with the latest test code of the Hydraulic Institute (H.I.) at the manufacturer to determine head vs. capacity and kilowatt draw required. Witness tests shall be available at the factory upon request.

The pump(s) shall be rejected if the above requirements are not satisfied.

Written test results shall be provided to the Engineer.

START-UP SERVICE
The equipment manufacturer shall furnish the services of a qualified factory trained field service engineer for an 8-hour working day at the site to inspect the installation and instruct the owner's personnel on the operation and maintenance of the pumping unit. After the pumps have been completely installed and wired, the contractor shall have the manufacturer do the following:

a. Megger stator and power cables.
b. Check seal lubrication.
c. Check for proper rotation.
d. Operate the pumps utilizing manual and automatic modes.
e. Measure amperage, voltage, pumping rate and discharge pressure during pump operation.
f. Measure motor operating load and no load current.
g. Check level control operation and sequence, including alarm conditions.

Warranty for Pump/motor unit
The manufacturer of the pump/motor unit will provide a five (5) year pro-rated warranty. With the following warranty coverage schedule. Warranty coverage begins when equipment is put into service.

a) 0 -18 months – 100 % parts and shop service labor
b) 19 - 39 months – 50% parts and shop service labor
c) 40 – 60 months – 25% parts and shop service labor

Operator and Maintenance manuals (3 sets)

Parts manual

Delivery:
Delivery to City of Tulare Corporation Yard, 3981 S. K Street, Tulare, CA

CITY OF TULARE
BID FORM
BID #18-656
TWO (2) REPLACEMENT SANITARY SEWER LIFT STATION PUMPS

SEALED bids shall be in the Office of the City Clerk, City Hall, 411 East Kern Avenue, Tulare, California, 93274, no later than **2:00 p.m., April 11, 2018.**

BID

To: City of Tulare
Attn: City Clerk
411 E. Kern Ave.
Tulare, CA 93274

THE UNDERSIGNED PROPOSES TO FURNISH TO THE CITY OF TULARE THE FOLLOWING:

TWO (2) REPLACEMENT SANITARY SEWER LIFT STATION PUMPS

A. Make: _____

B. Model Number in Product Line: _____

C. Number of calendar days required for delivery of complete units to City Corporation Yard Notice of Award: _____

D. Any exceptions to these specifications not otherwise covered:
_____

_____

_____

Complete units shall be delivered to the City of Tulare, Corporation Yard, 3981 South "K" Street, Tulare, California 93274

THE UNDERSIGNED BIDS AS FOLLOWS:

Cost of two (2) Replacement Sanitary Sewer Lift Station Pumps	$ _____
Sales Tax	$ _____
Cost of Delivery	$ _____
NET BID (F.O.B. TULARE)	**$** _____

TERMS

The City of Tulare agrees to pay the net bid amount thirty (30) days after delivery.

The City of Tulare reserves the right to reject any or bids or any part thereof.

BY:

_____
BIDDING FIRM

_____
BUSINESS ADDRESS

_____ _____
SIGNATURE OF REPRESENTATIVE TITLE

Instructions Regarding Signature: If bidder is an individual, state "Sole Owner" after signature. If bidder is a partnership, signature must be by General Partner, so stated after "Title". If bidder is a Corporation, signature must be an authorized officer, so stated after "Title".