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The City of Traverse City

Office of the City Manager

GOVERNMENTAL CENTER

400 Boardman Avenue

Traverse City, MI 49684

(231) 922-4440

(231) 922-4476 Fax

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February 6, 2015

Bidder:

The City of Traverse City will receive sealed bids in the Office of the City Manager, Second floor, Governmental Center, 400 Boardman Avenue, Traverse City, Michigan, 49684, until **Wednesday, February 18, 2015, at 10:00 AM** for the following:

**REMOVAL, REPAIR, RETURN AND INSTALLATION OF  
TWO (2) VERTICAL TURBINE PUMPS FOR THE WATER PLANT**  
(specifications attached)

If the specifications are obtained from the City's new updated website link at: [http://www.traversecitymi.gov/bids\\_and\\_rfps.asp](http://www.traversecitymi.gov/bids_and_rfps.asp), it is the sole responsibility of the Bidder to check the website for updates and addenda prior to the bid being submitted. Bidder may also sign up to receive notifications when bids and RFPs are posted by sending an e-mail requesting same to [jdalton@traversecitymi.gov](mailto:jdalton@traversecitymi.gov)

The City of Traverse City reserves the right to accept or reject any or all bids, waive irregularities, and to accept the bids either on an entire or individual basis that is in the best interest of the City.

The City accepts no responsibility for any expense incurred by the Bidder in the preparation and presentation of a bid. Such expenses shall be borne exclusively by the Bidder.

Only the successful Bidder will be notified. If you so desire, you may call for results.

You must indicate on the outside of the sealed envelope that the bid is for the **“Vertical Turbine Pumps.”**

You must submit **TWO (2) SEALED COPIES** of the bid to the City Manager's Office prior to the above-indicated time and date or the bid will not be accepted. Telefaxed or E-Mail bids will not be accepted.

Please note that if you have previously submitted an informal quote, you will still need to submit a sealed bid prior to the date and time specified above in order to be considered. Please ensure that all requirements listed in the specifications are met.

If you have any questions, please contact Art Krueger, Water Plant Superintendent at (231) 922-4920 before the bid is submitted.

PLEASE SUBMIT BID TO: Julie Dalton, Purchasing Agent  
400 Boardman Avenue, 2<sup>nd</sup> floor  
Traverse City, MI 49684

## SPECIFICATIONS

The City of Traverse City has need of service on two (2) vertical turbine pumps: one (1) High Service pump #3, and one (1) Low Service pump #1. This will include the removal, hauling to workshop, repair of, return to the Water Treatment Plant, and installation of both vertical turbine pumps.

### Field Service Labor Required:

Bidder to provide field service technician(s) onsite with a flatbed, crane truck and A-frame to remove one (1) High Service pump and motor and one (1) Low Service pump and motor, load both pumps and motors onto flatbed and transport back to the bidder's service area.

Upon completion of repairs, bidder will provide field service technician(s) onsite with a flatbed, crane truck and A-frame to install the repaired vertical turbine pumps, and test run both pumps to verify proper operation.

## ONE (1) LOW SERVICE PUMP #1

### Parts Estimate for Repair of One (1) Low Service Pump #1:

1 Suction Bearing  
2 Bowl Bearings  
1 Spyder Bearing  
1 Stuffing Box Bearing  
2 Bowl Rings  
2 Line Shaft Couplings  
1 Set of Packing  
1 Stuffing Box Gasket  
1 Head Gasket  
2 Bowl Gaskets  
2 Motor Bearings  
1 Steady Bushing

### **Labor to include:**

Remove and pick up pump at the Traverse City Water Plant, 2010 Eastern Avenue, Traverse City, MI, and transport to bidder's repair facility.

Disassemble complete pump and motor.

Sandblast components and prep for inspection.

Dimensionally measure all operating clearances and record on inspection report.

Machine all impeller rings front and rear to establish concentricity.

Install new bowl rings front and rear then lock in place.

Machine bowl rings for proper operating clearances.

Assemble all rotating parts on shaft and place in balancing machine.

Verify T.I.R's then dynamically balance rotor to 10 grams or less at 1" radius.

Install all new shaft sleeves then mechanically lock in place.

Install all new cutless bearings and lock in place.

Measure and record all final operating clearances.

Final assembly of pump and motor with new parts listed.

Check to insure proper lift and free rotation.

Paint, then preserve pump for delivery.

Transport completed job to the Traverse City Water Plant, reinstall pump, perform start-up, test run pump and clean up work area.

NOTE: All new paint materials that come in contact with water shall be NSF-60/61 certified for drinking water purposes.

### ONE (1) HIGH SERVICE PUMP #3

#### Parts Estimate for Repair of One (1) High Service Pump #3:

- 1 Suction Bearing
- 2 Bowl Bearings
- 2 Spyder Bearings
- 1 Stuffing Box Bearing
- 2 Bowl Rings
- 3 Line Shaft Couplings
- 1 Set of Packing
- 1 Stuffing Box Gasket
- 1 Head Gasket
- 3 Bowl Gaskets
- 2 Motor Bearings
- 1 Steady Bushing

#### **Labor to include:**

Pick up at the Traverse City Water Plant, 2010 Eastern Avenue, Traverse City, MI, and transport to bidder's repair facility.

Disassemble complete pump and motor.

Sandblast components and prep for inspection.

Dimensionally measure all operating clearances and record on inspection report.

Machine all impeller rings front and rear to establish concentricity.

Install new bowl rings front and rear then lock in place.

Machine bowl rings for proper operating clearances.

Assemble all rotating parts on shaft and place in balancing machine.

Verify T.I.R's then dynamically balance rotor to 10 grams or less at 1" radius.

Install all new shaft sleeves then mechanically lock in place.

Install all new cutless bearings and lock in place.

Measure and record all final operating clearances.

Final assembly of pump and motor with new parts listed.

Check to insure proper lift and free rotation.

Paint, then preserve pump for delivery.

Transport completed job to the Traverse City Water Plant, reinstall pump, perform start-up, test run pump and clean up work area.

NOTE: All new paint materials that come in contact with water shall be NSF-60/61 certified for drinking water purposes.

### SPECIFIC ENERGY AUDIT

CUSTOMER: CITY OF TRAVERSE CITY WTP						
STATION: LOW SERVICE PUMPS			DATE: 6/5/2014			
TYPE: VERTICAL TURBINE			PUMP: VARIES			
DUTY PT: VARIES			FLOWMETER: YES			
NOTES: USED CLAMP-ON FLOW METER TO DETERMINE PUMP FLOW RATE.						
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; border-radius: 50%; padding: 2px; margin-right: 5px;">L.S.</div> <div> <p>PUMP #1 - WORTHINGTON 20H-500W, RATED 3,500 GPM @ 62' TDH</p> </div> </div>						
RECORDED DATA						
FLOW (GPM)	RUN TDH	DEADHEAD	PF	VOLTS	RUN AMP	KW INPUT
3,580	55	N/A	0.83	486	90.8	63.2
MOTOR DATA			ELECTRICAL OUTPUT			
HP	PH	EFF.	INPUT HP	BRAKE HP	KVA	kWH/MG
75	3	0.94	84.8	79.6	76.4	294.2

CITY OF TRAVERSE CITY  
LOW SERVICE PUMPS  
FLUKE METER SCREEN SHOTS

PUMP #1

Power 3 Phase 06-05-2014 09:48

60.0 Hz

kW	kVA	kVAR
63.2	76.4	42.8

V ac	A ac	PF
486	90.8	0.827

PUMP #3

Power 3 Phase 06-05-2014 08:38

59.9 Hz

kW	kVA	kVAR
94.8	103.9	42.5

V ac	A ac	PF
484	123.9	0.912

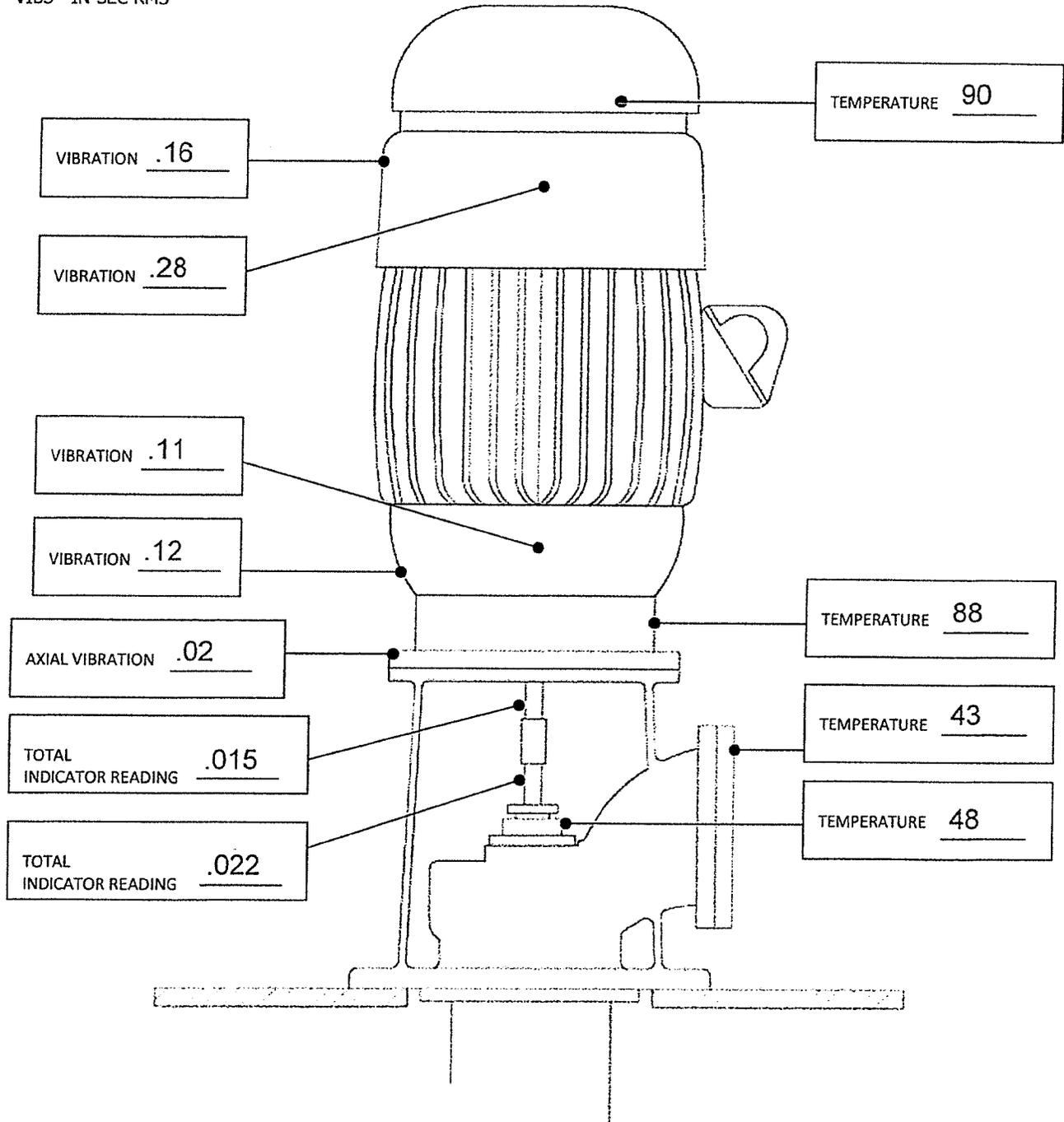
# VERTICAL PUMP STARTUP REPORT

## #1 LOW SERVICE

### TECHNICAL DATA

\*TEMPERATURE TAKEN AFTER ½ HOUR OF RUNTIME OR AFTER TEMPERATURE STABILIZATION

VIBS - IN-SEC RMS



CUSTOMER SIGNATURE _____	DATE _____
TECHNICIAN SIGNATURE _____	DATE _____

TECHNICAL DATA

#1 LOW SERVICE

NOTES:

VERTICAL HOLLOW SHAFT MOTOR WITH A SOLID COUPLING - VERY UNUSUAL

HAS A STEADY BUSHING BUT LOOKS NON-STANDARD

SHAFT HAS RUN OUT EXCEEDING INDUSTRY STANDARDS

A PLASTIC JUG IS COVERING THE PACKING AREA AND IS RUBBING ON SHAFT

SHAFT HAS A WOBBLE WHEN RUNNING

PACKING HAS EXCESSIVE LEAK OFF

THERE IS NO NON RESERVE RACHET ON MOTOR

PUMP IS LEVEL WITHIN .010 BOTH DIRECTION (NOT WITHIN INDUSTRY STANDARD)

NEED PAINT NO MOTOR BASE

PACKING AREA SHOULD BE CLEANED AN HARDWARE INSPECTED ( LOTS OF GREASE  
AND DEBRIS)

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### SPECIFIC ENERGY AUDIT

CUSTOMER:	CITY OF TRAVERSE CITY WTP				
STATION:	HIGH SERVICE PUMPS	DATE:	6/5/2014		
TYPE:	VERTICAL TURBINE	PUMP:	VARIES		
DUTY PT:	VARIES	FLOWMETER:	YES		
NOTES:	USED CLAMP-ON FLOW METER TO DETERMINE PUMP FLOW RATE.				

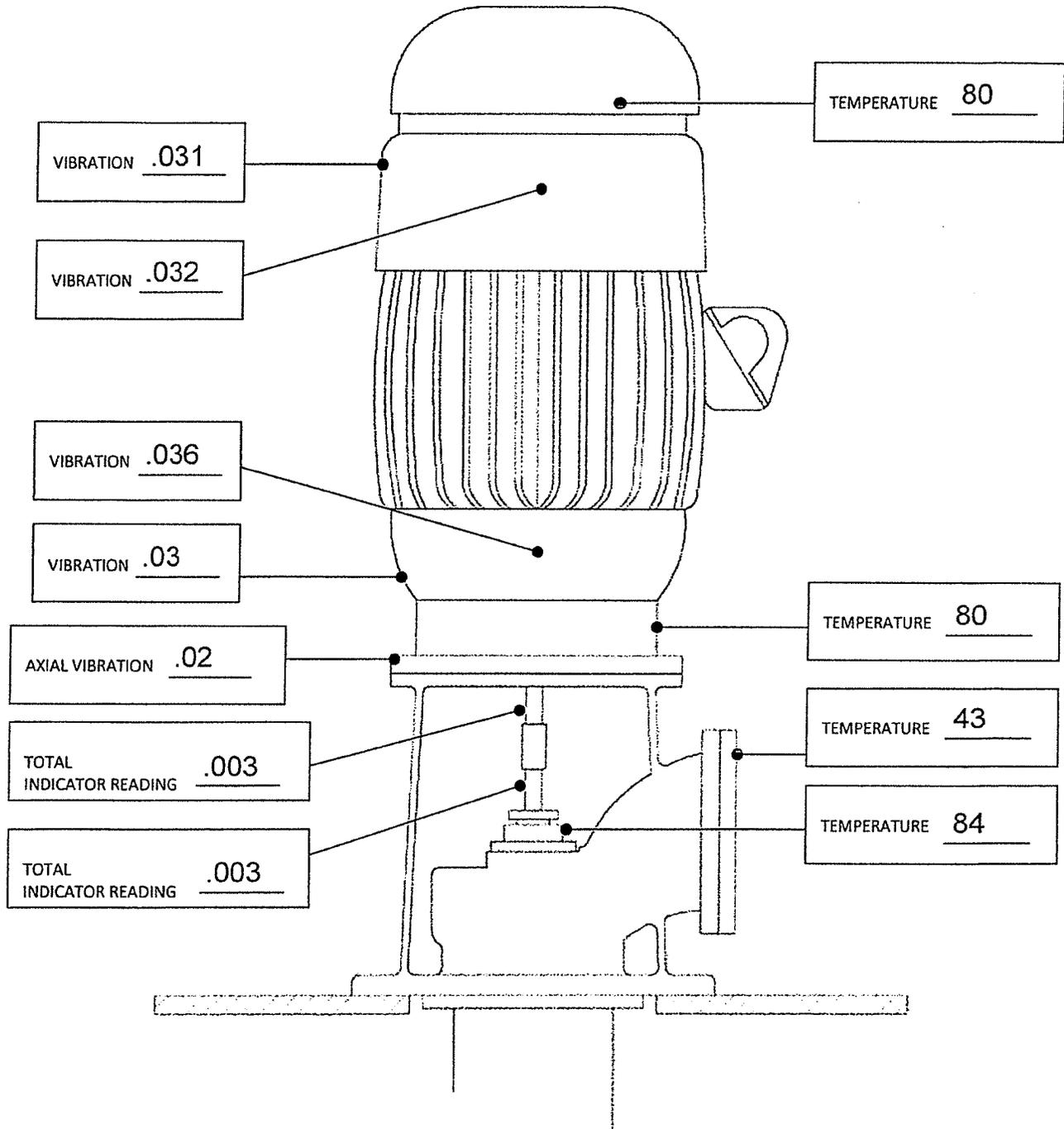
<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4.5.</span> PUMP #3 - WORTHINGTON 24M 425W, RATED 3,500 GPM @ 180' TDH						
RECORDED DATA						
FLOW (GPM)	RUN TDH	DEADHEAD	PF	VOLTS	RUN AMP	KW INPUT
3,485	144	250	0.88	489	207.4	155.3
MOTOR DATA			ELECTRICAL OUTPUT			
HP	PH	EFF.	INPUT HP	BRAKE HP	KVA	kWH/MG
200	3	0.94	208.2	195.7	175.7	742.7

VERTICAL PUMP STARTUP REPORT

#3 HIGH SERVICE

TECHNICAL DATA

\*VIBS - IN SEC RMS



VIBRATION .031

VIBRATION .032

VIBRATION .036

VIBRATION .03

AXIAL VIBRATION .02

TOTAL INDICATOR READING .003

TOTAL INDICATOR READING .003

TEMPERATURE 80

TEMPERATURE 80

TEMPERATURE 43

TEMPERATURE 84

CUSTOMER SIGNATURE _____	DATE _____
TECHNICIAN SIGNATURE _____	DATE _____



**Bidder - Please complete and return**

**BID SUMMARY**

**TITLE:       REMOVAL, REPAIR, RETURN AND INSTALLATION OF TWO (2)  
              VERTICAL TURBINE PUMPS FOR THE WATER PLANT**

**DUE DATE: Wednesday, February 18, 2015 at 10:00 AM**

Having carefully examined the attached specifications and any other applicable information, the undersigned proposes to furnish all items necessary for and reasonably incidental to the proper completion of this bid. Bidder submits this bid and agrees to meet or exceed all requirements and specifications unless otherwise indicated in writing and attached hereto.

Bidder certifies that as of the date of this bid the Company or he/she is not in arrears to the City of Traverse City for debt or contract and is in no way a defaulter as provided in Section 152, Chapter XVI of the Charter of the City of Traverse City.

Bidder understands and agrees, if selected as the successful Bidder, to accept a Purchase Order / Service Order / Contract and to provide proof of the required insurance.

Bidder submits this bid and agrees to meet or exceed all the City of Traverse city's requirements and specifications unless otherwise indicated in writing and attached hereto. Bidder shall comply with all applicable federal, state, local and building codes, laws, rules and regulations and obtain any required permits for this work.

The Bidder certifies that it is in compliance with the City's Nondiscrimination Policy as set forth in Administrative Order No. 47 and Chapter 605 of the City's Codified Ordinances.

The Bidder certifies that none of the following circumstances have occurred with respect to the Bidder, an officer of the Bidder, or an owner of a 25% or more share in the Bidder's business, within 3 years prior to the bid:

- (a) conviction of a criminal offense incident to the application for or performance of a contract;
- (b) conviction of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or any other offense which currently, seriously and directly reflects on the Bidder's business integrity;
- (c) conviction under state or federal antitrust statutes;
- (d) attempting to influence a public employee to breach ethical conduct standards; or
- (e) conviction of a criminal offense or other violation of other state, local, or federal law, as determined by a court of competent jurisdiction or an administrative proceeding, which in

the opinion of the City indicates that the bidder is unable to perform responsibility or which reflects a lack of integrity that could negatively impact or reflect upon the City of Traverse City, including but not limited to, any of the following offenses or violations of:

- i. The Natural Resources and Environmental Protection Act.
- ii. A persistent and knowing violation of the Michigan Consumer Protection Act.
- iii. Willful or persistent violations of the Michigan Occupational Health and Safety Act.
- iv. A violation of federal, local, or state civil rights, equal rights, or non-discrimination laws, rules, or regulations.
- v. Repeated or flagrant violations of laws related to the payment of wages and fringe benefits.

(f) the loss of a license or the right to do business or practice a profession, the loss or suspension of which indicates dishonesty, a lack of integrity, or a failure or refusal to perform in accordance with the ethical standards of the business or profession in question.

Bidder understands that the City reserves the right to accept any or all bids in whole or part and to waive irregularities in any bid in the best interest of the City. The bid will be evaluated and awarded on the basis of the best value to the City. The criteria used by the City may include, but will not be limited to: ability, qualifications, timeframe, experience, price, type and amount of equipment, accessories, options, insurance, permits, licenses, other pertinent factors and overall capability to meet the needs of the City. The City is sales tax exempt – Government.

Bidder agrees that the bid may not be withdrawn for a period of thirty (30) days from the actual date of the opening of the bid.

**Pricing Options, Separate Trips:**

One (1) High Service Pump Removal, Installation and Testing \$ \_\_\_\_\_  
One (1) Low Service Pump Removal, Installation and Testing \$ \_\_\_\_\_

Estimated time for repair and delivery: \_\_\_\_\_

**Pricing Options, Combined Trip:**

High Service and Low Service Pump Removal, Installation And Testing \$ \_\_\_\_\_

Estimated time for repair and delivery: \_\_\_\_\_

Submitted by:

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Signature

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Company Name

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Name and Title (Print)

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Company Address

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Phone

Fax

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City,

State,

Zip

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Sole proprietorship/partnership/corporation

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If corporation, state of corporation