

**CITY OF PENDLETON**  
**Public Works Department**  
**Cemetery Booster Station Pumps**  
**Request for Quotes**

The City of Pendleton Public Works Department is requesting quotes for the purchase of two (2) 40 hp pumps and two (2) 75 hp pumps to replace the existing pumps at the Cemetery Booster Station. The booster station was built in 1980. Since then the flow demand in the booster system has increased to the point where the City needs to upsize the equipment within the existing building.

A copy of the request for quotes (RFQ) may be obtained from the Public Works Director's office at 500 SW Dorion Avenue, Pendleton, Oregon 97801 or by calling (541) 966-0202. The document is also available online at <https://pendleton.or.us/rfps>.

**Signed quotes shall be on Bidder's letterhead and returned to the City of Pendleton, c/o Tim Smith, Control Systems Manager, 500 SW Dorion Avenue, Pendleton, OR 97801 by 2:00 pm local time, Thursday, January 27, 2022. The envelope shall be plainly marked "Cemetery Booster Station Pumps".** Quotes may also be submitted by email to [tim.smith@ci.pendleton.or.us](mailto:tim.smith@ci.pendleton.or.us) clearly marked "Cemetery Booster Station Pumps". For more information, contact Tim Smith at 541 379-1195 or [tim.smith@ci.pendleton.or.us](mailto:tim.smith@ci.pendleton.or.us).

Bidder may provide more than one quote in meeting the Special Specifications for City's consideration. Bidder should note any considerations, such as "or equal," with the quote submittal. Bidder shall provide pump curves for each pump quoted to be considered responsive. City reserves, at its sole discretion, the right to select equipment based on a combination of cost and anticipated performance.

Delivery of this equipment covered by this specification shall be FOB Pendleton City Shops, 1501 SE Byers Ave, Pendleton, OR 97801.

The Bidder agrees to indemnify and save harmless the City of Pendleton from any and all defects appearing or developing in the workmanship or materials furnished under this RFQ for a period of one (1) year from the date of startup of each pump and final acceptance by the City. Successful Bidder may be present for startup of each pump to verify manufacture performance and tolerances are met per the City's Special Specifications. Performance outside the required specifications may be grounds for rejection of the equipment and returned at the Bidder's cost.

All warranty and inspection certificates shall be included with delivery. Full details of the equipment, including warranty, shall be supplied with the quote.

**If the equipment being proposed does not meet a portion(s) of the applicable specifications, it must be noted and fully explained in order to be considered.**

The City of Pendleton reserves the right to reject any or all quotes, or portions of, waive any informalities and/or accept the quote which is in the best interest of the City of Pendleton.

**Attachments:**

Special Specifications

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**SPECIAL SPECIFICATIONS**

The Proposer agrees to indemnify and save harmless the City of Pendleton, herein referred to as City, from any and all defects appearing or developing in the workmanship or materials furnished under this RFQ for a period of one (1) year from the date of startup of each pump and final acceptance by the City.

**A. General**

1. The pumps shall be close coupled, single stage, end suction side discharge design, cast iron stainless steel fitted construction.
2. All materials and coatings coming in contact with potable water shall be ANSI/NSF Standard 61 approved.
3. Supply an Operation and Maintenance Manual with delivery: Containing the manufacturer's required information for each pump section.
4. The pumps shall be warranted by the manufacturer for a minimum of one (1) year from the date of installation.
5. Bidder may be present to verify manufacturer performance and tolerances are met per this Section.

**B. Pumps**

1. Acceptable pump manufacturers: Grundfos, Goulds, Patterson, or approved equal.
2. Casing
  - a. Pumps shall be of the back-pull-out design so that the rotating element can be removed from the casing without disconnecting the suction or discharge piping. The casing material shall be close-grained cast iron ASTM A48 - Class 30 with a minimum tensile strength of 30,000 psi. Volute shall have integrally cast suction and discharge connections, gauge ports at nozzles, and vent and drain ports. Pumps with specific speed greater than 1600 shall have double volute casing. Casings shall be designed for scheduled working pressure and can withstand hydrostatic test at 150% of the maximum working pressure under which the pump could operate at design speed.
  - b. Pumps with discharge size 2.5" and larger shall have full-flanged connections on both suction and discharge. Suction and discharge flanges shall be drilled to ANSI Class 125# standards and be machined flat face.
  - c. Pumps with discharge sizes 2" and below shall have NPT threaded connection.
3. Wear Ring
  - a. Replaceable labyrinth type suction wear ring of Tin Bronze AST B584-90500 (B18) or Vesconite shall be provided and held securely by means of an interference fit in the casing suction.
4. Impeller
  - a. Impeller shall be of the enclosed francis vane type, single suction design, made of Stainless Steel 304 (UNS S30400), both hydraulically and dynamically balanced to ISO 1940-1:2003 balance grade G6.3 and keyed to the shaft. The impeller shall be trimmed to meet the specific hydraulic requirements.

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- b. A stainless-steel bolt and washer shall provide positive attachment of the impeller to the shaft.
- 5. Seal Housing
  - a. The seal housing shall be constructed of Seal Plate in Cast Iron ASTM A48 Class 30 material and shall hold the stationary seat of the mechanical shaft seal. The seal housing shall be clamped in place over a machined fit on the power frame adapter by the pump casing to maintain component alignment and is "O-ring" sealed to insure against leakage.
- 6. Mechanical Seal
  - a. The pump shaft seal shall be a John Crane Type 21 mechanical seal, or equal, constructed of the following materials:
    - 1) Stationary Face: silicon carbide
    - 2) Rotating Face: Carbon
    - 3) Elastomers: Buna-N
    - 4) Metal Components: 18-8 SS
- 7. Shaft Sleeve
  - a. The pump shaft sleeve shall be constructed of Bronze, III932, C89835 or 416SS locked in place by the impeller without necessity of other mechanical locking devices. The sleeve design must allow the shaft to remain dry during pump operation.

**C. Motors**

- 1. Motors shall be standard premium efficiency for use with variable speed drives, drip proof, induction style. Motors shall be of NEMA design B, with normal starting torque and low starting current, Class F insulation, rated for continuous duty, with a 1.15 service factor. Motors shall be suitable for 460 volts, 60 Hertz, 3 phase power. Motors shall be inverter ready. All motors used with variable frequency drives shall be inverter duty, have insulated motor bearings and shaft grounding rings.
- 2. All centrifugal pumps shall have a continuously rising performance curve. In no case shall the required horsepower at any point on the performance curve exceed the rated horsepower of the motor or engine or encroach on the service factor.
- 3. The complete pump assembly shall be designed and built for continuous service at any and all points within the specified range of operation, without overheating, without damaging cavitation, and without excessive vibration or noise.

**D. Performance Requirements**

- 1. Pump curves showing head, flow, brake horsepower (bhp), efficiency and NPSH requirements.
- 2. The head-capacity curve shall exhibit a uniformly rising characteristic from free discharge to shutoff. The pump motor shall be non-overloading throughout the entire pump curve.

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3. All flow capacity and head duty points shall be within the Preferred Operating Range (POR) of 70% to 120% of the Best Efficiency Point (BEP). Pumps shall only operate within the POR.

**Performance Requirements**

Duty	Continuous
Drive	Variable Frequency Drive
Ambient Environment	Indoor
Ambient Temperature	33-104°F
Fluid Service	Potable Water
Fluid Temperature	45-80°F
Fluid pH Range	6.0-8.5
Fluid Specific Gravity	1.0
Fluid Viscosity (Absolute) (centipoise at 60°F)	1.12
Pump Station Floor Elevation	Approx. 1,145 ft msl

**E. Operating Conditions all Pumps**

<b>Pumps 1 &amp; 2</b>	
Primary Duty Point	
Flow Rate (gpm)	600
Total Dynamic Head (ft)	145
Minimum Overall Pump Efficiency (at duty point)	75%
Nominal Pump Speed (rpm)	1800
Motor Size (hp)	40
<b>Pumps 3 &amp; 4</b>	
Primary Duty Point	
Flow Rate (gpm)	1,500
Total Dynamic Head (ft)	145
Minimum Overall Pump Efficiency (at duty point)	78%
Nominal Pump Speed (rpm)	1800
Motor Size (hp)	75