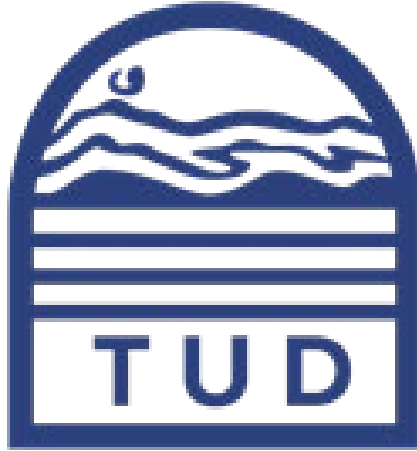




TUOLUMNE UTILITIES DISTRICT

Board of Directors

Jeff Hollis
Glen Jacobs
Jeff Kerns
Carol Reel
Ron W. Ringen



Sierra Pines Regional Water Treatment Facility

Request for Proposals

Vertical Turbine Can Pumps

October 2026

1. Request for Proposals

Tuolumne Utilities District ("District" or "TUD") invites qualified system suppliers ("Proposers") to submit proposals for furnishing canned vertical turbine pumps for the Sierra Pines Regional Water Treatment Facility Project.

The Work generally includes the design, engineering, manufacturing, factory assembly and testing, delivery, installation assistance, startup, and warranty support for canned vertical turbine pump systems as required by the Contract Documents.

TUD intends to award the Contract to the responsible Proposer whose Proposal is determined to provide the best value to the District based on the evaluation criteria identified in the Instructions to Proposers. TUD is not obligated to select the lowest-priced Proposal.

Proposals will be received until November 20, 2026, at 2:00 p.m., local time. Proposals must be submitted electronically in accordance with Section 2.4, Proposal Submission and Organization, to the following:

To: ejohnson@tudwater.com
Cc: gdemattei@tudwater.com

Contract Documents are available on the TUD website at:

<https://tudwater.com/development-services/bids/>

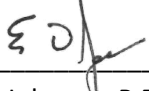
Addenda will be posted on the TUD website as needed. Proposers are solely responsible for reviewing the Contract Documents and all issued addenda before submitting a Proposal.

The Tuolumne Utilities District Procurement Terms and Conditions for the Sierra Pines Regional Water Treatment Facility Project are attached to this Request for Proposals and are incorporated into the Contract Documents.

Award, if made, will be made to the Proposer whose Proposal is determined by TUD to provide the best value to the District. TUD reserves the right to reject any or all Proposals, waive informalities or minor irregularities, request clarification or additional information, and accept the Proposal determined to be in the District's best interest.

Questions regarding this solicitation shall be submitted in writing to Erik Johnson, P.E., District Engineer, at ejohnson@tudwater.com, with a copy to Gaddiel DeMattei, P.E., Senior Engineer, at gdemattei@tudwater.com. Questions must be received no later than 4:00 p.m., local time, seven calendar days before the Proposal due date. Responses that modify or interpret the Contract Documents will be issued by written addendum.

TUOLUMNE UTILITIES DISTRICT

Sign: 

Erik Johnson, P.E., District Engineer
ejohnson@tudwater.com
209-532-5536 ext. 520

Date: 10/22/2026



**TUOLUMNE UTILITIES DISTRICT
PROCUREMENT TERMS AND CONDITIONS
for the**

Sierra Pines Regional Water Treatment Facility Project

(To be furnished with any solicitations for materials, equipment, or services and to be attached to any task order or purchase order as a condition of purchase.)

*Note: The requirements listed below are in addition to any construction contracts specifically issued by the District.
These requirements also flow down and must be included in any subcontracts.*

The contractor, consultant, or supplier (vendor), warrants compliance with the following terms and conditions, as applicable:

1. This project is **not** subject to the Build America, Buy America (BABA) Act. Tuolumne Utilities District has obtained a BABA waiver from USEPA on file with the State Water Board for this project.
2. This project **is** subject to American Iron and Steel (AIS) requirements. All "iron and steel products" used in the Project were or will be produced in the United States. The term "iron and steel products" means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and other construction materials. "Steel" means an alloy that includes at least 50 percent iron, between .02 and 2 percent carbon, and may include other elements.
3. The contractor acknowledges and agrees to the terms and conditions provided in the Contract Provisions for Davis-Bacon and Related Acts US EPA:
<https://www.epa.gov/grants/contract-provisions-davis-bacon-and-related-acts>
For reference, see also: https://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/davisbacon.html
4. The contractor agrees to be bound by all applicable provisions of State Labor Code regarding prevailing wages.
5. The contractor, consultant, or supplier shall verify eligibility of subcontractors, subconsultants, and suppliers and ensure they are not suspended or debarred from participating in federally assisted transactions as defined in Parts 180 and 1532 of 2 CFR and comply with Subpart C of Part 180 of 2 CFR, as supplemented by Subpart C of Part 1532 of 2 CFR.
6. Contractors and suppliers shall comply with the Disadvantaged Business Enterprises (DBE) requirements in 40 CFR part 33, subparts C and D, and require its contractors and subcontractors on the Project to comply with 40 CFR § 33.301 requiring the use of good faith efforts to utilize DBE's whenever procuring construction, equipment, services, and supplies per USEPA's Program for Utilization of Small, Minority and Women's Business Enterprises.
https://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/policy0513/dbe_compliance_guidelines_instructions.pdf
7. The contractor, consultant, or supplier must not contract with any individual or organization on the State Water Board's List of Disqualified Businesses and Persons that is identified as debarred or suspended or otherwise excluded from or ineligible for participation in any work overseen, directed, funded, or administered by the State Water Board program. The State Water Board's List of Disqualified Businesses and Persons is located at:
https://www.waterboards.ca.gov/water_issues/programs/enforcement/fwa/dbp.html
8. Procurement prohibitions apply under Section 306 of the Clean Air Act and Section 508 of the Clean Water Act, including Executive Order 11738, Administration of the Clean Air Act and the Federal Water Pollution Control Act with Respect to Federal Contracts, Grants, or Loans; 42 USC § 7606; 33 USC § 1368. Contractors, consultants, and suppliers may not procure goods, services, or materials from suppliers excluded under the federal System for Award Management:
<https://sam.gov/content/exclusions>
9. The contractor, consultant, or supplier warrants that it will not engage in severe forms of trafficking in persons, procure a commercial sex act during the term of this Agreement, or use forced labor in the performance of this Agreement.
10. The contractor, consultant, or supplier will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor, consultant, or supplier will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor, consultant, or supplier agrees to post in conspicuous places, available to employees and applicants for employment,

notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause. The following federal non-discrimination requirements apply:

- a. Title VI of the Civil Rights Act of 1964, which prohibits discrimination based on race, color, and national origin, including limited English proficiency (**LEP**).
 - b. Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination against persons with disabilities.
 - c. The Age Discrimination Act of 1975, which prohibits age discrimination.
 - d. Section 13 of the Federal Water Pollution Control Act Amendments of 1972, which prohibits discrimination on the basis of sex.
 - e. 40 CFR Part 7, as it relates to the foregoing
11. The contractor, consultant, or supplier will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.
 12. The contractor will send to each labor union or representative of workers with which they have a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
 13. The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
 14. The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
 15. In the event of the contractor's, consultant's, or supplier's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part and the contractor, consultant, or supplier may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
 16. The contractor, consultant, or supplier will include sections 10-16 of this document in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of Sept. 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor, consultant, or supplier will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, That in the event the contractor, consultant, or supplier becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.
 17. The contractor, consultant, or supplier must maintain separate books, records and other material relative to the Project for a minimum of thirty-six (36) years after Completion of Construction. The contractor, consultant, and supplier must require that such books, records, and other material are subject at all reasonable times (at a minimum during normal business hours) to inspection, copying, and audit by the State Water Board, the California State Auditor, the Bureau of State Audits, the USEPA, the USEPA's Office of Inspector General, the Internal Revenue Service, the Governor, or any authorized representatives of the aforementioned. The contractor, consultant, or supplier must allow interviews during normal business hours of any employees who might reasonably have information related to such records.

2. Instructions to Proposers

2.1 General

Tuolumne Utilities District (TUD) is soliciting proposals for furnishing canned vertical turbine pumps and motors. Proposals shall include all equipment, accessories, documentation, factory testing, startup assistance, and warranty services necessary to provide a complete and operable system.

2.2 Project Overview

The Sierra Pines Regional Water Treatment Facility (SPRWTF) is being constructed to provide potable water to the service area located in the unincorporated areas of Tuolumne County. The ultimate buildout capacity of the facility is planned to occur in phases. The initial facility (Phase 1) will provide an installed treatment capacity of approximately 3 million gallons per day (MGD). Future expansions are anticipated to increase the installed treatment capacity to approximately 4 MGD (Phase 2) and 5 MGD (Phase 3).

The District is seeking canned vertical turbine pumps for three distinct purposes.

Purpose/Pump Group	Pumps with Cans	Can Only
Filter Feed	4	0
Filter Effluent	4	0
Zone 2 Booster	3	1
Total	11	1

The facility is being designed to have N+1 redundancy with the largest pump out of service. Can sizes shall be uniform within each pump group to allow future upsizing of smaller duty pumps to larger duty pumps as the facility expands.

The District intends to install the blank cans in the first phase of construction, tentatively scheduled for Summer/Fall 2027. The pumps and motors likely won't be set until Spring 2028. The proposal shall reflect the cost of shipping blank cans separately and in advance of the pumps and motors.

2.3 Design Points

The design points for each of the pump systems are listed below.

Filter Feed Pump Group	Number	Low Flow (gpm)	TDH at	High Flow (gpm)	TDH at
			Low Flow (ft)		High Flow (ft)
Low Duty	2	400	139	700	158
High Duty	2	1,050	139	1,400	158

Filter Effluent			TDH at		TDH at
Pump Group	Number	Low Flow (gpm)	Low Flow (ft)	High Flow (gpm)	High Flow (ft)
Low Duty	2	400	48	700	58
High Duty	2	1,050	49	1,400	58

Zone 2 Booster			TDH at		TDH at
Pump Group	Number	Low Flow (gpm)	Low Flow (ft)	High Flow (gpm)	High Flow (ft)
Standard Duty	3	150	400	480	488

The District will furnish separately the variable frequency drives and integrate the drives into the plant PLC and SCADA systems.

2.4 Proposal Submission and Organization

Proposals shall be submitted electronically as one complete, searchable (OCR compatible) PDF file by email to the District's designated representative. A Proposer may submit its Proposal through an internet file-sharing service that does not require the District to purchase software, establish a paid account, or request access.

The Proposal must be received before the date and time identified in the Request for Proposals. Late Proposals will not be considered. The Proposer is solely responsible for verifying successful delivery. If the District is unable to open, download, or access the complete Proposal, the Proposal may be deemed nonresponsive. If submitted by email, the Proposer is encouraged to request a delivery receipt.

Proposals shall be organized in the order listed below. Each numbered part shall begin on a new page and shall be identified by a clearly labeled PDF bookmark.

1. Completed Proposal Form

Complete and submit the Proposal Form in its entirety and in the order presented, including:

- General Proposer information.
- Acknowledgement and authorized signature.
- Total Lump Sum Bid Proposal

2. Equipment Description and Technical Data

Provide the following:

- Equipment data sheets including multispeed pump curves.

3. Dimensional and General Arrangement Drawings

Provide preliminary drawings showing:

- Overall pump, motor, and can dimensions.
- Access and maintenance clearances.
- Piping, electrical, and control connection locations.

4. Scope of Supply and Scope Boundaries

Provide an itemized scope of supply identifying:

- List of equipment and materials to be furnished by the Proposer.
- Services furnished by the Proposer.

An item reasonably necessary for complete operation of the proposed pumping systems shall be considered included unless specifically identified as excluded or furnished by others.

5. Efficiency and Estimated Annual Power Consumption and Cost

Assume each pump is operated at the low flow design point for 6,570 hours per year and that the power cost is \$0.17/kWhr.

6. Maintenance Effort

Provide a separate 25-year maintenance schedule.

For each maintenance activity, identify:

- Maintenance activity.
- Recommended frequency.
- Estimated labor hours per occurrence.
- Estimated parts cost in today's dollars.
- Nearest replacement-parts inventory or service center.
- Whether manufacturer or factory-certified service is required and estimated costs.

7. Life Cycle Cost Analysis

Provide a Life Cycle Cost Analysis with the following inputs:

- Period: 25 years
- Discount Rate: 4%
- Inflation: 3%
- Pump useful life: 25 years
- \$0 Salvage value
- Power consumption and cost from section #5 above

- Maintenance costs from section #6 above
- Do not include VFD costs

8. Warranty Information

Describe the proposed warranty and identify any terms, conditions, limitations, exclusions, or owner responsibilities. Any difference between the proposed warranty shall be identified in the Exceptions, Exclusions, and Deviations section.

9. Proposed Delivery Schedule

Identify anticipated durations for:

- Preparation of post-award submittals.
- District review and resubmittal.
- Equipment fabrication.
- Factory testing.
- Shipment and delivery.
- Installation assistance.
- Startup and commissioning.

Identify anticipated long-lead components and any actions required by the District to maintain the proposed schedule.

10. Exceptions, Exclusions, and Deviations

Identify every exception, exclusion, substitution, qualification, and deviation from the Contract Documents. Each item shall:

- Identify the applicable document, specification section, and paragraph.
- State the proposed alternative requirement or condition.
- Describe the effect on scope, performance, capacity, equipment dimensions, maintenance, service life, electrical demand, chemical consumption, schedule, or price.

If none are proposed, state: **“No Exceptions, Exclusions, or Deviations.”**

General references to standard equipment, standard scope, product literature, quotations, or standard terms and conditions shall not constitute adequate identification of an exception or deviation.

2.5 Evaluation of Proposals

TUD intends to select the proposal determined to provide the best value to the District. Proposals will be scored and ranked based on the following matrix:

Item	Points Possible
Capital Cost	40
Annual Power Consumption	20
Maintenance Cost	20
Lifecycle Cost	10
No Exceptions Taken to Specifications	10*

*Full 10 points granted if No Exceptions are Taken to the Specifications

TUD reserves the right to request clarifications, conduct interviews, negotiate with proposers, and reject any or all proposals.

2.6 Basis of Award

If an award is made, TUD intends to award to the Proposer determined to provide the best value to the District. TUD is not obligated to select the lowest bid proposal.

2.7 Reservations of Rights

TUD reserves the right to:

- Reject any or all proposals.
- Waive informalities and minor irregularities.
- Request additional information from any proposer.
- Negotiate modifications to proposals.
- Cancel the solicitation at any time prior to award.

2.8 Purchase Order

The issuance of a Purchase Order by TUD shall constitute execution of a contract for the work. The Contract shall consist of:

1. TUD Purchase Order;
2. This Request for Proposals and all addenda;
3. TUOLUMNE UTILITIES DISTRICT PROCUREMENT TERMS AND CONDITIONS for the Sierra Pines Regional Water Treatment Facility Project;
4. The successful Proposal, including all performance guarantees; and
5. Proposer's standard terms and conditions, only to the extent they do not conflict with the foregoing documents.

In the event of any inconsistency or conflict among the Contract Documents, the order of precedence listed above shall govern. Any proposer terms and conditions that limit, disclaim, or otherwise modify

performance guarantees, warranties, remedies, indemnification obligations, or liabilities required by this the Contract Documents or this RFP shall be null, void, and of no effect unless expressly accepted in writing by TUD.

After the District selects a System Supplier, a payment schedule will be negotiated, however, the District will pay a maximum of ninety percent (90%) of the Contract Price following delivery of all equipment and materials furnished under this Contract. The remaining ten percent (10%) shall be retained pending successful startup, performance testing, submission of required closeout documents, correction of deficiencies identified during testing, and final written acceptance by the District.

3. Proposal Form

3.1 General

Company Name _____

Company Address _____

City _____ State _____ Zip _____

Primary Contact Person

Name _____ Phone _____

Title _____ Email _____

3.2 Acknowledgement

Proposer acknowledges that all requirements contained in this RFP are included in the proposed price.

The Request for Proposals, addenda, successful Proposal, technical specifications, approved exceptions and deviations, and District Purchase Order are incorporated into and form the Contract. Requirements stated in one Contract Document are binding as if stated in all Contract Documents.

Authorized Representative

Name _____

Title _____

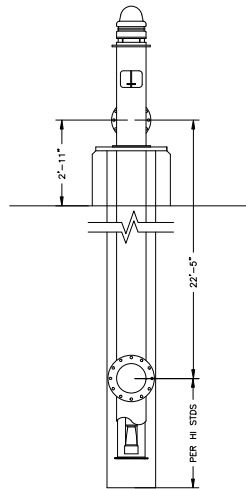
Signature _____ Date _____

3.3 Bid Proposal Schedule

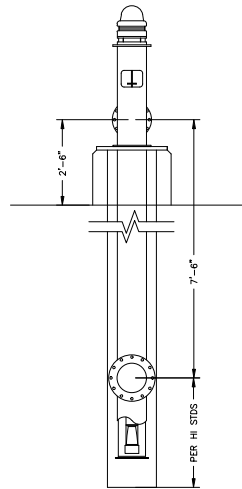
No.	Item	Qty	Unit	Unit Price	Total
1	Filter Feed Low Duty Can Pump	2	EA		
2	Filter Feed High Duty Can Pump	2	EA		
3	Effluent Low Duty Can Pump	2	EA		
4	Effluent High Duty Can Pump	2	EA		
5	Zone 2 Booster Can Pump	3	EA		
6	Zone 2 Booster Pump Blank Can	1	EA		
7	Advance Shipment of all Cans and Discharge Heads	1	LS		
8	Shipment of Pumps and Motors	1	LS		
9	Startup and Testing	3	Days		
				Total Bid Proposal	

Note: Bid proposal prices shall include sales tax of 7.25%.

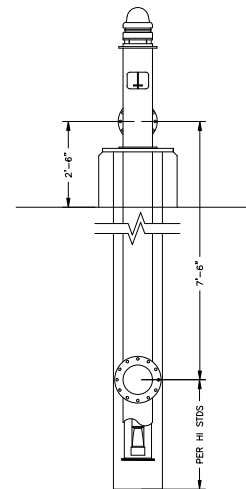
FILENAME: Z:_WATER\Upper Basin\Treatment\SIERRA PINES-NEW WTP\Drawings\TUD Drawings\2 - Row Water\Row Water Reservoir Pump Station.dwg



TYP. FILTER FEED PUMP



TYP. EFFLUENT PUMP



TYP. ZONE 2 BOOSTER PUMPS

REVISIONS			DATE	XXX
NO.	BY	DATE	DESCRIPTION	DESIGN
				XXX
				XXX
				XXX
				XXX
				XXX

01/21/2018

1/2" = 1'

ORIGINAL SCALE SHOWN IS ONE INCH.
ADJUST SCALE FOR REDUCED OR ENLARGED PLANS.

DATE	XXX
DESIGN	XXX
DRAWN	XXX
CHECKED	XXX
SCALE	XXX



TUOLUMNE
UTILITIES DISTRICT
18885 NUGGET BOULEVARD
SONORA, CA 95370
(209) 532-5536



SIERRA PINES REGIONAL
WATER TREATMENT FACILITY



VERTICAL TURBINE PUMP CANS

SECTION 43 24 00

VERTICAL TURBINE CAN PUMP

PART 1 - GENERAL

1.01 SUMMARY

- A. Furnish, install, test, and place into satisfactory operation a vertical turbine can-style pump, complete with pump, suction can, discharge head, motor, mechanical seal, controls interface, and all accessories required for a complete operating system.
- B. The pumping unit shall be suitable for continuous unattended operation.
- C. The pump shall be a vertical turbine type utilizing a fabricated stainless steel suction can and a discharge head with an above-grade horizontal discharge nozzle.

1.02 REFERENCES

The equipment furnished shall conform to the latest editions of the following standards:

- A. Hydraulic Institute (HI) Standards
- B. NSF/ANSI/CAN 61 – (For Effluent and Zone 2 Booster Pumps Only)
- C. NSF/ANSI 372 – (For Effluent and Zone 2 Booster Pumps Only)
- D. ANSI/AWWA Standards applicable to potable water components
- E. NEMA MG-1
- F. IEEE Standards applicable to motors
- G. Federal American Iron and Steel (AIS) Requirements

1.03 SUBMITTALS

- A. Certified pump performance curves indicating:
 - 1. Head (ft)
 - 2. Capacity (gpm)
 - 3. Efficiency
 - 4. Brake horsepower
 - 5. NPSHr
- B. Dimension drawings showing:
 - 1. Suction can
 - 2. Pump setting
 - 3. Discharge head

- 4. Motor
- 5. Base dimensions
- 6. Piping connections
- C. Certified materials list.
- D. Motor data sheets.
- E. Mechanical seal data sheets.
- F. Factory test reports.
- G. NSF/ANSI/CAN 61 and NSF/ANSI 372 certifications.
- H. AIS compliance certifications.
- I. Coating system data and manufacturer's recommendations.

1.04 GENERAL DESIGN REQUIREMENTS

- A. The pump shall be a vertical turbine suitable for installation in a fabricated suction can.
- B. The pump shall be designed in accordance with Hydraulic Institute Standards.
- C. Pump performance shall be stable throughout the operating range and free from excessive vibration, cavitation, surging, or overload.

1.05 QUALITY ASSURANCE

- A. Manufacturer's Experience
 - 1. Pump manufacture shall have not less than ten (10) years' experience manufacturing vertical turbine pumps for municipal water systems.

1.06 WARRANTY

Manufacturer shall provide warranty coverage against defects in materials and workmanship for the cans and a separate warranty for the pumps/motors. The warranty for each shall be for a minimum period of twenty-four (24) months from startup or thirty (30) months from shipment, whichever occurs first.

PART 2 – PRODUCTS

2.01 MATERIALS

A. ACCEPTABLE MANUFACTURERS

No substitutions without prior written approval by the Owner. The pump shall be one of the following:

- 1. Floway VTP, Trillium Flow Technologies

2. Goulds Pump Model VIT
3. Peerless Pump
4. Flowserve

2.02 PUMP OPERATING POINTS

Filter Feed Pump Group	Number	Low Flow (gpm)	TDH at Low Flow (ft)	High Flow (gpm)	TDH at High Flow (ft)
Low Duty	2	400	139	700	158
High Duty	2	1,050	139	1,400	158

Filter Effluent Pump Group	Number	Low Flow (gpm)	TDH at Low Flow (ft)	High Flow (gpm)	TDH at High Flow (ft)
Low Duty	2	400	48	700	58
High Duty	2	1,050	49	1,400	58

Zone 2 Booster Pump Group	Number	Low Flow (gpm)	TDH at Low Flow (ft)	High Flow (gpm)	TDH at High Flow (ft)
Standard Duty	3	150	400	480	488

2.03 MATERIALS OF CONSTRUCTION

Component	Material
Suction Can	316 Stainless Steel
Impellers	Bronze or 316 SS
Bowls	Cast Iron or Stainless Steel
Pump Shaft	416 SS Minimum
Line Shaft	316 SS
Mechanical Seal Hardware	316 SS
External Fasteners	316 SS
Discharge Head	Fabricated Steel, Epoxy Coated

2.04 PUMP CONSTRUCTION

A. Bowl Assembly

1. Bowl assembly shall be close-coupled vertical turbine type.
2. Bowl assembly shall incorporate:
 - a. Diffuser bowls
 - b. Replaceable wear rings
 - c. Thrust-balanced impellers
3. Impellers shall be:
 - a. ASTM B584 bronze, or

- b. Type 316 stainless steel
- 4. Bowl wear rings shall be renewable.
- 5. Shafting shall be Type 416 or 316 stainless steel.
- 6. Bowl bearings shall be water lubricated.
- B. Column Assembly
 - 1. Column pipe shall be flanged construction.
 - 2. Product-lubricated line shaft construction shall be provided.
 - 3. Line shaft shall be stainless steel.
 - 4. Bearings shall be replaceable rubber, composite, or approved equal substitute for potable water service.
- C. Suction Can
 - 1. Pump shall be supplied with a fabricated suction can.
 - 2. Suction can shall be fabricated from Type 316 stainless steel.
 - 3. Minimum shell thickness shall be ¼ inch, unless greater thickness is required by design pressure.
 - 4. Can shall be designed for positive suction pressure.
 - 5. Suction can shall include:
 - a. Inlet flange
 - b. Vent connection
 - c. Drain connection
 - d. Lifting lugs
 - 6. Suction can shall be hydrostatically tested at the factory prior to shipment.

2.05 DISCHARGE HEAD

- A. Pump shall be furnished with a fabricated discharge head.
- B. Discharge head shall:
 - 1. Support the full weight of the pump rotor and motor.
 - 2. Include an integral horizontal discharge nozzle.
 - 3. Have discharge centerline above finished grade.
 - 4. Incorporate lifting provisions.
- C. End connections shall be ANSI Class 150, or Class 300 flanges, as indicated. Class 150 flanges are acceptable for the Filter Feed and Effluent Pumps. Class 300 flanges are required for the Zone 2 Booster Pumps.

2.06 COATINGS

- A. All ferrous components exposed to atmosphere shall be blast cleaned per NACE No. 2, Near-White Metal Blast Cleaning and coated.
- B. Interior and exterior surfaces of the discharge head shall receive:
 - 1. NSF-approved epoxy coating (For Effluent and Zone 2 Booster Pumps)
Non-NSF approved epoxy coating acceptable for Filter Feed Pumps
 - 2. Minimum dry film thickness of 8 mils.

- C. Shop coating system shall be suitable for municipal water treatment and pump station environments.

2.07 MECHANICAL SEAL

- A. Packing shall not be permitted.
- B. Pump shall be furnished with a cartridge-type mechanical seal.
- C. Mechanical seal components shall include:
 - 1. Silicon carbide rotating face
 - 2. Silicon carbide station face
 - 3. Viton elastomers
 - 4. 316 stainless steel metal components
- D. Seal shall be readily replaceable without removal of the motor.

2.08 MOTOR

- A. Motor shall be specifically designed for vertical turbine pump service.
- B. Motor shall be:
 - 1. Totally Enclosed Fan Cooled (TEFC)
 - 2. NEMA Premium Efficiency
 - 3. Inverter Duty Rated
 - 4. Continuous Duty
 - 5. Vertical P-Base construction
 - 6. Suitable for VFD operation
- C. Motor service factor shall be not less than 1.15.
- D. Motor insulation shall be:
 - 1. Class F insulation system
 - 2. Class B temperature rise
- E. Unless otherwise noted, electrical characteristics shall be:
 - 1. 480 Volt
 - 2. Three phase
 - 3. 60 Hertz
- F. Acceptable motor manufacturers:
 - 1. Toshiba
 - 2. WEG
 - 3. Siemens
 - 4. ABB/Baldor
 - 5. U.S. Motors

2.09 AMERICAN IRON AND STEEL

- A. Equipment furnished under this section shall comply with all applicable American Iron and Steel (AIS) requirements.
- B. Manufacturer shall provide documentation demonstrating compliance for all AIS-covered components.
- C. AIS documentation shall be submitted prior to shipment.

PART 3 – EXECUTION

3.01 FACTORY TESTING

- A. Each pump shall be factory tested in accordance with Hydraulic Institute Standards.
- B. Factory testing shall include:
 - 1. Capacity verification.
 - 2. Total dynamic head.
 - 3. Efficiency determination.
 - 4. Brake horsepower.
 - 5. Vibration measurements.
- C. Certified test reports shall be submitted to the Owner.

3.02 INSTALLATION

- A. The Tuolumne Utilities District shall install equipment in accordance with manufacturer's written instructions.
- B. Pump supplier shall assist in aligning motor and pump in accordance with Hydraulic Institute recommendations.
- C. Pump supplier shall verify free rotation prior to startup.

3.03 FIELD STARTUP

- A. Manufacturer's authorized representative shall:
 - 1. Inspect installation.
 - 2. Witness startup.
 - 3. Verify proper operation.
 - 4. Train Owner personnel.

PART 4 – CLEAN UP (Not Used)

END OF SECTION