CITY OF PENDLETON

Request for Proposals / Quotes

Well 11 & Well 11B Pumping Systems

July 2024

Public Works Department
500 SW Dorion Avenue
Pendleton, OR 97801
www.pendletonor.gov
Office: (541) 966-0202
Fax: (541) 966-0251

Well 11 & Well 11B Pumping Systems

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Well 11 & Well 11B Pumping Systems

REQUEST FOR PROPOSALS / QUOTES

The City of Pendleton is requesting Proposals for two (2) new complete well pumping systems for Well 11 and Well 11B. The work to be performed, in coordination with Owner and Building Contractor, includes providing:

- Motor
- Discharge head & sole plate
- Two access tubes each
- Column
- Shaft, spiders, and bushings
- Pump with pump curve(s) information included
- Installation / start-up

Signed Proposals shall be submitted to City of Pendleton c/o Jeff Brown, Public Works Director, 500 SW Dorion Avenue, Pendleton, OR 97801 by 2:00 pm local time Thursday, July 25, 2024, plainly marked "Well 11 & 11B Pumping Systems". Proposals may also be submitted via email to Scott Roe, Water Superintendent, at scott.roe@pendletonor.gov.

A copy of the Proposal Documents may be obtained from the Public Works Director's office located at the same address as above or by calling (541) 966-0202. The documents are also available online at:

- **https://pendletonor.gov/rfps**
- **https://oregonbuys.gov/bso/**

Proposals must be submitted on Proposer's quote form with a price breakdown for each well pumping system based on the bulleted items above. A bid bond will not be required and the successful Proposer will not be required to furnish a bond for faithful performance on the quote in the full amount of the quote.

As this is part of a larger public works project, Proposer must comply with ORS 279.350 and pay prevailing wage rates as set forth by State of Oregon. The Contractor, its subcontractors, if any, and all employers working under this Contract are subject employers under the Oregon Workers' Compensation law and shall comply with ORS 656.017 which requires the employer to provide workers' compensation coverage for all their subject workers.

City reserves the right to accept that proposal which is in the best interest of the City of Pendleton, Oregon, to reject any and/or all proposals not in compliance with all prescribed public bidding procedures and requirements, to waive any and/or all informalities upon a finding of the City it is in the public interest to do so and to postpone award of the Contract for a period not to exceed thirty (30) days.

For additional information, contact Scott Roe, Project Manager, scott.roe@pendletonor.gov or 541 969-3148 or Jeff Brown, Public Works Director, jeff.brown@pendletonor.gov or 541 969-3083.

Dated this 1st day of July 2024.

Bob Patterson, Public Works Director, Retiring

Well 11 & Well 11B Pumping Systems

INFORMATION FOR PROPOSERS

The City of Pendleton, herein referred to as City, has two wells, Well 11 and Well 11B, that are approximately 50' apart located near the Wastewater Treatment Resource Recovery Facility, 4300 SW Houtama Road, Pendleton, Oregon. The wellhouses will be addressed to 4315 SW Houtama Road. Well 11 has a 10-inch casing for 20-feet and an open bore measured with a diameter of 9-plus-inches+ to a depth of 350-feet. Well 11B has a 20-inch diameter casing to 257-feet, then a 19-inch open bore to 400-feet. Static levels are the same on both wells, but the specific capacity is different at both locations.

From ground surface elevation of 1005-feet MSL

- Static water level @ ± 218-feet
- Well 11 pump set at 320-feet
- Well 11 specific capacity: + 50 gpm / foot drawdown
- Well 11B pump set at 340-feet
- Well 11B specific capacity: +/- 10 gpm / foot drawdown
- System discharge pressure at 138 psi (319.5').

The pumping equipment installation is to be coordinated wellhouses construction for both cased wells that includes the necessary piping / fittings to put them into service to a new 16-inch domestic water line. The wellhouses work will include, but is not limited to, erosion control, site work, rock excavation, rough grading, fine grading, gravel surfacing, building construction, piping, thrust restraint, valves, flow meters, vaults, disinfection systems, fire extinguishers, auxiliary sensors and probes, louvers, exhausts, heating, AC units, some demolition, electrical, and service equipment. This work has been bid and awarded.

City is purchasing the pumping systems consisting of two each 150 HP motors, discharge heads, column piping, pumping bowls, and access tubes. Sheet M-101, M-103, M-106, M-201, M-202, and M-205; Well 11 well log, Well 11 caliper log, and Well 11B well log; and Technical Specification 43 05 15 – Owner Furnished Equipment are included in the Request for Proposals packet for pumping systems quotes. City will provide discharge head submittal for Wellhouses Contractor review and possible field adjustment(s) to pump pedestal(s) prior to pumping systems installation. Contractor will need to account for access installation of the pumping systems after the pump pedestals (M-106 / M-205) have been completed, with minimum 7-days concrete cure, and before CMU wall construction commences.

City of Pendleton is also purchasing Allen Bradley variable frequency drives (VFDs) for delivery to the project site and installation by Wellhouses Contractor. City will provide the VFD submittal information to contractor and oversee the testing of the VFDs for start-up of the facilities.

Project is funded from Business Oregon Special Public Works Fund. After presentation of the application for payment to Owner with Engineer's recommendation, the amount recommended will become due upon Owner's deposit receipt of Special Public Works Funds, typically fourteen (14) but up to twenty-eight (28) calendar days, or thirty-five (35) calendar days, whichever comes first.

Well 11 & Well 11B Pumping Systems

INFORMATION FOR PROPOSERS

PROPOSALS ARE TO BE PRESENTED AS A LUMP SUM TOTAL WITH THE FOLLOWING ITEMIZED COST BREAKDOWN:

- **Motor**
- **Discharge head & sole plate**
- **Two access tubes each**
- **Column**
- **Shaft, spiders, and bushings**
- **Pump with pump curve(s) information included**
- **Installation / start-up**

For more information, contact Jeff Brown at 541 966-0241 or 541.969.3083.

Proposer may provide optional Proposals / Quotes, based on Proposers recommended pump bowl(s) and/or motor(s) as alternatives for Owner approval. Intent of Proposer must be clear and easy to determine by Owner. Owner reserves the right to select the best Proposal / Quote solely at the Owner's discretion.

Well 11 & Well 11B Pumping Systems

SPECIAL SPECIFICATIONS

Contractor 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 materials furnished under this Proposal for a period of one (1) year from the date of each startup and Final Acceptance by the City.

Staff will present the responsive Proposal consideration for City Manager or City Council award consideration and recommend City Manager or City Council grant approval to issue a Purchase Order for completion of the work.

The City has two wells, Well 11 and Well 11B, that are approximately 50-feet apart. The wellhouses will be addressed to 4315 SW Houtama Road, Pendleton, Oregon 97801. Well 11 has a 10-inch casing for 20-feet and an open bore measured with a diameter of 9-plus-inches to a depth of 350-feet. Well 11B has a 20-inch diameter casing to 257-feet then is 19-inch open bore to 400-feet. Static levels are the same for each well, but the specific capacity is different at each location.

From ground surface elevation of 1005-feet MSL:

- Static water level @ ± 218-feet
- Well 11 top of pump bowl assembly to be set at 300-feet
- Well 11 specific capacity: + 50 gpm / foot drawdown
- Well 11B top of pump bowl assembly to be set at 340-feet
- Well 11B specific capacity: +/- 10 gpm / foot drawdown
- System discharge pressure at 138 psi (319.5').

The schedule of work will include, but not be limited to, the following improvements:

1. **WELL 11:**

   a) Provide new steel discharge head. Discharge head must have 12-inches minimum clearance for access to packing. With OHSA approved shaft guard, discharge head must also make allowances for two access ports through the pump base. 1-inch NPT for pre-lube connection to be provided. Discharge head must accommodate weight of assembly and wellhead opening. Discharge piping is 8-inch. Coating inside and out to be applied to manufactures recommendations to meet NSF 61 standards. See Sheet M-205 – Well 11 Pump Pedestal Details for more information.

   b) Provide sole plate for discharge head flange. See Sheet M-205 for details.

   c) Install two stainless steel access tubes from top of bowls through new discharge head each access tube shall be no less than 1-inch diameter and be attached to column pipe on maximum 20-foot centering with stainless steel banding. Last 20-feet plus feet to extend through discharge head shall be Sch 80 PVC extended no less than 1-foot through discharge head. Provide rubber slip-on boot for 1-inch diameter sufficient to cover 1 1/2-inch diameter access tube openings.

   d) The well column pipe shall be 6-inch and furnished in sections not exceeding a nominal length of 10-feet and shall be connected by threaded-sleeve couplings.

   e) The line shaft shall be 416SS steel ground and polished. They shall be furnished in inter-changeable sections not over 10-feet in length and shall be coupled with 304 stainless steel threaded couplings designed with a safety factor of one and a half times the shaft safety factor.

   f) Pump assembly shall provide 600 gpm at 595-feet of total dynamic head. The top of pump assembly shall be set at 300-feet. Impellers shall be constructed from ASTM B584 Silicon Bronze

and shall be the enclosed type. They shall be free from defects and must be accurately cast, machined, and filed for optimum performance and minimum vibration. Impellers shall be statically and dynamically balanced at the factory to grade G6.3 of ISO 1940 as minimum. They shall be securely fastened to the bowl shaft with taper locks 416 or 316 SS (or key and split thrust ring of SS). They shall be adjustable vertically by means of a nut in the driver.

g) 150 HP motor shall be a heavy-duty Premium Efficient, Inverter Duty, 1800 RPM vertical hollow shaft motor, with a non-reverse ratchet to prevent reverse rotation of the rotating elements. The brake horsepower required by the pump curve shall not exceed the rated nameplate horsepower of the motor. A thrust bearing of ample capacity to carry the weight of all rotating parts plus the maximum hydraulic thrust load under all conditions of operation calculated L10 life shall be no less than 8800 hours. Provision shall be made for momentary up thrust equal to 30 percent of the rated down thrust. 1.15 service factor, and suitable for use on 480-Volt, 3-phase, 60-Hertz electric service. A solid coupling shall be provided at the discharge head for setting the impeller to bowl running clearance.

h) The suction bowl or suction bell shall be provided with non-soluble grease packed bronze bearing. Bowl Bearings will be constructed of steel back rubber. A bronze sand collar shall be provided to protect this bearing from abrasives in the pumping fluids. The bearing housing shall have sufficient opening at the bottom for easy removal of the bearing. A galvanized strainer will be provided. It shall have a net inlet area equal to at least three times the impeller inlet area. The maximum opening shall not be more than 75 percent of the maximum opening of the water passage through the bowl or impeller.

2. **WELL 11B:**

a) Provide new steel discharge head. Discharge head must have 12-inches minimum clearance for access to packing. With OHSA approved shaft guard, discharge head must also make allowances for two access ports through the pump base. 1-inch NPT for pre-lube connection to be provided. Discharge head must accommodate weight of assembly and wellhead opening. Discharge piping is 12-inch. Coating inside and out to be applied to manufactures recommendations to meet NSF 61 standards. See Sheet M-106 – Well 11B Pump Pedestal Details for more information.

b) Provide sole plate for discharge head flange. See Sheet M-106 for details.

i) Install two stainless steel access tubes from top of bowls through new discharge head: each access tube shall be no less than 1-inch diameter and be attached to column pipe on maximum 20-foot centering with stainless steel banding. Last 20-feet plus feet to extend through discharge head shall be Sch 80 PVC extended no less than 1-foot through discharge head. Provide rubber slip-on boot for 1-inch diameter sufficient to cover 1 1/2-diameter access tube openings.

c) The well column pipe shall be 12-inch and furnished in sections not exceeding a nominal length of 10-feet and shall be connected by threaded-sleeve couplings.

d) The line shaft shall be 416SS steel ground and polished with surface finish not to exceed 40 RMS. They shall be furnished in interchangeable sections not over 10-feet in length and shall be coupled with 304 stainless steel threaded couplings designed with a safety factor of one and a half times the shaft safety factor

SPECIAL SPECIFICATIONS

e) Pump assembly shall provide 565 gpm at 625-feet of total dynamic head with top of pump bowl assembly set at 340-feet. Impellers shall be constructed from ASTM B584 Silicon Bronze and shall be the enclosed type. They shall be free from defects and must be accurately cast, machined, and filed for optimum performance and minimum vibration. Impellers shall be statically and dynamically balanced at the factory to grade G6.3 of ISO 1940 as minimum. They shall be securely fastened to the bowl shaft with taper locks 416 or 316 SS (or key and split thrust ring of SS). They shall be adjustable vertically by means of a nut in the driver.

f) 150 HP motor shall be a heavy-duty Premium Efficient, Inverter Duty, 1800 RPM vertical hollow shaft motor, with a non-reverse ratchet to prevent reverse rotation of the rotating elements. The brake horsepower required by the pump curve shall not exceed the rated nameplate horsepower of the motor. A thrust bearing of ample capacity to carry the weight of all rotating parts plus the maximum hydraulic thrust load under all conditions of operation calculated L10 life shall be no less than 8800 hours. Provision shall be made for momentary up thrust equal to 30 percent of the rated down thrust. 1.15 service factor, and suitable for use on 480-Volt, 3-phase, 60-Hertz electric service. A solid coupling shall be provided at the discharge head for setting the impeller to bowl running clearance.

g) The suction bowl or suction bell shall be provided with non-soluble grease packed bronze bearing. Bowl Bearings will be constructed of steel back rubber. A bronze sand collar shall be provided to protect this bearing from abrasives in the pumping fluids. The bearing housing shall have sufficient opening at the bottom for easy removal of the bearing. A galvanized strainer will be provided. It shall have a net inlet area equal to at least three times the impeller inlet area. The maximum opening shall not be more than 75 percent of the maximum opening of the water passage through the bowl or impeller.

3. INSTALLATION, START-UP, AND FINAL ACCEPTANCE:

a) **Proposer must install pumping systems in coordination with Wellhouses Contractor when the pump pedestals construction has cured for 7-days.**
b) **Proposer must be on-site for initial start-up by Owner and Wellhouses Contractor.**
c) Final acceptance will not occur until after start-up of the new pump systems are completed to the satisfaction of the Owner. This will be the basis for Final Payment.

4. BASIS FOR MEASUREMENT AND PAYMENT:

a) The basis for measurement and payment for all work performed under this Quote shall be lump sum under City of Pendleton issued Purchase Order. Payment to Proposer shall be made as follows:
   1. Receipt of invoices for approved materials for designated work, plus 15% mark-up for OHP; and
   2. 75% of lump sum remainder after field installation is completed; and
   3. Final lump sum remainder when all the work has been completed and tested to the satisfaction of the Owner. This includes any change order considerations and submittal of certified payroll reports for all on-site related work.

b) Change order consideration may require additional Purchase Order to be issued based on agreed cost estimate. Payment to Contractor shall be made as follows: receipt of invoices for approved materials and actual labor summary, plus 15% mark-up for OHP.

NOTE:

PERSPECTIVE VIEW ARE FOR GENERAL REFERENCE ONLY. DO NOT USE FOR CONSTRUCTION. NOT ALL WORK ELEMENTS SHOWN.

PERSPECTIVE
SCALE: NTS

NO.	DATE	BY	REVISION
2	03/13/2024	WRK	BID SET

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

WRK DESIGNED
TMB DRAWN
DG CHECKED

REGISTERED PROFESSIONAL ENGINEER 9661 OREGON JULY 13, 2021 WILL ROGERS KIRBY
RENEWS 06-30-25

consor

CITY OF PENDLETON INCORPORATED 1880 OREGON

CITY OF PENDLETON
WELL 11-11B

MECHANICAL
WELL 11B
PERSPECTIVE

PROJECT NO.: 21-3133 | SCALE: AS SHOWN | DATE: MARCH 2024

SHEET
M-101
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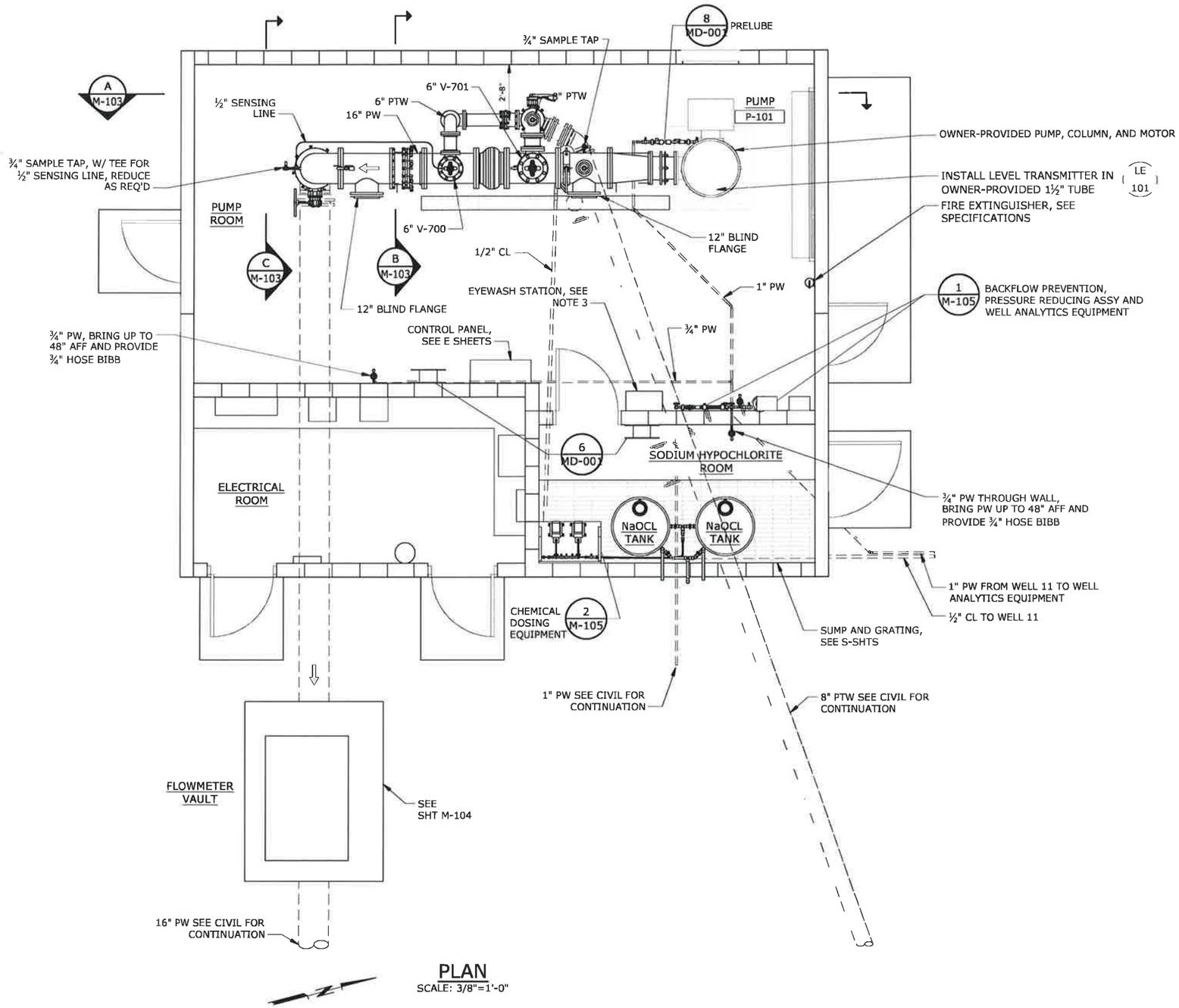

PLAN
SCALE: 3/8"=1'-0"

NOTES:

1. FITTINGS AND PIPE OUTSIDE BUILDING ENVELOPE SHOWN FOR REFERENCE ONLY. SEE CIVIL SHEETS FOR FITTING, PIPE, AND DETAIL CALLOUTS.
2. COORDINATE WITH ELECTRICAL DRAWINGS FOR LOCATION OF MOTOR TERMINAL BOX LOCATIONS.
3. PORTABLE, SELF-CONTAINED, GRAVITY-FED EYEWASH STATION WITH HEATED JACKET, MOUNTED TO WALL PER MANUFACTURERS RECOMMENDATIONS, HUGHES-SAFETY 16GEW, OR EQUAL.

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2	03/13/2024	WRK	BID SET

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WRK DESIGNED
TMB DRAWN
DG CHECKED

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RENEWS 06-30-25

consor

CITY OF PENDLETON INCORPORATED 1880 OREGON

CITY OF PENDLETON
WELL 11-11B

MECHANICAL
WELL 11B
FLOOR PLAN

PROJECT NO.: 21-3133 | SCALE: AS SHOWN | DATE: MARCH 2024

SHEET
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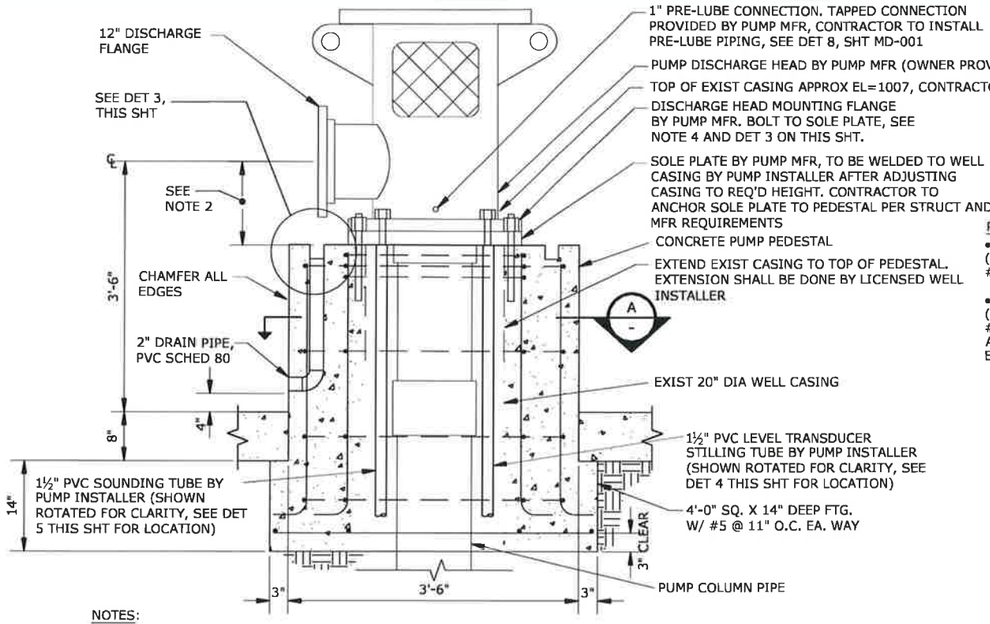

NOTES:

1. COMPLY WITH ALL REQUIREMENTS OF OREGON WATER RESOURCES DEPARTMENT.
2. DIMENSIONS MAY VARY DEPENDING ON ACTUAL PUMP PROVIDED. CONTRACTOR SHALL VERIFY DIMENSIONS WITH PUMP MFR AND ADJUST PEDESTAL HEIGHT AS REQUIRED TO MAINTAIN PIPE CL HEIGHT AFF.
3. ANCHOR BOLTS SHALL BE OF SIZE, TYPE AND EMBEDMENT AS SHOWN AND PER MANUFACTURER REQUIREMENTS.
4. PUMP MOUNTING BASE BOLTS TO BE HEX HEAD BOLTS WITH LOCK WASHER, LENGTH AS REQUIRED.
5. WELL VENT AND WELL ACCESS PORTS NOT SHOWN FOR CLARITY. SEE DETAIL 2, THIS SHEET.

DEEP WELL VERTICAL TURBINE PUMP BASE DETAIL

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PUMP BASE EDGE DETAIL

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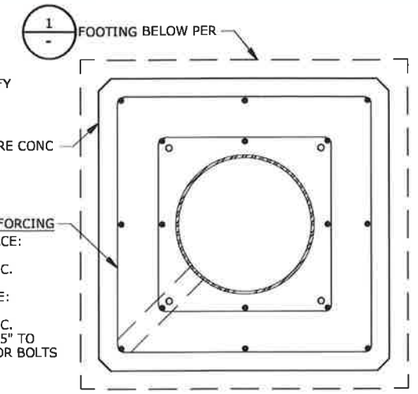

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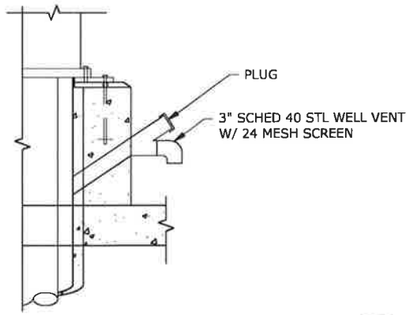

WELL VENT WITH INSECT SCREEN

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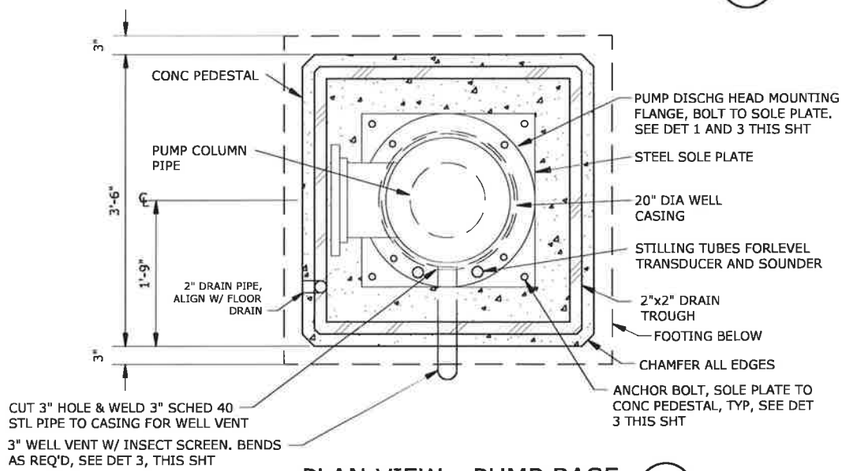

PLAN VIEW - PUMP BASE

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WRK DESIGNED | TMB DRAWN | DG CHECKED

REGISTERED PROFESSIONAL ENGINEER — OREGON — WILL ROGERS KIRBY — RENEWS 06-30-25

consor

CITY OF PENDLETON — INCORPORATED 1880 — OREGON

CITY OF PENDLETON
WELL 11-11B

MECHANICAL
WELL 11B
PUMP PEDESTAL DETAILS

PROJECT NO.: 21-3133 | SCALE: AS SHOWN | DATE: MARCH 2024

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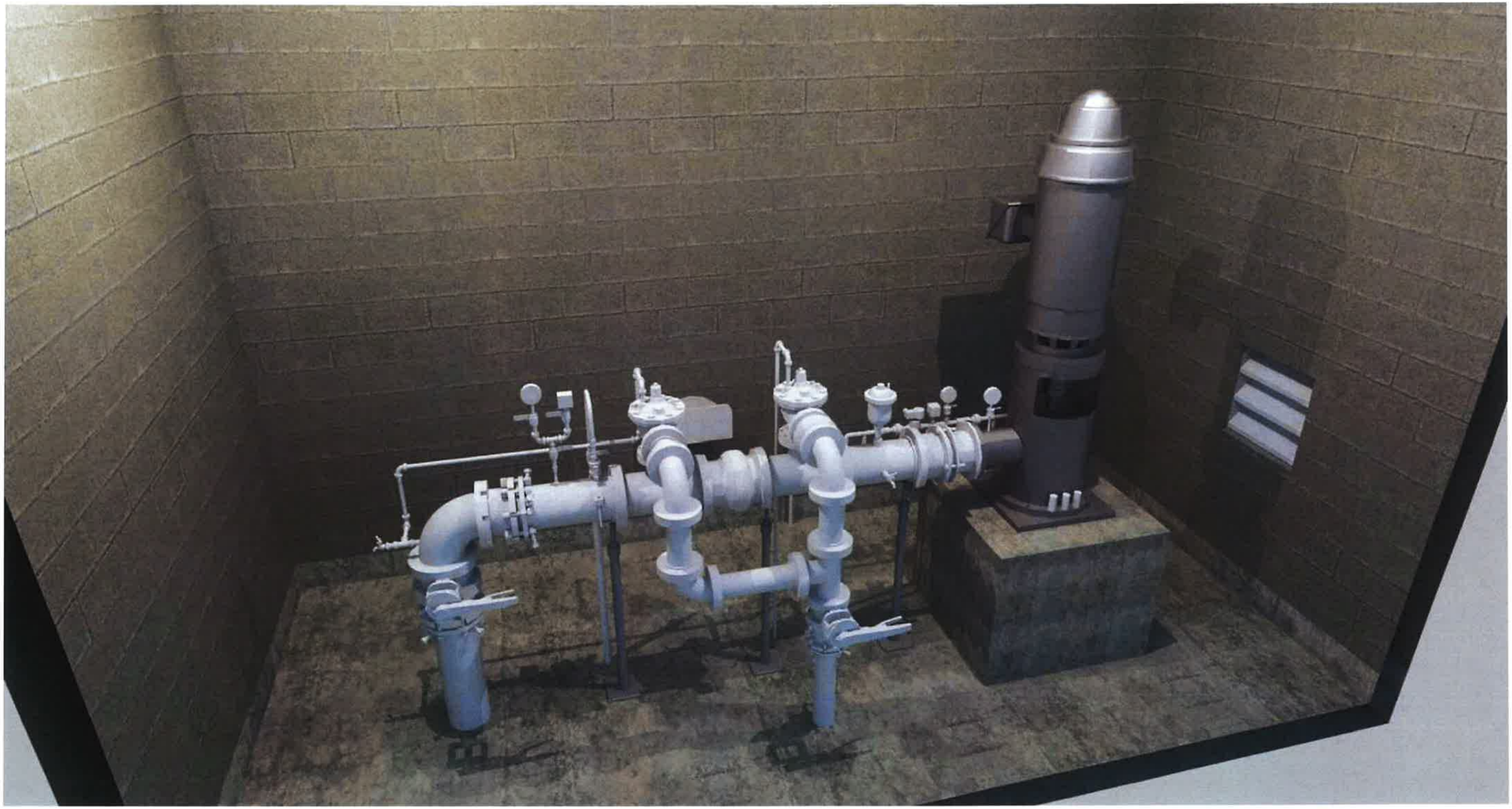

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REGISTERED PROFESSIONAL ENGINEER — OREGON — WILL ROGERS KIRBY — RENEWS 06-30-25

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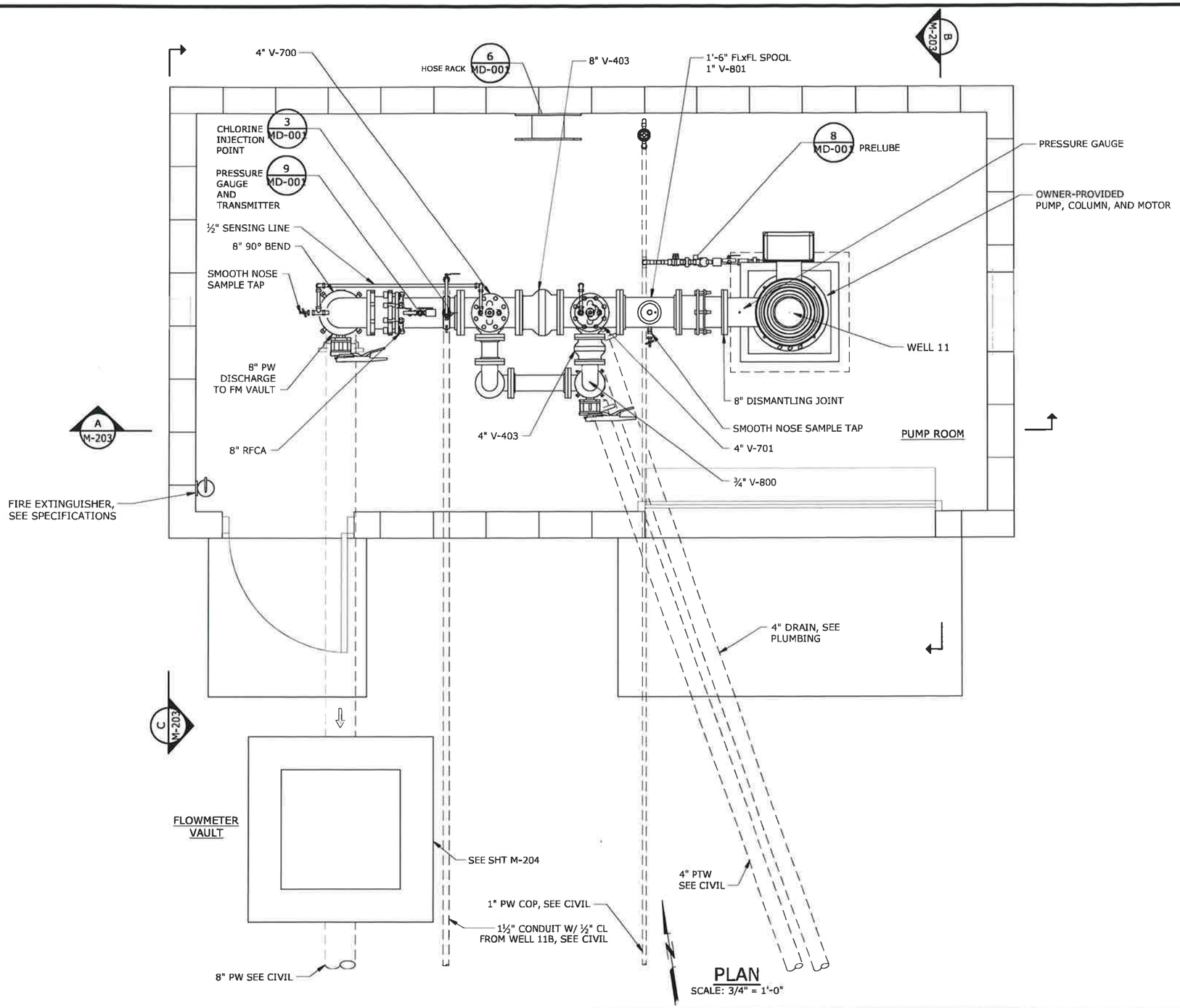
CITY OF PENDLETON — INCORPORATED 1880 — OREGON

CITY OF PENDLETON
WELL 11-11B

MECHANICAL
WELL 11
PERSPECTIVE

PROJECT NO.: 21-3133 | SCALE: AS SHOWN | DATE: MARCH 2024

SHEET M-201



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2. COORDINATE WITH ELECTRICAL DRAWINGS FOR LOCATION OF MOTOR TERMINAL BOX LOCATIONS.

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DG CHECKED

REGISTERED PROFESSIONAL ENGINEER 90661 OREGON WILL ROGERS RENEWS 06-30-25

consor

CITY OF PENDLETON INCORPORATED 1880 OREGON

CITY OF PENDLETON
WELL 11-11B

MECHANICAL
WELL 11
FLOOR PLAN

PROJECT NO.: 21-3133 | SCALE: AS SHOWN | DATE: MARCH 2024

SHEET
M-202
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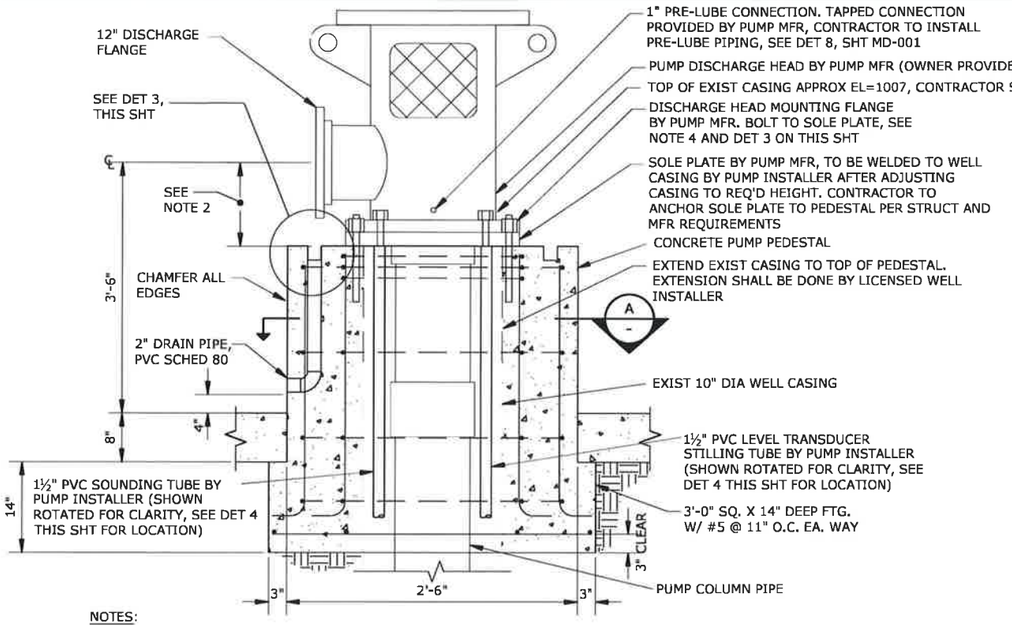

NOTES:

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2. DIMENSIONS MAY VARY DEPENDING ON ACTUAL PUMP PROVIDED. CONTRACTOR SHALL VERIFY DIMENSIONS WITH PUMP MFR AND ADJUST PEDESTAL HEIGHT AS REQUIRED TO MAINTAIN PIPE CL HEIGHT AFF.
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DEEP WELL VERTICAL TURBINE PUMP BASE DETAIL

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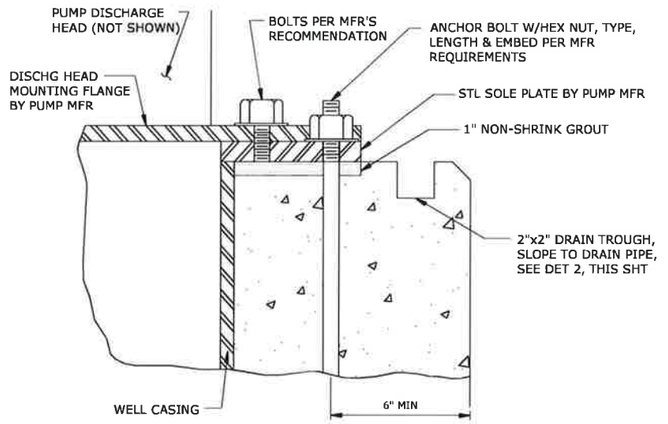

PUMP BASE EDGE DETAIL

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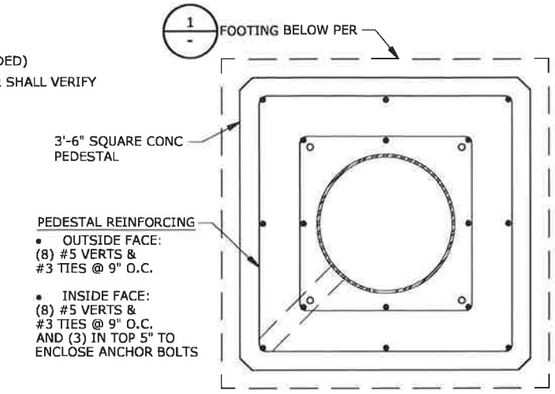

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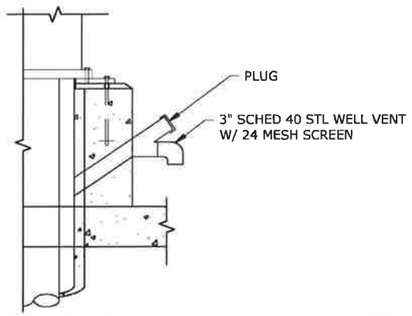

WELL VENT WITH INSECT SCREEN

2

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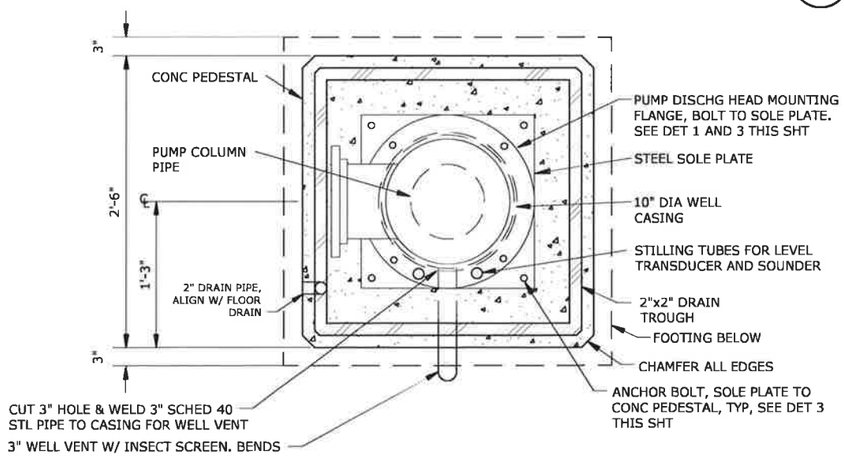

PLAN VIEW - PUMP BASE

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NO.	DATE	BY	REVISION
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DG CHECKED

REGISTERED PROFESSIONAL ENGINEER 9661 OREGON WILL SOGERS RENEWS 06-30-25

consor

CITY OF PENDLETON OREGON INCORPORATED 1880

CITY OF PENDLETON
WELL 11-11B

MECHANICAL
WELL 11
PUMP PEDESTAL DETAILS

PROJECT NO.: 21-3133 | SCALE: AS SHOWN | DATE: MARCH 2024

SHEET M-205

SECTION 43 05 15 - INSTALLATION OF OWNER-FURNISHED PRODUCTS

PART 1 GENERAL

1.1 SCOPE

A. Work necessary to coordinate delivery, inspection, assembly, installation, and connection to, and testing of Owner-furnished equipment (OFE) and appurtenances.

B. Contractor to coordinate this work with Owner-furnished equipment manufacturer, including scheduling work and the installation and location of anchor bolts.

C. Equipment Specifications and Drawings are attached to this specification. Owner and Owner's Representative, along with Manufacturer, will provide all available information defining equipment to be installed.

1.2 DEFINITIONS

A. Manufacturer: Where "manufacturer" is referred to in this section, it refers to the party under separate Contract with the Owner for furnishing the material or equipment products purchased by the Owner. Such a party may be referred to as "Contractor for Owner-furnished products", or "Owner-furnished equipment Contractor" in other sections.

B. Transfer: "Transfer" of Owner-furnished products to the Contractor refers to the time when manufacturer's instructions for unloading, handling, storage, and protection have been received; products have been delivered to the job site, inspected, assembled, and installed, and Owner has accepted such products as ready for connection by the Contractor.

1.3 CONTRACTOR'S RESPONSIBILITY FOR COMPLETE SYSTEM

A. Contractor shall have complete responsibility for connecting to, protecting and maintaining of Owner-furnished products. The Contractor shall assist the Manufacturer with the pre-startup lubricating, testing, and operational startup of Owner-Furnished products.

B. Provide and coordinate the construction of interconnecting structures, equipment, piping, electrical and instrumentation work, and appurtenances to achieve installation and operation of the Owner-Furnished products as shown and specified and as required to provide a complete and functional system.

C. Contractor shall notify Owner immediately of any damage, misalignment, or interconnection problems associated with Owner-furnished equipment.

1.4 MANUFACTURER'S RESPONSIBILITY FOR PRODUCTS

A. The manufacturer will be responsible for providing the following:

1. Instruction manual, including installation and storage instructions.
2. Certification of proper installation.
3. Prestartup lubrication.
4. Functional testing.
5. Performance testing.
6. Training of Owner's personnel.

1.5 EQUIPMENT DELIVERY SCHEDULE

A. The Contractor shall coordinate with the Manufacturer the delivery of the equipment specified herein. The Owner and the Owner's Representative will be notified of the definite delivery dates as they become available, and will be informed of any scheduling changes that may occur during the construction process.

1.6 INFORMATION FURNISHED BY OWNER

A. General design requirements and a list of anticipated suppliers for each specific piece of equipment are provided in section 3.05.

B. Shop drawings from the Owner-Furnished products for Contractor's use in performing the installation work under this section is attached at the end of these Specifications.

C. Manufacturer's installation, operation, and maintenance instruction for the Owner-Furnished products will be made available for Contractor's use.

1.7 INSURANCE

A. The Contractor shall take ownership over the Owner-furnished products and shall accept the terms of acceptance between the Owner and each Manufacturer.

B. The Contractor shall include in the insurance for work under this Contract, sufficient coverage to protect the Owner-Furnished products against all losses during, protection, and connection and until final acceptance of the work by the Owner. The Owner and Owner's Representative shall be named as additional insured(s) for this work.

C. For purposes of this insurance coverage, the estimated value of the Owner-Furnished products is estimated to be $350,000.

PART 2 PRODUCTS

2.1 GENERAL

A. Provide products required to complete the work under this section. Such products include, but are not limited to, foundations, anchor bolts, connecting piping and valves, hangers and supports, motor starters and wiring, and controls, unless specifically specified as "Owner-Furnished" or shown in Supplier shop drawings and identified as "Owner-Furnished".

2.2 MISCELLANEOUS PRODUCTS

A. General: Furnish incidental products, such as gaskets, supports, bolts, and miscellaneous lubricants, as shown and as required for proper operation of equipment installed under this section. Products shall conform to applicable sections of these Specifications for the intended service.

B. Equipment Pads: Provide equipment pads/pedestals for Owner-furnished equipment as shown on the Drawings. Contractor shall verify exact dimensions and configuration of all pads, including required penetrations, with the Manufacturer's shop drawings.

C. Anchor Bolts: Anchor bolts, fasteners, washers, etc., needed for installation of Owner-furnished equipment will be specified by the Manufacturer.

1. Locate anchor bolts in accordance with Manufacturer's shop drawings and installation instructions. Templates or detailed drawings will be furnished by the Manufacturer.

PART 3 EXECUTION

3.1 GENERAL

A. Connection work shall conform with Manufacturer's recommended procedures, instructions, and shop drawings, as reviewed by the Owner's Representative.

B. Coordinate with each Manufacturer the equipment delivery schedule.

C. Protect Owner-furnished products.

D. Maintain complete inventory on all Owner-furnished products.

E. Install piping, valves, and miscellaneous fittings, in accordance with Manufacturer's instructions.

F. Install and connect electrical equipment in accordance with equipment Manufacturer's instructions. Install and connect control panels and local instruments in accordance with Manufacturer's instructions.

3.2 INSTALLATION OF EQUIPMENT

A. Excavation, concrete, mechanical, and electrical work shall conform to applicable standards, final stamped and reviewed shop drawings, Specifications, and Plans included in these Contract Documents, including manufacturer's installation instructions.

B. Adjust all components such that the interconnecting components are properly aligned, plumb, and level in accordance with the Manufacturer's recommendations. Flexible couplings shall not be considered to compensate for misalignment.

C. Equipment shall be properly aligned, plumb and level, with no stresses on connecting piping or conduit.

D. Verify direction of rotation of installed motors before starting equipment drives.

E. Verify operability and safety of electrical system needed to operate the equipment. Check electrical system for continuity, phasing, grounding, and proper functions.

3.3 MAINTENANCE

A. Immediately after installation, assist Manufacturer in applying pre-startup lubricants in accordance with Manufacturer's instructions.

B. Follow Manufacturer's instructions for maintenance after installation but prior to testing and startup, and after startup but prior to Owner's acceptance.

C. Notify Owner's Representative immediately in event that Manufacturer's spare parts and maintenance materials are not available.

D. Furnish incidental maintenance, labor, and supplies including lubricants, cleaning fluids, nuts and bolts, and similar products not furnished by Manufacturer, as needed for maintaining the Owner-furnished products.

3.4 FIELD TESTING

A. General: Give full access to work by, and cooperate with, Manufacturer(s) during testing to enable gathering of data and information necessary to evaluate performance and develop recommendations for acceptable operation and maintenance instructions.

1. Verify that proper mechanical and electrical connections have been made.

2. Performance testing of the Owner-furnished equipment will not take place until certification of proper installation from Manufacturer.

3. Correct misalignment, vibration, excessive noise, or other evidence of improper setting obtained from short startup tests of drives. Do not use flexible couplings to compensate for misalignment.

4. Correct defects in installation as a result of Contractor's connection to Owner-Furnished equipment as required by Manufacturer's instructions and recommendations.

5. Manufacturer's certification of proper installation for each equipment system must be received by Owner and Owner's Representative prior to starting performance testing.

B. Performance Tests:

1. Prior to startup, equipment shall be performance tested as specified in the applicable equipment specifications.

2. Schedule tests in cooperation with the Owner and Manufacturer's representative.

3.5 OWNER-FURNISHED EQUIPMENT SCHEDULE

A. The equipment listed below is to be furnished by the Owner.

1. Pre-Purchased by Owner:

a. Well 11 and 11B Well Pumps.

1) Owner to supply Well Pump (impellers, bowls, lineshaft, etc.), Well Column, Sole Plate, Well Discharge Head (with prelube connection), Well Motor, Packing and lubrication, and (2) 1-1/2" Instrument Sounding Tubes.

2) Well Pump and appurtenances as shown above, will be delivered, and installed by the Owner-furnished Well Pump Installer (Installer).

3) Contractor shall be responsible for coordination of modifications to well casings, installation of pump pedestal, sole plate, and other appurtenances.

a) Per OAR 690-215-0006(1), alterations to the well casing shall be performed Water Supply Well Constructor, licensed in the State of Oregon.

b) Contractor shall coordinate well casing modifications and addition of well sole plate with the Installer prior to installation of the Contractor-provided Pump Pedestal.

4) Contractor may install building footings, slab-on-grade floors, and walls prior to Pump installation by the Well Pump Installer. Contractor shall review pump and motor submittal as well as casing/pedestal locations prior to roof construction.

5) Contractor shall protect the well pump and appurtenances after installation.

6) Contractor shall verify pump and motor alignment with roof openings prior to roof installation.

7) Contractor shall be responsible for connecting piping, installing instruments, and electrical connections to the well pump.

b. Well 11 and 11B VFDs

1) Owner to supply the 150 Hp Allen Bradley Power Flex VFDs specified in Section 26 29 24. Units will be provided completely assembled in enclosures and pre wired as shown in the drawings.

2) Owner will provide detailed shop drawings for the VFD enclosures to the Contractor for installation coordination purposes as soon as possible but no later than 60 days after notice to proceed.

3) VFDs as listed above will be delivered to the site by the Owner or the Owner's designee and will be received, offloaded and installed or stored in a suitable environment for later installation by the Contractor.

4) Contractor shall provide housekeeping pads and al conduit and wire shown on the plans that are associated with the installation of the VFDs and shall coordinate placement of conduits with the VFD enclosure dimensions and physical arrangement to ensure conduit and wire enter the VFD enclosure in the appropriate locations.

5) Owner will provide an authorized Allen-Bradley VFD start up technician to configure the VFDs and complete the VFD testing specified at a mutually agreed upon time. The Contractor will support these activities with the participation of other affected trades, specifically the Electrical Contractor, Control System Programmer & Supplier, and any other support required for VFD and Pump operation testing.

6) Contractor shall notify Owner at least one month prior to desired start up date to allow for scheduling of start up services.

END OF SECTION

Hydraulics Analysis - Well 11

Knowns/Assumptions:

1	South Hill Reservoir	1320	' MSL
2	Approximate Floor Elevation	1005	' MSL
3	Static Water Level	787	' MSL
4	Drawdown Estimate: 600 gpm		
	+/- 50 gpm / foot drawdown	775	' MSL
	Feet below floor elevaton	230	feet
5	Head Loss Distribution System	25	feet
6	Head Loss Column Pipe	15	feet
	6" Column Length	300	lineal feet
7	Future native ground water decline	10	feet

TDH Requirements (1 - 4 + 5 + 6 + 7):
Best fit for 150 HP motor for normal production:

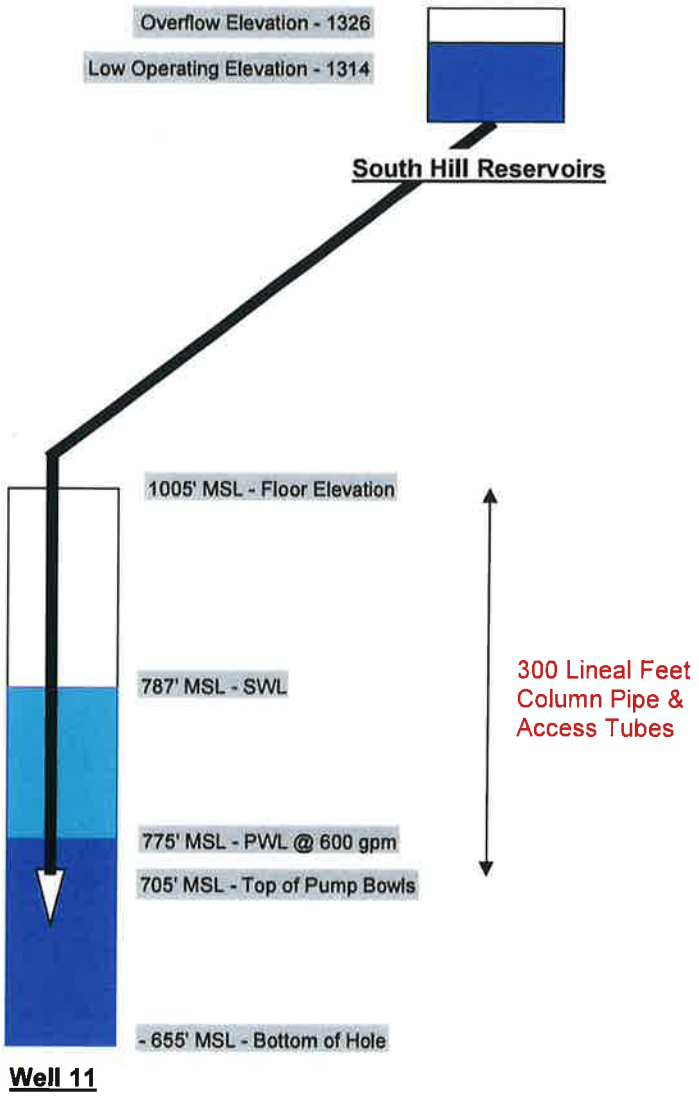
+/- 550 gpm	594 feet
+/- 600 gpm	**595**
+/- 650 gpm	596

Formula:

$$HP = \frac{TDH + GPM}{3960 \times 0.6}$$

0.6 = pump eff x motor eff

Use level & pressure control for pump to waste
SCADA programming



NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WATER WELL REPORT
STATE OF OREGON
(Please type or print)

State Well No. 2N/31-36 D

State Permit No. .....

(1) OWNER:
Name CITY OF PENDLETON
Address PENDLETON, ORE.

(2) LOCATION OF WELL:
County UMATILLA Driller's well number 4722
NW¼ NW¼ Section 36 T. 2N R. 31E W.M.
Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check): TEMPORARY
New Well [X] Deepening [ ] Reconditioning [ ] Abandon [X]
If abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):
Domestic [ ] Industrial [ ] Municipal [X]
Irrigation [ ] Test Well [ ] Other [ ]

(5) TYPE OF WELL:
Rotary [X] Driven [ ]
Cable [X] Jetted [ ]
Dug [ ] Bored [ ]

(6) CASING INSTALLED:
Threaded [ ] Welded [X]
30" Diam. from 0 ft. to 8 ft. Gage .375
..." Diam. from ... ft. to ... ft. Gage ...
..." Diam. from ... ft. to ... ft. Gage ...

(7) PERFORATIONS:
Perforated? [ ] Yes [X] No
Type of perforator used
Size of perforations ... in. by ... in.
... perforations from ... ft. to ... ft.
... perforations from ... ft. to ... ft.
... perforations from ... ft. to ... ft.
... perforations from ... ft. to ... ft.
... perforations from ... ft. to ... ft.

(8) SCREENS:
Well screen installed? [ ] Yes [X] No
Manufacturer's Name ...
Type ... Model No. ...
Diam. ... Slot size ... Set from ... ft. to ... ft.
Diam. ... Slot size ... Set from ... ft. to ... ft.

(9) CONSTRUCTION:
Well seal—Material used in seal ...
Depth of seal ... ft. Was a packer used? ...
Diameter of well bore to bottom of seal ... in.
Were any loose strata cemented off? [ ] Yes [ ] No Depth ...
Was a drive shoe used? [ ] Yes [X] No
Was well gravel packed? [ ] Yes [X] No Size of gravel: ...
Gravel placed from ... ft. to ... ft.
Did any strata contain unusable water? [ ] Yes [X] No
Type of water? depth of strata
Method of sealing strata off

(10) WATER LEVELS:
Static level 99 ft. below land surface Date 1/19/66
Artesian pressure ... lbs. per square inch Date

(11) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? [ ] Yes [X] No If yes, by whom?
Yield: gal./min. with ... ft. drawdown after ... hrs.
APROX 700 GPM WITH "AIR" " " " "
Bailer test ... gal./min. with ... ft. drawdown after ... hrs.
Artesian flow ... g.p.m. Date
Temperature of water Was a chemical analysis made? [ ] Yes [X] No

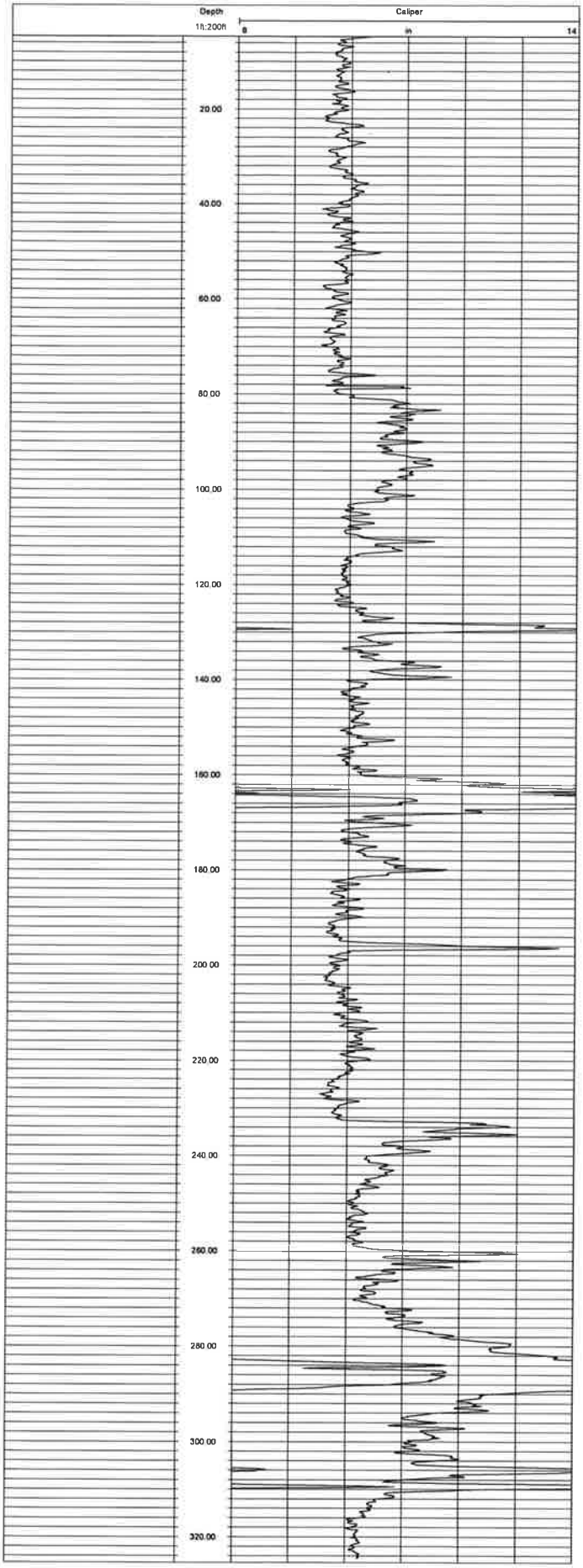
(12) WELL LOG:
Diameter of well below casing 8
Depth drilled 357 ft. Depth of completed well 357 ft.
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
TOP SOIL GRAVEL AND BOULDERS	0	8
HARD GREY BASALT	8	28
MED. HARD GREY BASALT	28	97
RED LAVA	97	102
MED HARD GREY BASALT	102	160
BROWN BROKEN BASALT	160	187
MED. HARD BLACK BASALT	187	208
HARD GREY BASALT	208	225
BROKEN GREY BASALT (WATER)	225	246
HARD GREY BASALT	246	260
BROWN BROKEN LAVA (WATER)	260	285
REDDISH BROWN LAVA	285	324
MED. HARD BLACK BASALT	324	330
HARD GREY BASALT	330	338
BROWN BROKEN LAVA (WATER)	338	352
HARD GREY BASALT	352	357
(A CEMENT PLUG HAS BEEN PLACED IN 8 INCH HOLE AT 20-22 FT LEVEL THEN A LID WELDED ON THE 30 INCH CASING)		

Work started NOV 15 1965 Completed JAN 20 1966
Date well drilling machine moved off of well JAN 20 1966

(13) PUMP:
Manufacturer's Name ...
Type: ... H.P. ...

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME R.J. STRASSER DRILLING CO (Person, firm or corporation) (Type or print)
Address 8105E SUNSET LANE PORTLAND ORE
Drilling Machine Operator's License No. 56 AND 395
[Signed] Robert L. Strasser (Water Well Contractor)
Contractor's License No. 10 Date FEB 25, 19 66


Depth
1ft:200ft
Caliper
8
in
14
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00
260.00
280.00
300.00
320.00

Hydraulics Analysis - Well 11B

Knowns/Assumptions:

1	South Hill Reservoir	1320 ' MSL
2	Approximate Floor Elevation	1005 ' MSL
3	Static Water Level	787 ' MSL
4	Drawdown Estimate: 550 gpm	
	+/- 10 gpm / foot drawdown	732 ' MSL
	Feet below floor elevaton	268 feet
5	Head Loss Distribution System	20 feet
6	Head Loss Column Pipe	5 feet
	12" Column Length	340 lineal feet
7	Future native ground water decline	10 feet

TDH Requirements (1 - 4 + 5 + 6 + 7):
Best fit for 150 HP motor for normal production:

+/- 510 gpm	625 feet
+/- 565 gpm	**625**
+/- 610 gpm	635

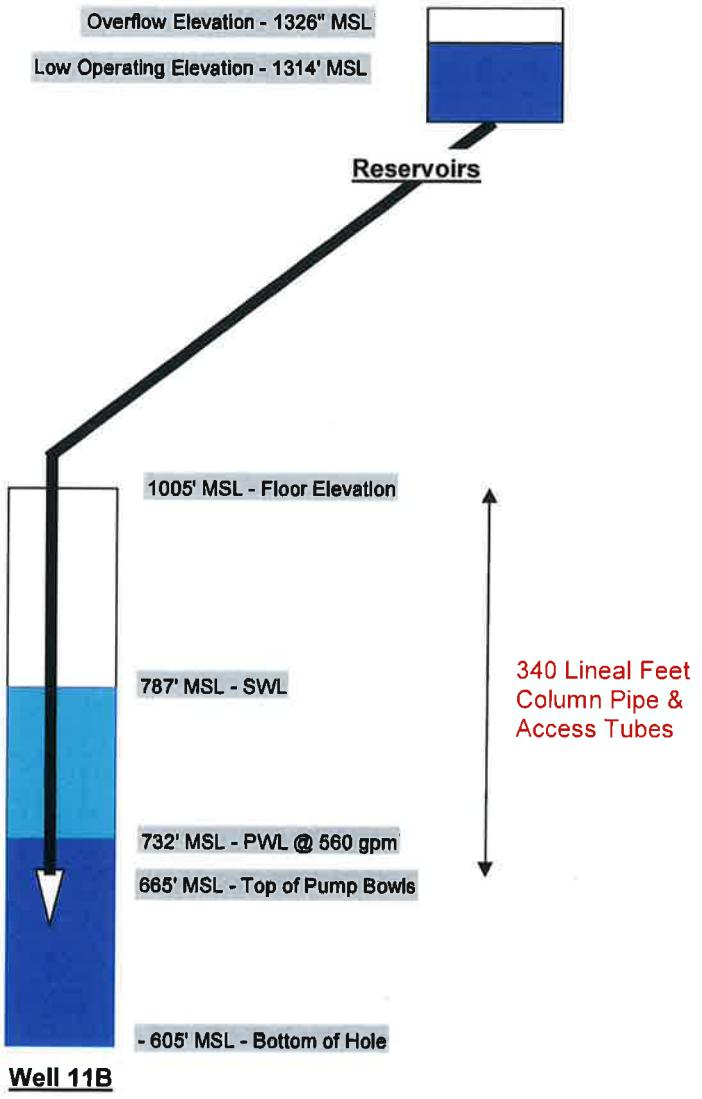
Formula:

$$HP = \frac{TDH + GPM}{3960 \times 0.6}$$

0.6 = pump eff x motor eff

Use level & pressure control for pump to waste
SCADA programming

NOTE: FUTURE
Specific capacity expected to improve with time to match Well 11. 250 HP VFD being installed inititially.



Amended 5/17/2023

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.545 & 537.765 and OAR 690-205-0210)

UMAT 59063

WELL I.D. LABEL# L 136256
START CARD # 1060089
ORIGINAL LOG #

(1) LAND OWNER

Owner Well I.D. Well 11B
First Name _____ Last Name _____
Company City of Pendleton
Address 500SW Dorion Ave
City Pendleton State OR Zip 97801

(2) TYPE OF WORK

[X] New Well [ ] Deepening [ ] Conversion [ ] Alteration (complete 2a & 10) [ ] Abandonment(complete 5a)

(2a) PRE-ALTERATION

	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
Casing:									

	Material	From	To	Amt	sacks/lbs
Seal:					

(3) DRILL METHOD

[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger [ ] Cable Mud
[ ] Reverse Rotary [ ] Other _____

(4) PROPOSED USE

[ ] Domestic [ ] Irrigation [X] Community
[ ] Industrial/ Commericial [ ] Livestock [ ] Dewatering
[ ] Thermal [ ] Injection [ ] Other _____

(5) BORE HOLE CONSTRUCTION

Special Standard [ ] (Attach copy)
Depth of Completed Well 400 ft.

BORE HOLE Dia	From	To	SEAL Material	From	To	Amt	sacks/lbs
24	0	11	Cement	0	257	276	S
23	11	257			Calculated	168	
19	257	400					
					Calculated		

How was seal placed: Method [ ] A [X] B [ ] C [ ] D [ ] E
[ ] Other _____
Backfill placed from _____ ft. to _____ ft. Material _____
Filter pack from _____ ft. to _____ ft. Material _____ Size _____
Explosives used: [ ] Yes Type _____ Amount _____

(5a) ABANDONMENT USING UNHYDRATED BENTONITE

Proposed Amount _____ Pounds Actual Amount _____ Pounds

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
(•)	( )	20	[X]	2	257	.375	(•)	( )	[X]	[ ]
( )	( )		[ ]				( )	( )	[ ]	[ ]
( )	( )		[ ]				( )	( )	[ ]	[ ]
( )	( )		[ ]				( )	( )	[ ]	[ ]
( )	( )		[ ]				( )	( )	[ ]	[ ]

Shoe [ ] Inside [X] Outside [ ] Other Location of shoe(s) 257
Temp casing [X] Yes Dia 24 From + [X] 1 To 11

(7) PERFORATIONS/SCREENS

Perforations Method _____
Screens Type _____ Material _____

Perf/Screen	Casing/ Liner	Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/ pipe size

(8) WELL TESTS: Minimum testing time is 1 hour

(•) Pump ( ) Bailer ( ) Air ( ) Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
440	39.2	273	24

Temperature 55 °F Lab analysis [ ] Yes By _____
Water quality concerns? [ ] Yes (describe below) TDS amount 181 ppm

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)

County UMATILLA Twp 2 N N/S Range 32 E E/W WM
Sec 8 SW 1/4 of the NE 1/4 Tax Lot 700
Tax Map Number _____ Lot _____
Lat ° ' " or 45.66849600 DMS or DD
Long ° ' " or -118.83490600 DMS or DD
(•) Street address of well ( ) Nearest address
4300 SW Houtama Rd Pendleton, OR 97801

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL(ft)
Existing Well / Pre-Alteration			[ ]	
Completed Well	04-18-2023		[ ]	209.4

Flowing Artesian? [ ] Dry Hole? [ ]

WATER BEARING ZONES Depth water was first found 7.5

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)
02-20-2023	7.5	8.5	2		[ ]	N/A
03-22-2023	259	265	50		[ ]	212
03-23-2023	280	316	100		[ ]	209.64
03-24-2023	341	356	250		[ ]	209.4
					[ ]	

(11) WELL LOG

Ground Elevation 1,003

Material	From	To
See Attached Formation Description		

RECEIVED
MAY 8 2023
OWRD

Date Started 02-16-2023 Completed 04-18-2023

(unbonded) Water Well Constructor Certification

I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

License Number 2086 Date 05-04-2023
Signed _____

(bonded) Water Well Constructor Certification

I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

License Number 1523 Date 05-04-2023
Signed _____
Contact Info (optional) _____

ORIGINAL - WATER RESOURCES DEPARTMENT

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK Form Version: 0.95
New exempt use wells must be submitted with a map and recording fee.

HOLT SERVICES INC

10621 Todd Road East
Edgewood, WA 98372
253 604-4878

RECEIVED
MAY 8 2023
OWRD

Well Name: City of Pendleton Well 111B Production Well

Start Card/Permit #: 1060089

Label #: 136256

	From:	To:
Top soil with mixed gravels	0	5
Large gravels	5	8.5
Basalt	8.5	9.6
Black basalt hard	9.6	22
Med hard basalt	22	64
Hard Basalt	64	76
Med/soft basalt/ mix with Red rock Fractured up	76	95
Hard Basalt	95	105
Hard basalt	105	119
Medium/hard basalt	119	120
Hard Basalt	120	122
Medium/hard basalt	122	130
Broken up/ medium basalt	130	140
Medium/hard basalt	140	163
Broken up/ medium basalt, Red lava rock mix, some water	163	178
Hard basalt Red lava rock mix	178	189
Broken up Brown lava rock, black basalt mix	189	209
Hard basalt	209	230
Broken up hard black basalt	230	231
Hard black basalt	231	240
Broken up black basalt	~~241~~ 240	242
Hard black basalt	242	259
Broken up medium Black basalt Minor Water Zone	259	261
Broken up mix of Black and brown basalt	261	265
Medium hard brown and black basalt	265	280
Broken up black basalt, (water zone)	280	316
Hard black basalt	316	341
Medium/soft black basalt, broken up. increase In water	341	356
Hard basalt	356	373
Broken up black basalt	373	383
Med black basalt	383	400