

March 11, 2021

Darrin Eckman, P.E.  
Tenneson Engineering Corp.  
3775 Crates Way  
The Dalles, OR 97058

**Re: Well #3 (L48752) Plan Review # 89-2019  
City of Cascade Locks (PWS ID # 4100172)  
Final Approval**

Dear Mr. Eckman:

Thank you for your submittal to the Oregon Health Authority's Drinking Water Services (DWS) of plan review information for well #3 for the City of Cascade Locks. On June 6, 2019, our office received plans and specifications, an approved land use compatibility statement, and water rights documentation for the source. A plan review fee of \$3,300 was also received. On August 20, 2019, James Nusrala (OHA-DWS Regional Engineer) issued a Site Plan Evaluation letter, which did not approve the proposed location due to the proximity of Well #1 (MULT2057), which is inadequately constructed, within the 100-ft hazard setback under OAR 333-061-0050(2)(a)(E). However, the Site Plan Evaluation letter indicated that a waiver from this setback may be possible depending upon the construction of the new well and the extent to which the new well conformed to our construction standards under OAR 333-0061-0050.

On September 1, 2020, you submitted record drawings for the well, coliform bacteria and pump test results, and the well log (HOOD 51156). On March 1, 2021, you submitted the remaining test results (IOC, VOC, SOC, and radiological) received 3/1/2021 from sampling completed 1/27/21. **The project (described in greater detail beginning on page 4 of this letter) is granted Final Approval and the facilities may now be placed into service. Please refer to page 2 for initial sampling requirements and page 3 for information regarding the setback waiver.**

Well #3 is to be identified as follows on-line with other sources at:

<https://yourwater.oregon.gov/inventory.php?pwsno=00172>

- Facility ID: SRC-AC - "Herman Creek Well #3 L48752 – [HOOD51156](#)"
- Status: Active, Permanent, GW source
- Related entry point (EP): EP-A
- Related treatment Facility ID: WTP-A (Soda ash for corrosion control and sodium hypochlorite for residual maintenance)

The well evaluation conducted by our geologist, Russ Kazmierczak, noted that the well meets current construction standards and that the water bearing zone is an unconfined aquifer consisting of sand and gravel Columbia River alluvium as in the case of SRC-AA Herman Creek Well #1 (MULT 2057). As described below the well is not eligible for reductions in initial monitoring requirements and therefore, once Well #3 is placed into use the following entry point sampling will need to be completed:

- VOC and SOC testing will need to be done each year in 2021, 2022 and 2023 at Entry Point “A” (EP-A)** due to the unconfined nature of the aquifer, proximity of Well #3 to Well #1 and industrial land use practices, as well as the detection of trichloroethene (TCE) at 0.00053 mg/l in Well #3 from sampling completed 1/27/21 and historical detections of toxaphene and lindane at Herman Creek Well #1 – see data on-line at:  
<https://yourwater.oregon.gov/chemssingle.php?pwsno=00172&analyte=2020> and <https://yourwater.oregon.gov/chemssingle.php?pwsno=00172&analyte=2010>; and
- Two consecutive quarters of sampling at EP-A will need to be done for radiological** contaminants (uranium, radium 226/228, and gross alpha), the results of which will be used to determine future radiological monitoring.

**The City will also need to update their coliform sample plan to include Well #3 in annual source assessment coliform sampling (sampling done at the wellhead prior to treatment).** The sampling plan should also be updated to include Well #3 as a triggered source assessment sample location.

Routine entry point sampling at Entry Point “A” (EP-A) for all other regulated contaminants and distribution system sampling remains unchanged with the addition of Well #3 as shown below and online at:

<https://yourwater.oregon.gov/scheduleschems.php?pwsno=00172>

PWS ID: <a href="#">00172</a> ---- CASCADE LOCKS, CITY OF									
Chemical Sampling Schedule Status									
Facility ID	Analyte or Group		Sampling Interval	Monitoring Period Start	Monitoring Period End	Days Until End	Samples Required	Samples Received	Last Sample Date
DIST-A DISTRIBUTION SYSTEM	ASBESTOS, DIST	notes	9 Years	01/01/2020 -	12/31/2028	2,852	1	incomplete	04/23/2013
DIST-A DISTRIBUTION SYSTEM	LEAD & COPPER		6 Months	01/01/2021 -	06/30/2021	111	20	incomplete	12/09/2020
DIST-A DISTRIBUTION SYSTEM	STAGE 2 DBP	notes	Yearly	01/01/2021 -	12/31/2021	295	2	incomplete	09/16/2020
Seasonal sampling period: 09/01 thru 09/30									
EP-A EP FOR HERMAN CREEK WELLS	ARSENIC	notes	9 Years	01/01/2020 -	12/31/2028	2,852	1	incomplete	09/12/2018
EP-A EP FOR HERMAN CREEK WELLS	IOG	notes	9 Years	01/01/2020 -	12/31/2028	2,852	1	incomplete	09/12/2018
EP-A EP FOR HERMAN CREEK WELLS	NITRATE		Yearly	01/01/2021 -	12/31/2021	295	1	incomplete	12/08/2020
EP-A EP FOR HERMAN CREEK WELLS	NITRITE	notes	9 Years	01/01/2020 -	12/31/2028	2,852	1	incomplete	09/12/2018
EP-A EP FOR HERMAN CREEK WELLS	RAD - GROSS ALPHA		9 Years	01/01/2017 -	12/31/2025	1,756	1	done	09/10/2019
EP-A EP FOR HERMAN CREEK WELLS	RAD - RADIUM 226/228		9 Years	01/01/2023 -			1	future	09/10/2019
EP-A EP FOR HERMAN CREEK WELLS	RAD - URANIUM		9 Years	01/01/2020 -	12/31/2028	2,852	1	incomplete	03/19/2014
EP-A EP FOR HERMAN CREEK WELLS	SOC		3 Years	01/01/2020 -	12/31/2022	660	1	incomplete	09/12/2018
EP-A EP FOR HERMAN CREEK WELLS	VOLATILE ORGANICS		3 Years	01/01/2020 -	12/31/2022	660	1	incomplete	09/25/2018

Well #3 will need to be included in annual source assessment coliform sampling (coliform sampling not shown here).

This chemical sampling remains the same.

Gross alpha, radium 226/228, and uranium to be changed to quarterly and adjusted based on 1<sup>st</sup> two quarterly sample results.

SOC and VOC sampling to be changed to annual for 2021, 2022, and 2023. Based on results may be reduced to once every 3 years.

Although within 500-ft of surface water (Herman Creek is about 300-ft east of Well #3), monthly assessment monitoring will not be required at this time. However, **if there are any coliform positive samples in the distribution system Well #3 will have to be included in follow-up sampling as a “Triggered” source assessment sample.** If E.coli is detected in the well, then the well may be further evaluated to determine if it is under the influence of surface water.

As noted in the well evaluation, due to the unconfined nature of the aquifer for Well #3, **Well #1 (MULT2057) will be considered a hazard setback deficiency** and may be indicated as such in water system surveys until Well #1 is either reconstructed or abandoned. Water quality problems that come up in the future with Wells #1 or #3 may also require that Well #1 be abandoned.

Thank you for your assistance in this plan review process and if you have any questions or would like this information in an alternate format, please feel free to contact me at any time at 971-200-0288 or via e-mail at [evan.e.hofeld@dhsoha.state.or.us](mailto:evan.e.hofeld@dhsoha.state.or.us).

Sincerely,

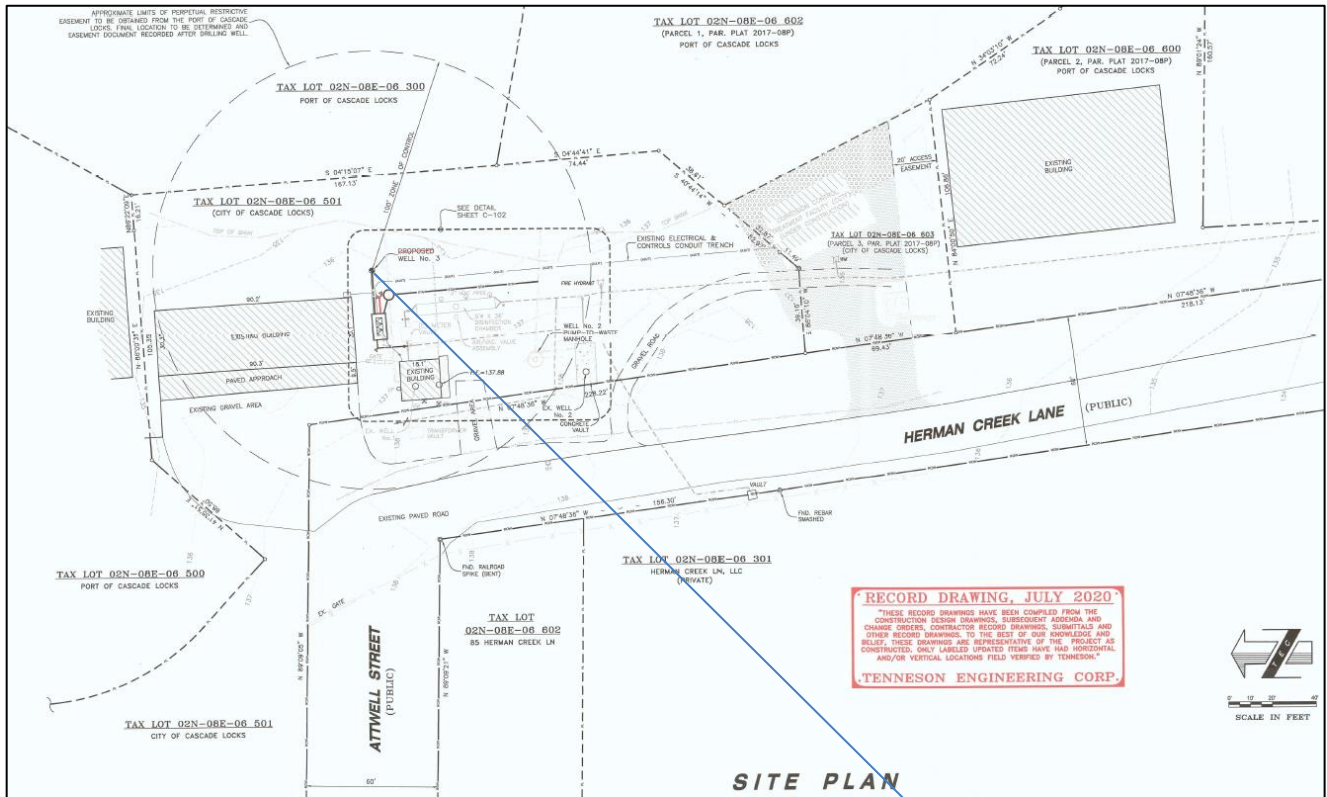


Evan Hofeld, Regional Engineer  
Oregon Health Authority – Drinking Water Services

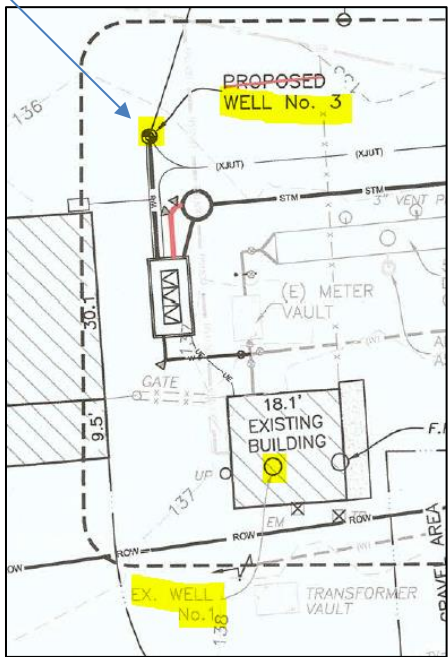
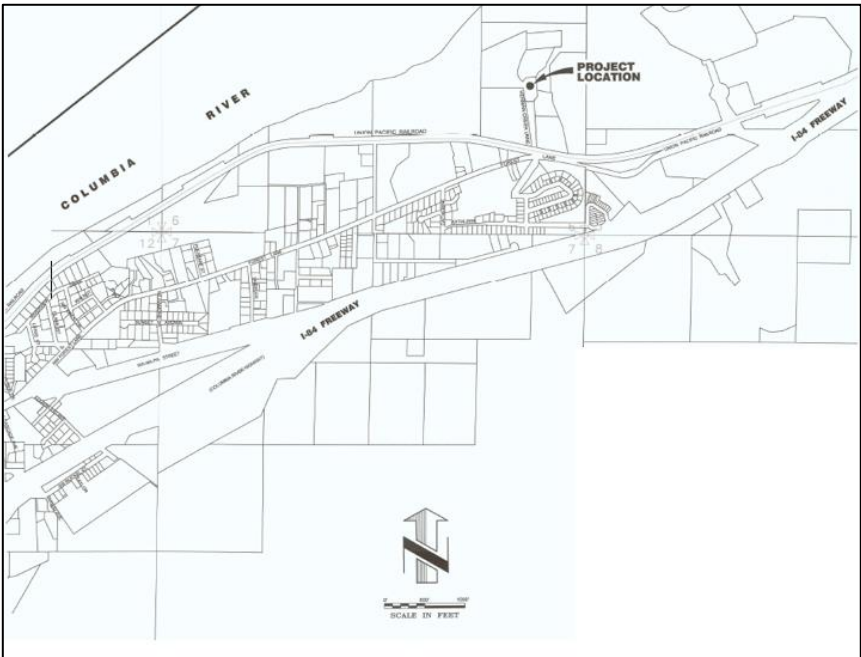
Cc. Gordon Zimmerman, City of Cascade Locks Administrator  
Sheldon Price, City of Cascade Locks Public Works Director  
Ian Stromquist, REHS, Hood River County Environmental Health

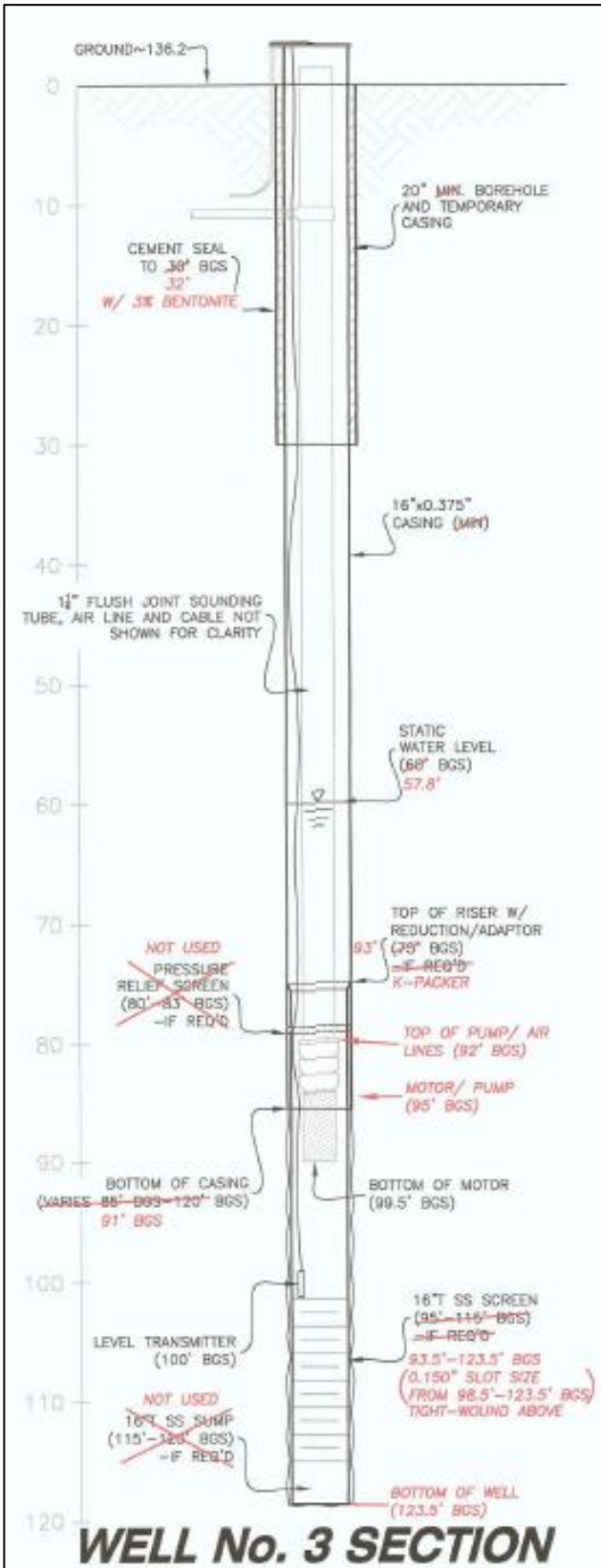
### Project Description

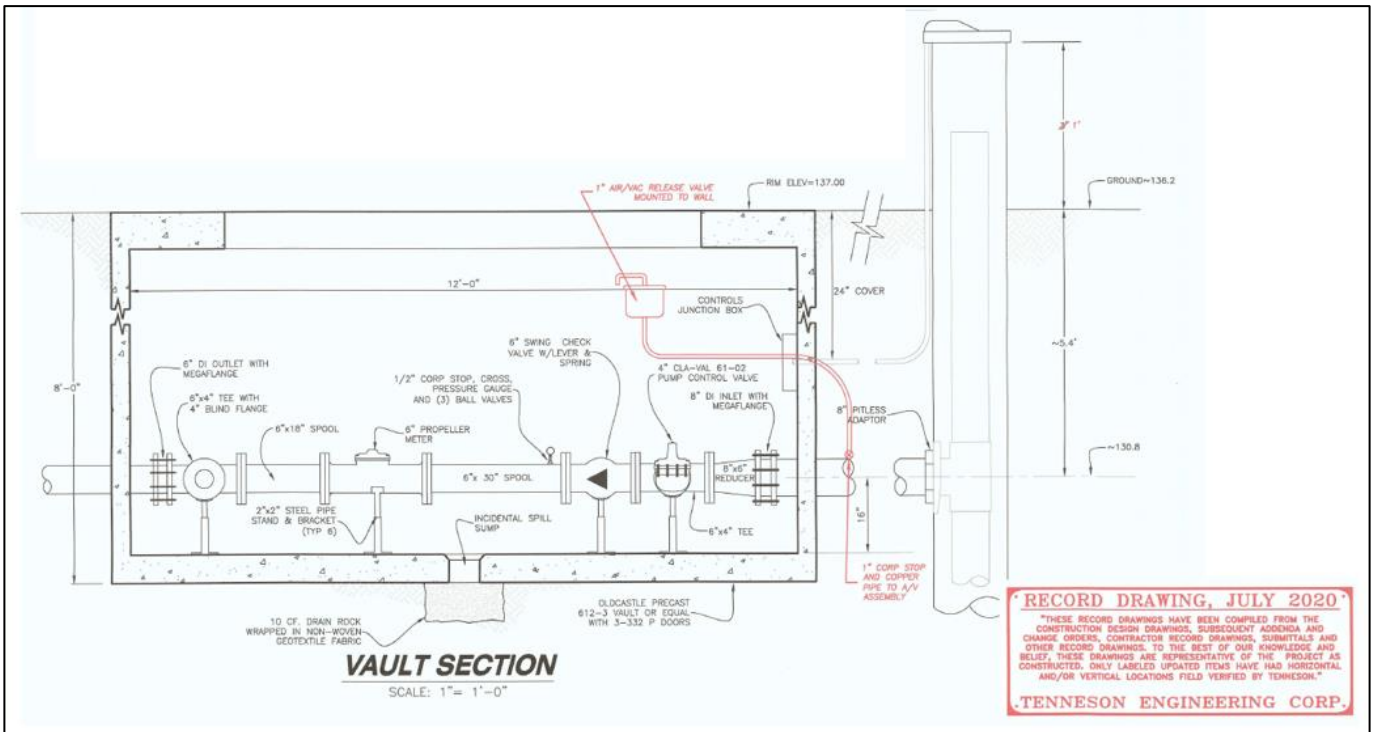
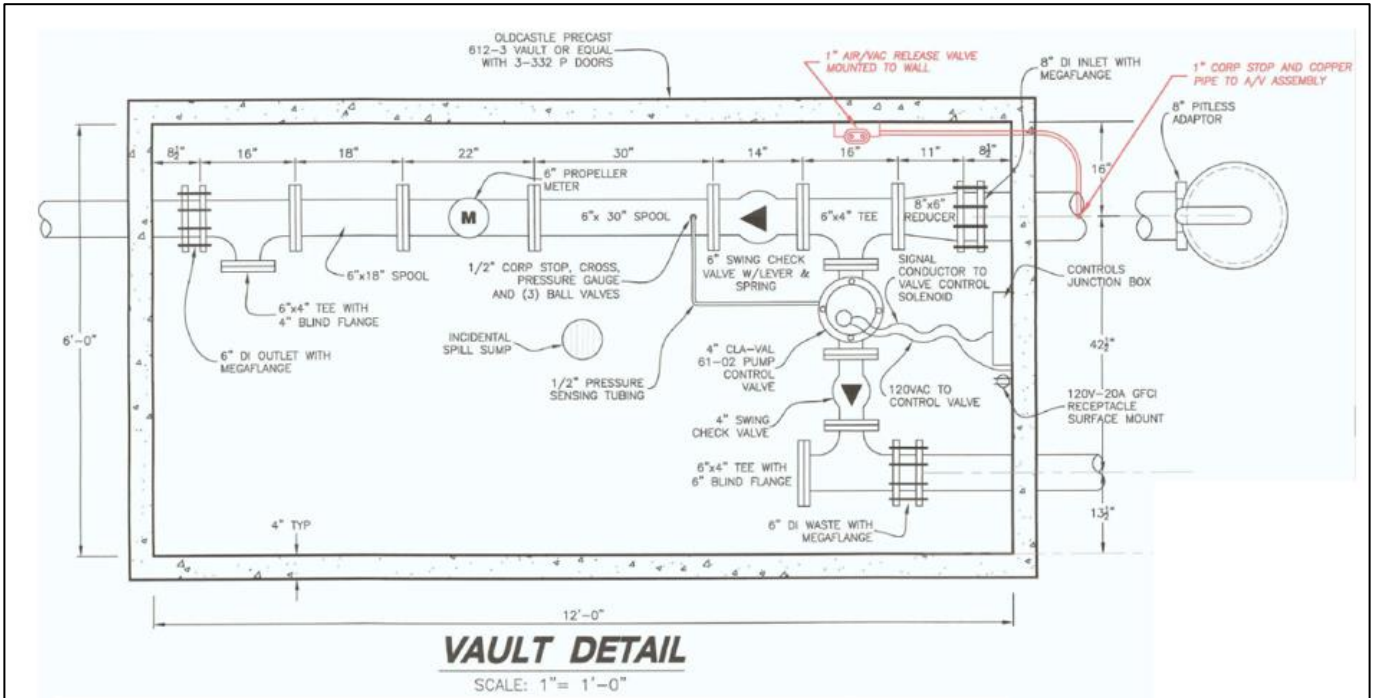
The well was fitted with a pitless adapter with a vault containing the flowmeter and control valves as shown in the record drawings below.



**SITE PLAN**







**RECORD DRAWING, JULY 2020**  
 \*THESE RECORD DRAWINGS HAVE BEEN COMPILED FROM THE CONSTRUCTION DESIGN DRAWINGS, SUBSEQUENT ADDENDA AND CHANGE ORDERS, CONTRACTOR RECORD DRAWINGS, SUBMITTALS AND OTHER RECORD DRAWINGS. TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THESE DRAWINGS ARE REPRESENTATIVE OF THE PROJECT AS CONSTRUCTED. ONLY LABELED UPDATED ITEMS HAVE HAD HORIZONTAL AND/OR VERTICAL LOCATIONS FIELD VERIFIED BY TENNESON.\*  
**TENNESON ENGINEERING CORP.**