



September 8, 2023

E. Payson Smith, PE
Westech Engineering, Inc.
Via email: PSmith@westech-eng.com

**Re: Polk Street Well #4 (PR#38-2019)
Independence Water System (PWS ID#00399)
Conditional Approval**

Dear Payse:

Thank you for your submittal to the Oregon Health Authority's Drinking Water Services (DWS) of additional plan review information for the Polk Street Well #4 project for Independence Water System. On June 29, 2023, our office received construction drawings, project manual, well log, well testing results and water quality data. A plan review fee was previously submitted for this project.

The project includes installation of a well (Well ID POLK 54296, drilled to a depth of 64 feet in 2019) and associated piping and appurtenances to connect the well to the distribution system. The water from this well will combine with the other Polk Street/River Drive wells at Entry Point B. Sampling results indicate that nitrate levels are over the maximum contaminant level (MCL) for this well. Plans submitted included details on the controls for blending the water from this well with water from other wells on the entry point to achieve nitrate levels below the MCL. A coliform sample result for the well showed the presence of total coliform.

A regional geologist with DWS reviewed the well log construction details and noted the following:

- The well meets current below ground construction details.
- The well was drilled to a depth of 64 feet and is cased to 63.5 feet. The casing is sealed to a depth of 25 feet. The casing seal extends through a 19-foot-thick clay/silty clay layer that overlays the aquifer. Water enters the well through a well screen installed from 32 to 52 feet below ground level.

- The well draws water from an unconfined gravel aquifer. The water-bearing gravel is present at a depth of 20 feet and the static water level was reported to be at a depth of 19.5 feet, roughly the same depth as the top of the aquifer.
- Results from a sensitivity analysis suggest that the well construction does not contribute to overall sensitivity of the water supply to local land use practices and the aquifer is highly sensitive to nearby land use practices. Given the highly sensitive nature of the aquifer and the proximity of a fecal/viral contaminant source (Willamette River), the well will be required to undergo monthly source assessment monitoring the first year it is in service.
- Although the results from the sensitivity analysis suggest the aquifer is highly sensitive to nearby contaminant sources, the distance to the Willamette River is beyond the GWUDI setback distance for gravel aquifers. Therefore, the well is not considered to be susceptible to capturing unfiltered surface water at this time. Note that the Willamette River does represent a risk of fecal/viral contamination but currently is not considered a risk to the well with respect to cryptosporidium or giardia.

The plans are approved with the following conditions:

- All items in contact with potable water must meet NSF Standard 61 or equivalent.
- After construction is complete, initial blending ratio setpoints and the data used to determine the setpoints must be submitted for review.

Until we receive verification that the conditions have been met and final approval has been issued, the facility is not approved for use. Upon completion of the project, the engineer must verify in writing that construction was completed according to the submitted plans. If substantial changes are made, a set of as-built drawings must be submitted. Documentation demonstrating how the above conditions were met should reference Plan Review #38-2019 and can be emailed to me at Carrie.L.Gentry@oha.oregon.gov.

Note that in addition to the monthly source assessment sample, increased lead and copper sampling will be required once final approval is issued. The water system will be required to conduct two 6-month rounds at the original number of sample sites (40), with the new well in use.

If you have any questions, please feel free to call me at (971) 201-9794.

Sincerely,



Carrie Gentry, PE
Regional Engineer
Drinking Water Services

cc: Michelle Byrd, REHS, OHA/DWS
Gerald Fisher, PE, City of Independence Public Works Director