

February 24, 2025

Brett Case(brett.case@cwres.com)

Alpine Terrace
18150 SW Boones Ferry Rd
Portland, OR 97224

Re: Storage & UV Treatment (PR#168-2024)
Alpine Terrace (PWS ID#01183)
Conditional Approval

Dear Brett:

Thank you for your submittal to the Oregon Health Authority's Drinking Water Services (DWS) of plan review information for the storage and UV treatment for Alpine Terrace. On December 11, 2024, our office received a project package and, on January 28, 2025, a plan review fee of \$825.

The project includes the installation of a concrete collection box, a Norwesco 3000-gallon polyethylene storage tank and a Norwesco 2500-gallon polyethylene storage tank upstream of a Polaris UV-100-B UV unit. The UV unit has a maximum flow rate of 100 gpm, and does not meet the specifications of NSF Standard 55 Class A. The project also includes the installation of 40W drop-in submersible UV-C sterilizer lights in each storage tank and a 1- μ m filter just before the final 2500-gallon storage tank.

The plans are approved subject to the following conditions:

UV Treatment:

- The Polaris UV-100-B does not meet the specifications of NSF Standard 55 Class A. Please see attached to this letter a list of UV reactors that are currently NSF Standard 55 Class A certified, that meet the requirements of Oregon Administrative Rules (OAR) 333-061-0050 (5)(I). Additionally, you may visit the DWP's website of currently approved models:
<https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/PLANREVIEW/Documents/UVReactors-VerifiedModels.pdf>, for any updates to this list.

Storage:

- All items in contact with potable water must meet NSF Standard 61.
- The roof access hatch must have a lockable watertight cover.
- Screen vent(s) must be provided above the highest water level.
- The outlet end of the drain/overflow must be fitted with angle-flap valve or equivalent protection and must discharge with an airgap to a watercourse or storm drain capable of accommodating the flow.
- Disinfection of the reservoir prior to use must be accomplished according to AWWA Standard C652.

“Spring box”:

- Screen vent(s) must be provided above the highest water level. This is referring to the vent on the side of the wooden structure of the “spring box”.
- An access manhole must be provided to permit entry to the interior for cleaning and maintenance. When the access manhole is on the roof of the reservoir there shall be a curbing around the opening and a lockable watertight cover that overlaps the curbing.

In addition, I have the following comments/recommendations:

- Since there is no spring that is feeding the “spring box” and it is connected to the dug well, the “spring box” was treated as a storage tank in terms of plan review.
- The penetrations required to install the 40W drop-in Submersible UV-C Sterilizer light in each water storage tank are a risk for contamination to enter the tanks and are not recommended. These UV-C lights also do not have the intensity required to treat the full volume of water in each tank.
- The 1-Micron Filter located at the entry pipe to each storage tank likely isn’t necessary as this is a groundwater source (a dug well) and should not have issues with particulates to be removed. The “spring box” will likely capture any sediment/silt that does make it out of the dug well.

Until we receive verification that the conditions have been met and final approval has been issued, the storage and UV unit are 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 #168-2024 and can be emailed to me at keith.male@oha.oregon.gov.

If you have any questions, please feel free to call me at 503-939-1322 or email me at keith.male@oha.oregon.gov.

Sincerely,



Keith Male, PE
Regional Engineer
Drinking Water Services

cc: Julie Wray, DWS
Joel Ferguson, REHS, Clackamas County Health Department

