

July 11, 2025

Javan Stegner  
Merlin LDS Church  
195 S 59<sup>th</sup> St  
Springfield, OR 97478

**Re: Residual Maintenance and Storage Improvements (PR#40-2025)  
Merlin LDS Church (PWS ID#95259)  
Conditional Approval - Updated**

Dear Javan Stegner:

Thank you for your submittal to the Oregon Health Authority's Drinking Water Services (DWS) of plan review information for the disinfection and storage improvements for Merlin LDS Church. On March 19, 2025, our office received engineered plans and a plan review fee of \$825.

The project includes construction of a proportional flow chlorine injection system connected to a 25 gpm distribution pump and a 2,000 gallon below ground concrete finished water tank. An existing pressure tank will be relocated and installed in the new treatment building.

The plans are approved subject to the following conditions:

***General***

1. Products added to public water systems for treatment purposes shall meet the requirements of NSF Standard 60: Drinking Water Treatment Chemicals – Health Effects or equivalent.
2. Only materials designed for potable water service and meeting NSF Standard 61: Drinking Water System Components – Health Effects or equivalent shall be used in those elements of the water system which are in contact with potable water.

***Facilities for disinfectant residual maintenance:***

3. Provisions shall be made to alert the water supplier before the chlorine supply is exhausted. This requirement can be satisfied by either installing a low-level alarm or

by creating a written procedure to check the tank daily.

4. Chlorinator piping must be designed to prevent the contamination of the potable water system by backflow of untreated water or water having excessive concentrations of chlorine.
5. Testing equipment must be provided to determine the chlorine residual. The equipment must be a DPD-test kit or other EPA approved method of testing.

***Finished Water Storage:***

6. Concrete reservoirs shall be provided with sufficient reinforcing to prevent the formation of cracks, and waterstops and dowels shall be placed at construction joints. Poured-in-place wall castings shall be provided where pipes pass through the concrete.
7. The bottom of the reservoir shall be above the ground water table and footing drains discharging to daylight shall be provided to carry away groundwater which may accumulate around the perimeter of the structure.
8. An access manhole shall be provided to permit entry to the interior for cleaning and maintenance.
9. A removable ladder or internal ladder of durable material shall be available to allow water system personnel to access the finished water reservoir.
10. Screened vents shall be provided above the highest water level to permit circulation of air above the water.
11. An overflow of sufficient diameter to handle the maximum flow into the tank shall be provided at or near the top of the sidewall. The outlet end of the overflow shall be fitted with an angle-flap valve or equivalent protection and discharge to a watercourse or storm drain capable of accommodating the flow with a vertical separation between the bottom of the pipe and top of the receiving body or structure.
12. Pressure tanks shall be provided with a drain, a pressure gauge, an air blow-off valve, means for adding air, and pressure switches for controlling the operation of the pump.
13. Pressure tanks shall be designed for pressure at least 50 percent greater than the maximum system pressure anticipated.
14. Following installation of the new reservoir and existing pressure tank, disinfection by chlorination shall be accomplished according to AWWA Standard C652. After disinfection, the reservoir and tank shall be drained and refilled with potable water, and a sample shall be taken for microbiological analysis.

Due to the addition of residual maintenance chlorination to the Merlin LDS Church's groundwater source and historical presence of E. Coli, a regional geologist in our program reviewed all available records on the well construction. He noted the following:

- Due to the lack of information on casing seal depth, sealant volume, and annular spacing information, the well construction does not meet standards.
- The well construction is considered to be highly sensitive and therefore subject to monthly assessment monitoring with the addition of residual maintenance chlorination.

I have the following comments and recommendations:

- Monthly assessment sampling for coliform must be conducted for one year. This sampling will require installing a raw water sample tap on the well, prior to any treatment. The sampling does not replace the required quarterly coliform sampling in the distribution system.
- Addition of residual maintenance to a water system requires the system to monitor the chlorine residual in the distribution system at least twice per week. The residual should be recorded, with the records made available to the County Health Department during their inspections.

**Until we receive verification that the conditions have been met and final approval has been issued, the disinfectant residual maintenance and storage improvements 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 #40-2025 and can be emailed to me at [baxter.call@oha.oregon.gov](mailto:baxter.call@oha.oregon.gov).

If you have any questions, please feel free to email me or call me at 541-393-4374.

Sincerely,



Baxter Call, PE  
Regional Engineer  
Drinking Water Services

CC: Julie Wray, DWS  
Dennis J. Boeger, PE, Boeger & Associates, LLC

Justin Fimbres, Josephine County Public Health

