January 21, 2025

Geoff Hartt (Geoff.hartt@gmail.com)
Stafford Christian Church
23215 SW Newland Rd
Wilsonville, OR 97070

Re: New Well (PR#167-2024)
Stafford Christian Church (PWS ID#95747)
Conditional Approval

Dear Geoff:

Thank you for your submittal to the Oregon Health Authority's Drinking Water Services (DWS) of plan review information for the new well for Stafford Christian Church. On December 23, 2024, our office received pictures, a well log, chemical analysis and, on December 11, 2024, a plan review fee of $825.

The project includes a newly drilled well with pitless adapter to provide water to Stafford Christian Church.

The plans are approved subject to the following conditions:

- Provisions must be made for determining the depth to water surface in the well under pumping and static conditions.
- A raw water sample tap is required close to the well head, prior to any storage or treatment.
- Piping arrangements must include provisions for pumping the total flow from the well to waste.
- A method of determining the total output of the well must be provided (typically a flowmeter is used for this purpose).
- A casing vent must be provided and the return bend must be fitted with a screen.

The regional hydrogeologist had the following comments on the well's construction and aquifer:

- This well is constructed to a depth of 426 ft. Casing is installed to a depth of 197 ft. A plastic liner extends to the bottom of the hole. The casing seal is constructed to a

depth of 296 ft, sealing off the casing and 99 ft of the liner (below the casing) from the formation that the well was drilled through. The casing seal extends 169 ft into competent bedrock. Water can enter the well through the unsealed portion of the well below the casing seal (296 ft) and then through the liner perforations that occur from 294 to 426 ft below ground. Sensitivity analysis results suggest that well construction does not contribute to the overall sensitivity of the water source to nearby land use practices.

- This well draws water from a deep confined layered basalt aquifer. The water-bearing zone within the basalt occurs at a depth of 377 ft below ground level. The water-bearing zone is overlain by 250 ft of basalt of low permeability that acts as a confining layer. The static water-level is reported to be 271 ft below ground level, rising 106 ft above the water-bearing zone, indicating that water in the aquifer is under pressure. Sensitivity analysis results suggest that the aquifer is not highly sensitive to nearby land use practices.

Until we receive verification that the conditions have been met and final approval has been issued, the well 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 #167-2024 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
Tommy Laird, Well Construction Program Coordinator, OWRD