



September 28, 2023

Paul Packman, NCARB
Packman Architects
Via email: paul@packmanarchitects.com

Re: Balsall Creek Winery (PR#109-2023)
Balsall Creek Winery (PWS ID#NEW-not yet assigned)
Site Plan/Conditional Approval

Dear Paul:

Thank you for your submittal to the Oregon Health Authority's Drinking Water Services (DWS) of plan review information for the Balsall Creek Winery project. On August 16, 2023, our office received a site plan, well log, land use compatibility statement, sampling results and a plan review fee of \$825.

The project includes an existing well (Well ID YAMH 59079), drilled to a depth of 266 feet in 2022. The well does not have the required 100-foot radius of control and a roadway is within 100 feet of the well. The project also includes two pressure tanks, two buried 2,500-gallon Norwesco tanks, and a booster pump.

Under OAR 333-061-0060(1)(b), submittals must be prepared by a Professional Engineer registered in Oregon, unless exempted by DWS. An exemption was approved for this submittal. Note that by utilizing this exemption, the water system takes full responsibility for the design of the project.

A regional geologist in our program reviewed the well log construction details. He noted the following:

- The well meets current below ground construction standards.
- The casing and casing seal extend to a depth of 138 feet, 71 feet into low permeability siltstone and sandstone bedrock that overlies the aquifer. A perforated liner was placed in the well to help keep the borehole open below the casing. Water enters the well through the uncased portion between 138 and 266 feet below ground.

- The well draws water from a deep confined aquifer composed of sandstone and siltstone. The water-bearing zone within the aquifer occurs at a depth of 212 feet and is overlain by 208 feet of low permeability sandstone, siltstone and silt that acts as a confining layer. Water within the aquifer is under pressure, rising 96 feet above the identified water-bearing zone to a final static water-level depth of 116 feet below ground.
- Results from a sensitivity analysis indicate that neither the well construction nor the aquifer contribute to the overall sensitivity of this water source to local land use practices.

The project is site plan and conditional approval. The plans are approved with the following conditions:

1. Since the water system does not have the required 100-foot radius of control, a perpetual restrictive easement must be obtained by the water supplier for all land (with the exception of public rights-of-way) within that radius. The easement must be recorded with the county in which the well is located and with the recorded deed to the property. A certified true copy must be filed with the Authority. If an easement cannot be obtained by the landowners within the radius, a waiver from construction standards may be possible.
2. Since the well is drilled in a confined aquifer and located near a road, OAR 333-061-0050(2)(a)(D) applies. This rule allows DWS to waive the setback requirement for a road that is located within 100' of a well. To approve this setback issue, information must be submitted that demonstrates how the well is "...protected against contamination from surface runoff or hazardous liquids which may be spilled on the roadway and is protected from unauthorized access".
3. Above ground well head details must be provided (pictures may be the best way of showing these items), specifically:
 - Unless a pitless adapter was installed, a concrete slab must be provided around the well.
 - The casing height must be 12" above the slab (or 12" above grade, if a pitless adapter was installed.)
 - A watertight sanitary seal must be provided.
 - A sample tap at the well head must be provided.
 - Piping arrangements must include provisions for pumping the total flow of the well to waste. Pump-to-waste piping is typically installed for this, however, some systems plan to pump the flow to waste through the sample tap.
 - Unless a pitless adapter is installed, a well house must be provided. If the well

house is not a small dog-house style, then it must be provided with light and heat. In all cases it must be lockable.

- A casing vent with a screened return bend must be provided. If a pitless adapter was installed, the caps are typically vented.

4. Additional details on the pressure tanks and the storage tanks must be provided:

5,000-gallon Norwesco tanks

- Please confirm that the Norwesco tanks meet NSF Standard 61 or equivalent and provide information on the tank material (plastic?).
- A fence or other vandal deterrence must be provided for the reservoirs.
- Reservoirs that are located below ground must have footing drains discharging to daylight to carry away ground water which may accumulate around the perimeter of the structure. Please provide information that indicates whether footing drains were installed.
- The roof access hatch must have curbing around the opening and a lockable watertight cover that overlaps the curbing.
- Screened vents must be provided above the highest water level to permit circulation of air above the water in finished water storage facilities.
- A silt stop must be provided at the outlet pipe.
- Information about how the reservoirs are piped must be provided:
 1. Are there separate inlet and outlets for each tank?
 2. Do the reservoirs fill together or separately?
 3. Is there an overflow line?
 4. Is there a drain line?
 5. If there is an overflow and drain, do the lines combine and drain to daylight with a flap valve at the end?

Pressure tanks

- The make and model (including volume) of the pressure tanks must be provided.
- Bypass piping around the pressure tanks must be provided to permit operation of the system while a tank is being maintained or repaired (schematic or photo showing how this requirement is met would be acceptable).
- All pressure tanks must 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(s).

Until we receive verification that the conditions have been met and final approval has been issued, the facility is not approved for use. Documentation demonstrating how the

above conditions were met should reference Plan Review #109-2023 and can be emailed to me at Carrie.L.Gentry@oha.oregon.gov.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Carrie Gentry', with a stylized flourish at the end.

Carrie Gentry, PE
Regional Engineer
Drinking Water Services

cc: Sarah Schwab, REHS, Oregon Department of Agriculture
Tommy Laird, Well Construction Program Coordinator, Water Resources Dept