

1608 Bear Trail Loop Surface Water System

This property features a private water system that supplies fresh drinking water directly to the home. The system is located entirely on-site and includes the following components:

- A buried water intake that draws water from the creek on the property
- An underground storage tank
- A drinking water pump and distribution piping that delivers water to the home

This system was professionally designed to provide reliable drinking water for residential use. Instead of relying on a well (which in this area typically provides only 3 to 6 gallons per minute), this property draws surface water from the creek at a higher rate (up to 15 gallons per minute) providing greater flow and capacity. The creek that supplies the system has been observed to flow year-round and is expected to provide a consistent and adequate water supply for a standard 4-bedroom home.

The property also holds a senior water right (65-24049) on the creek, allowing the homeowner to draw up to 9 gallons per minute (on average) year-round from the creek for household use.

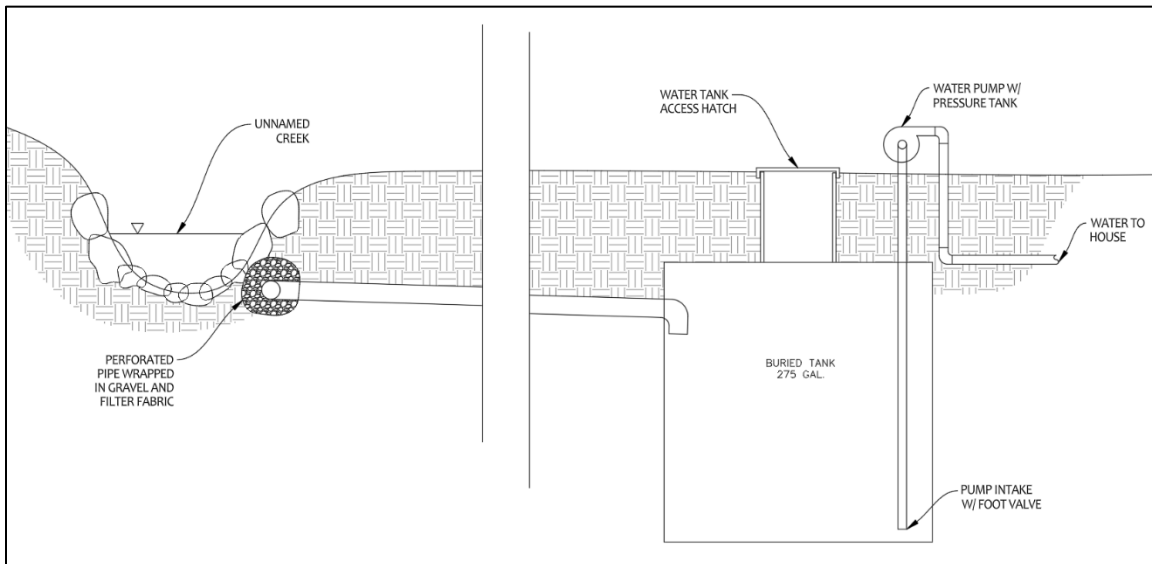


Figure 1. Water System Schematic

System Highlights

Automatic Pump Operation: A built-in sensor detects when water is being used in the home and automatically turns on the pump. The pump draws water from the underground storage tank and sends it through the home's plumbing system. The pump has the capacity to pump up to 15 gpm.

Refilling the Tank: As water is used and the tank level drops, fresh water flows from the nearby creek into the tank using gravity. It's important that the water level in the creek remains high enough to keep the intake submerged. If needed, rocks can be placed in the creek to raise the water level and ensure consistent flow.

Water Filtration at the Intake: The system includes a natural filtration setup where the intake is surrounded by sand, gravel, and special filter fabric. This helps remove most sediment before the water even reaches the tank.

Pressure Control: The pump automatically shuts off when it reaches the target pressure of 40 psi, ensuring consistent water pressure in the home.

Winter Protection: All pump components and piping are buried deep enough to prevent freezing. Any exposed equipment is protected by an insulated cover. In very cold weather, a small electric heater can be added inside the cover for extra protection.

Water Quality and Optional Treatment: The water has tested as high quality. For added peace of mind, a sediment filter is recommended at the house to catch any fine particles. If desired, chlorine can be added occasionally to the tank to disinfect the water, or a UV sterilizer can be installed as an alternative.