

**CITY OF MONROE**  
**HISTORY OF WATER SUPPLY SYSTEM**  
**September 13, 2005**

Following is a chronological history of the City of Monroe Water Supply System:

- July 5, 1924: Received Certificate of Water Right No. 5101 for 0.25 cfs on Kyle Spring with priority date of November 7, 1923.
- May 20, 1958: Received Certificate of Water Right No. 23996 for 0.10 cfs on Belnap Creek with priority date of September 27, 1949.
- For many years the City relied on the Belnap and Kyle Springs for its water supply. The springs are located about 3 miles southwest of the City. The Belnap Spring was never properly developed and EPA directed the City to discontinue its use in 1983. The Kyle Springs supply line was taken off line in 1998 due to decreased production, leaking of the pipe, and source water protection issues raised by Oregon Health Division (OHD). The spring was supplying approximately 20 percent of the City's summer demand.
- 1967: Received Water Right Permit No. S49634 for 0.45 cfs on the Long Tom River and constructed an infiltration gallery along the Long Tom River.
- 1981: The City was experiencing siltation and turbidity problems with the infiltration gallery and could not consistently meet EPA standards. Therefore, the City installed a packaged water treatment plant using the infiltration gallery as its source of supply.
- 1983: Discontinued use of Belnap Spring which was not properly developed.
- 1985: The infiltration gallery had clogging problems and its yield declined to where it was unusable from June through November. The City had to temporarily divert the treatment plant intake to a stagnant slough and temporarily place the improperly developed Belnap Spring into service.
- 1986: The City constructed Well No. 1 under Water Right Permit No. G10890 and abandoned the infiltration gallery. The well provided about 100 gpm and along with the supply of 20 gpm from Kyle Spring was able to meet the City's water demand. The well water was high in iron and manganese and required treatment in the City's treatment plant.
- 1987: The City authorized cancellation of its Water Right Permit No. S49634 on the Long Tom River.

- February 1998: The City constructed Well No. 2 under Water Right Permit No. G13575. The well yields only 13 gpm and the water is of poor quality. The well is used only when Well No. 1 cannot keep up with demand.
- April 1998: Kyle Spring was taken off line due to decreased production and source water protection issues raised by OHD.
- November 1998: The City was issued a Mutual Agreement and Order (MAO) from OHD requiring upgrades to the drinking water system to achieve compliance with drinking water requirements.
- March 1999: The City completed an update to its Water System Master Plan. The Plan recommended that the City provide a water supply of 350 gpm to meet the demand for the next 20 years.
- 2001: The City completed Phase I of its water system improvements which included a 1.0 MG storage tank, modifications to the existing water treatment plant, and water line improvements.
- April 2002: The City constructed Well No. 3. No water right permit application has been submitted for Well No. 3 to date. Although the well produced about 100 gpm, the water contained over 2,000 ppm of total dissolved solids and would require reverse osmosis for treatment. Therefore, the well has not been developed. Refer to the cost summary on Page 3.
- 2004: The City entered into an agreement to purchase a parcel of property within the city limits on the condition that its well produce at least 100 gpm of quality water. Upon testing the well, the City found that it produced less than 30 gpm and the water was of poor quality. The agreement to purchase the property was cancelled.
- 2004: The City investigated the option of purchasing existing wells and water rights from area farmers. This option was found to be cost prohibitive since the farmers insisted that the land being irrigated by the wells be purchased also. In addition, the wells were all in excess of two miles from the City, making the cost of the supply line prohibitive. Refer to the cost summary on Page 3.
- February 2005: The City investigated the option of transferring the point of diversion of the Belnap and Kyle Springs water rights to the Long Tom River. This option was not viable because the Belnap and Kyle Springs are not tributaries to the Long Tom River.

- March 2005: The City investigated the option of obtaining recycled well water from the Monroe High School's heating and cooling system for use in the City's water system. Upon testing, the well water was found to be extremely high in iron, copper, manganese, hardness, chloride, and total dissolved solids. Therefore, this option was abandoned.
- April 2005: The City investigated the option of transferring a Long Tom River water right from the Monroe School District to the City. This option was rejected by Water Resources Department (WRD) since the water right was for the nonconsumptive use of heating and cooling, while the City's use would be consumptive.
- April 2005: The City completed a Water Management and Conservation Plan.
- Current: The City has applied for a water right of 350 gpm from the Long Tom River. Although there is availability of water from the Long Tom at Monroe, the application was rejected by WRD because the water in the Long Tom River is not classified for Municipal use. Therefore, the City is currently preparing a petition to the Water Resources Commission (WRC) for an exception to the classification.

The City is in urgent need of additional sources of water. For the City's current population of approximately 640 people, the maximum day demand is 200 gpm. The City's current supply capacity from Wells No. 1 and No. 2 is only 113 gpm. The new 1.0 MG storage tank has enabled the City to provide water during peak periods, but the tank level falls below that needed in the event of a fire or an emergency interruption of the water supply.

Following is a summary of the water supply alternatives considered by the City:

<u>Alternative Description</u>	<u>Capital Cost</u>	<u>Annual O &amp; M Cost</u>	<u>Life Cycle Cost</u>
1. Treat well water using reverse osmosis	\$ 4,032,000	\$ 648,200	\$ 7,571,200
2. Treat surface water from Long Tom using microfiltration	1,641,600	189,600	2,676,800
3. Treat water from shallow well purchased from local farmer	3,036,600	217,500	4,224,150
4. Purchase stored water from Fern Ridge Reservoir	1,641,600	613,050	4,988,850

Alternative No. 2 is the only option that is affordable to the City.