

Project Completion Report for Well Upgrade Project

By 2008, Quincy Water Association was operating with only one of the three wells that were drilled in the late 70's. The treatment system designed to remove iron and manganese had been abandoned. The addition of chlorine required to purify our water was also causing the iron and manganese to oxidize. The association's engineering company, CH2M Hill, developed a project scope and cost estimate to upgrade the system. The plan was to drill a new well and install new iron filtration equipment. Refurbishing of the steel reservoir and the existing well was also planned. The engineering estimate pegged the project costs at \$850,000.

The board of directors searched for funding in order to upgrade the system. They applied for a grant similar to the one that the association received in 1977, but an economic survey of shareholders determined that the association could not qualify. The board was able to secure a loan from the Oregon State Revolving Loan Fund, (SRLF) to be administered by the Infrastructure Finance Authority, (IFA). The loan details were; receiving a credit line of just over \$807,000 with the loan amount to be financed over 20 years at 4.2% interest.

In 2010, the board determined that shareholders could not repay a loan that large in only 20 years. They asked the engineer for a detailed cost estimate in order to discuss a scope reduction. Unsatisfied with the answers, the board changed engineering firms. The services of Murray, Smith and Associates Engineering was obtained. Their project scope and cost estimate was pegged at \$617,000, but the engineer presented data showing that final costs should finish lower.

The first phase of the project consisted of drilling a new well and conducting a pilot study to determine exactly what treatment was best to remove iron and manganese from the water. The well was drilled in June of 2011 by Jones Well Drilling of Lebanon Oregon. The engineer's plan called for drilling the well to a depth of 260 feet. However there was insufficient water found at that depth for a commercial well. The drilling continued to a depth of 460 feet where water in excess of 60 gallons per minute was found. The good news was that the deeper well water had a third of the iron that the old well did, however the increased well depth pushed costs well above the engineers estimate.

Concerned by the cost overrun to drill the new well, the board members discussed additional ways to save money. The association's reserves were building, so the board decided to remove things from the scope that we could accomplish on our own with local contractors. Those items included refurbishing of the treatment building, upgrading the electrical service, enlarging security fencing, and resurfacing (graveling) the compound enclosure. Refurbishing of the old well was also removed from the project scope, and put on hold until completion of the project.

Three volunteer work parties saved the association significant money by clearing brush and trees at the well site and cleaning and preparing the treatment building for contractor work.

The second phase of the project began in July 2011 with Cascade Water Works of Salem Oregon as General Contractor. Their scope of work consisted of installing the new well pump with controls, installing a new five-vessel water treatment filtration system, refurbishing and painting the steel reservoir, installing process water meters, and the associated process piping.

The state funded project to upgrade the association's water system officially ended May 17, 2013, and the loan closed in the amount of \$367,739.00. On a positive note, the interest rate was down to 3.4% at loan closing. The loan is to be repaid in quarterly payments over a 20-year period in the amount of \$6,354.18 each quarter. The first payment, due July 1, 2013, will be \$12,196.47. This payment includes all of the interest, which has been accruing since the first project disbursement in 2010.

For refurbishing work outside of the project, the association paid \$22,808.74 to local contractors. The treatment building was reconditioned inside and out, and a new electrical panel was installed. Security fencing was installed around the new well, and the treatment compound was resurfaced with gravel. Refurbishing of the old well is estimated to cost between \$75,000 and \$100,000, but remains on hold.

The filtration equipment has been performing extremely well, removing virtually all of the iron and manganese from the water. The new well and filter have been in operation since late January 2013. The inside of the reservoir was cleaned in late February, and water line flushing was planned to take place in March. Flushing has been delayed until the new maintenance contractor is in place. Flushing will be scheduled sometime during the next two months. Be aware that you will experience some periods of dirty water while line flushing is being completed.

Jim Malisch

Quincy Water Association Secretary Treasurer