

What “Under the Influence” Could Mean For You

The City of Fairbury has utilized a unique source of water for their water system, a spring. Sometime in the 1890’s an infiltration gallery was built at a site called Crystal Springs. Originally the gallery was built of wood and an 18” wooden water main was piped under the Little Blue River and into the City. The Gallery was renovated several times over the years. Currently the gallery is made of concrete and resembles a box culvert. The gallery is partially buried into the spring with screen near the bottom that allows the water to enter. The excess spring water flows out the overflow and into a lake at the city owned park. The city also has three additional shallow wells at this site to supplement the spring.

It was determined that after heavy rainfall events the springs would occasionally experience turbidity spikes. As you can imagine the Department of Health and Human Services was quite concerned about these turbidity spikes and ordered the City to start monitoring for the determination as to whether the spring was under the direct influence of surface water.

In 2000 the city started monitoring temperature and pH at the spring to determine if the spring was under the direct influence of surface water. The spring did not meet the requirements set forth by the Department of Health and Human Services. The City still had the option to perform microscopic particulate analysis at the spring. In 2002 the spring had failed the required microscopic particulate analysis and the spring was declared under the influence of surface water.

It was time for the city to make some big decisions. The city also has three wells at a different well field however the nitrate level was a concern so it was decided to install a treatment plant at the spring.

After considering the different types of treatment technologies accepted for this type of treatment it was decided to install a cartridge filter plant. This filter plant has six filter canisters. Two canisters contain five-micron filter elements. After the five-micron filters the water it then goes to one of four one-micron filter canisters. The filter elements are expected to last 6 months before they will need to be replaced. Water then travels to a 2.5 million gallon clear well that has recently been baffled. The clear well was baffled to maintain the required chlorine contact time; from there it is pumped into the water system.

Construction of the plant started in March of 2004 and was finished in December. The City of Fairbury has invested a great deal of money to provide its residents with good quality safe spring water.

Caption for inside treatment plant picture.

Filter canisters inside new treatment plant. Notice the 2 larger canisters in rear of plant are the 5-micron filters. The 4 smaller canisters are the 1-micron filters.

Caption for infiltration gallery.

Fairbury's infiltration gallery originally built in the 1890's.

Notice new treatment plant on left side of photo.