

Water Treatment Video Script:

Chances are you've driven by this building in south Fargo in your travels around town, but you may not know what goes on inside to make your tap water safe to drink.

We invite you to join us now for a tour of Fargo's water treatment plant and discover how raw water from the Red River is transformed into the clear, tasty liquid flowing from your faucet.

1:02 "The water plant is located adjacent to the Red River, so we have a pump station down at the river that brings in the water. We also have a pump station nine miles from here, south of West Fargo, on the Sheyenne River. So we can use either source, but in most cases the Red River quality is better, so that is our first choice. (:28) We're up here in the presedimentation basin now; this is actually the first part of the water treatment process. What we do here is we bring the water in from the Red River, from the pump station, deliver it up to an elevation here, that's high enough that once we get the water pumped up to this elevation, gravity takes it through the rest of the process, so we don't have to re-pump it again. But what we're doing here at presedimentation is we're trying to remove the silts and the clays that we find in the raw water. We're in an agricultural area here, and especially in springtime, when we're getting the spring thaws, the snow melt carries a lot of silts and clays from the farm fields and the ditches, so we've got to do some pretty extensive treatment here." (1:25)

3:22 "As the water comes in, we give it a real rapid mix where we're mixing the chemicals in with it, and then we get into a flocculation zone, which we're looking at here, where we slow the mix down and give it a gentle mix, so that the coagulant chemicals have time to react with the silts and clays, form larger particles, and gravity actually settles them down to the bottom. (:29)

5:24 "We've got a rake or a sweep or a sludge collector that draws that into the center, into a drain, and we'll remove it that way. So we remove the silts and clays as they're being formed." (:13)

6:03 "From then, the water is carried again, by gravity now, over into the softening process." (:06)

6:53 "We soften the water to targeted levels in these large basins here with lime and soda ash. What we're actually removing in the softening process is a couple of minerals, mainly calcium and magnesium. We're removing somewhere between 60 and 70 percent of the calcium we're seeing in the raw river water. (:28)

8:58 "What lime softening does for us is it makes the water more comfortable for us. We take a shower, we don't need as much soap. Same as when you're washing your dishes and clothes. (:12) "

9:43 "From softening now, we'll go into our disinfection stage, which is the ozone system." (:06)

10:47 "The ozone gas then is bubbled through the water column, in a special ozone contact basin, where the water, the entire water column, is contacted with the ozone gas, which is a very powerful oxidant and a very powerful disinfectant. So it goes into the safety of the water killing the pathogens and stuff, the disease-causing organisms that we're concerned about" (:32)

13:11 “The water that’s been ozonated flows into our filters which consist of 40 inches of media. The top 20 inches is anthracite coal, and underneath the coal there’s 20 inches of different grades of gravel and sand. So that’s actually the final barrier. The water again has been ozonated, so it’s disinfected but we still do the final process, the filtration stage, which removes any smaller particles that may remain in the water at this stage of treatment. Once we get down through the filter, we do have to add a secondary disinfectant, and that’s where the chlorine comes in. (:48) We do still need to have chlorine, even though our primary disinfection has taken place with ozonation.

The issue with ozone is that it doesn’t persist, it’s ozone for only a short period of time and it’s very unstable and it wants to revert back to oxygen, so after you’ve disinfected the water, there’s not a residual left. So we need to add, after filtration, before the water is sent out to the city or completely treated, we need to add chlorine. And what that does for us, we call it our secondary disinfectant, it leaves a chlorine residual in the water so you’ve always got that disinfectant in the water as it’s moving through the distribution system and into the homes.” (1:46)

21:04 “Now we’re in the control room, the control system for the plant operation.” (05)

21:41 “This gives us the information we need to see how the plant is operating. The plant data comes into the control system, and any changes whether it be in flows through the plant based on daily demand or changes in chemical dosages occur here in the control room.” (26)

29:11 “The sediments produced in the clarification process here in pre-sed as well as the lime softening sludge produced over in the softening process are removed from each basin as they’re being produced and the gravity takes them, at certain time intervals, over to this building here, which is our residuals handling building. And in that building is where we take the lime sludge, and dewater it through a series of four belt filter presses, and basically what we’re doing there is we’re squeezing the water between two belts, and removing as much liquid as we can. That liquid is filtered and recycled back to the head of the treatment plant and the residuals that come off the belt filter presses are hauled away in a truck to the landfill, where they use it as daily cover.” (1:11)

16:09 “The treated water, the finished water, is pumped from the basement of the water plant over to what we call the clear well, which is a 6.2 million gallon reservoir filled with treated water. And from that reservoir, we’ve got a pump station that pumps the water from that reservoir out into the distribution system and to the consumer” (24)

17:34 “The water treatment plant is capable of producing 30 million gallons of drinking water a day. Our average day in Fargo is between 11 and 12 million gallons a day.”

32:34 “The Safe Drinking Water Act is the federal regulations that set the standards for drinking water quality. There are nearly 100 contaminants that are regulated in drinking water. The testing for those varies; some of it is daily, some is monthly, some is quarterly and some is actually like a running annual average of numbers, so there are thousands of tests performed on an annual basis to monitor the quality of the water.” (38)

35:16 “If a system is exceeding, for example, the level of one contaminant, or any contaminant, part of the law tells us that we need to notify the public and in some cases, it’s immediate. If there’s an immediate concern for a bacterial concern or something like that nature, we’re required to immediately notify the public so if your water isn’t safe to drink, the utility is responsible that they need to get that word out to you through the media. So you’re gonna know if a standard is exceeded.” (36)

36:05 “The water plant is, has several security measures, and those include the building is locked up 24 hours a day. There’s always two operators on duty at all times. In addition to being locked up and card reader entrances, the unloading yard for deliveries is a gate, and we’ve got cameras throughout the facility that are monitored continuously.” (32)

{{show onscreen graphic www.cityoffargo.com/water}}

To learn more about the Fargo Water Treatment Plant, including its history, visit [www dot city of fargo dot com, forward slash water](http://www.cityoffargo.com/water). You can also download the latest City of Fargo Water Quality report from this Web site....

{{change to phone number}}

or request a copy by calling the water plant at 241-1469. You can also call this number if you’re interested in scheduling a group tour of the plant. We’d be glad to show you around the facility in person.

{{end with music and city logo on screen}}