

**VILLAGE OF CHAGRIN FALLS
UTILITIES COMMITTEE
August 23, 2017**

The meeting was called to order at 7:00 p.m. by Chairman Jim Newell.

Members present: Newell, Mitchell, Berkobein
Also present: Mayor Tomko, Himes, Elliott

GREENBRIER WATER

Mr. Himes introduced himself and Mr. Elliott and explained that they each have thirty years of experience in the water industry. Mr. Nerone and Debbie Blair attended from the Greenbrier neighborhood and the utility committee members introduced themselves.

Mr. Himes explained the history of the water department. The Chagrin Falls Water Department was formed in 1897. Water was supplied by 22 springs east of Savage Road that fed a reservoir in the valley. Steam pumps lifted the water to the site of the present day storage tank on East Washington Street. In the 1930s the Bainbridge Well, near the roller rink, and the East Washington Street well field were put online to meet increased demand. Between 1965 and 1968 the two Franklin Street wells were drilled. These were artesian wells that flowed 30gpm without pumping from the confined aquifer with 230 feet of clay overburden. At this same time the Bainbridge well was shut down due to its higher iron and sulphur content. In the 1980s population growth and loss of the Springs and East Washington Street well field, due to contamination issues, forced the Village to search for other sources of water. In 1987 a connection to the Cleveland water system was made after a long fought battle with residents who opposed to connecting to Cleveland, ironically because of Cleveland water's inferior quality including taste and odor concerns.

An issue raised by residents at the Council meeting was whether Greenbrier is served by "city water". "City water" is any water provided by a municipality, regardless of the source. Chagrin Water is "city water" from a ground water source and Cleveland Water comes from a surface water source, Lake Erie. Both are considered "city water" by water professionals.

Water quality standards are set by the EPA and there is only one set of drinking water standards. Chagrin Falls water meets the same strict EPA standards that Cleveland water must meet. It is not lower quality water and in fact is arguably of higher quality and is sold at a premium as "Artesian Spring Water" by the bottled water industry.

The Franklin Street wells pump directly into the distribution system at the corner of Somerset and Hawthorne Drives and Cleveland water is pumped into the distribution system at the intersection of Solon Road and Greenbrier. When the wells are running, which is the majority of the time, the Greenbrier Subdivision is receiving Chagrin well water only. Most residents receive a mixture of

about 70% Cleveland water and 30% Chagrin water.

The water from the Franklin Street wells is perfectly safe to drink and is well within all of the strict EPA regulations for drinking water. The discolored water issue raised by Mr. Nerone is an aesthetic quality. The naturally occurring iron in the source water from the Franklin Street wells and disturbance of sediment in the pipes can cause this. Dissolved iron is colorless but can react with oxygen in the distribution system to form iron oxide or rust and cause discolored water.

All water systems have discolored water issues from time to time. Over time iron pipes rust and iron bacteria cause nodules of tuberculation. Changes in pumping rates, water main breaks, and hydrant flushing are common causes of discolored water as they stir up the rust and sediment in the water mains. Discolored water occurs in all parts of the system on occasion. Dissolved iron from the wells can also be oxidized in the system causing rust sediment. Discolored water is an aesthetic issue and customers should call the water department if they are affected. The Village has no history of chronic discolored water in the Greenbrier area.

There is no history of chronic discolored water during the past 50 plus years that the wells have been in service including the time that they were the sole source of water for the Village. Water industry professionals and the EPA consider concentrations less than 300 parts per billion (ppb) to be low. The last test result of the Franklin Street well water was 290 ppb. Historic test results show the wells have ranged between 210ppb and 290ppb.

Cleveland water has to be extensively treated as necessitated by the relatively poor quality of the source water and to meet the EPA Surface Water Treatment Rules. Lake Erie is subject to all forms of environmental pollution including air pollution fallout, storm water runoff, septic and wastewater treatment plant discharges, algae blooms, open water dumping, and dead zone influence. All these contaminants in the raw water must be removed before it can be distributed to customers. Chagrin Falls well water can be safely consumed with no treatment although the EPA requires chlorination as a safety factor. The Chagrin Falls Water Department and Cleveland water are subject to the same regulations for consumer tap water quality. Chagrin is much less regulated on the treatment side because ground water is inherently of much higher quality than surface water.

The village does treat the well water for iron with a polyphosphate and orthophosphate blend. Chagrin follows the water industry standard and Ten States Standards (plant design standards), which provide for sequestration with polyphosphate as the prescribed treatment up to 500 ppb. Additional treatment by aeration, filtration, ion exchange, or chemical treatment is not indicated by the low iron content of the water.

Regarding fluoridation of the water, it remains a highly controversial subject. In 1969 Ohio passed a law requiring systems serving more than five thousand persons to fluoridate their water or hold an election to opt out of this requirement. 30 Ohio cities opted out of the fluoridation requirement and 21 cities still do not fluoridate. Fluoride is a naturally occurring element in ground water and the concentration of fluoride is 0.25 parts per million (ppm) in the Franklin Street well water. Chagrin

does not add additional fluoride to its well water. Fluoride is also a regulated contaminant and water systems may not exceed a Maximum Contaminant Level (MCL) of 4.0 ppm. The EPA also has an advisory, secondary standard of 2.0ppm to protect children from tooth discoloration. The Department of Health and Human Services (DHHS) recommends an optimal level of 0.7ppm for dental health. The Village's well water is well below the secondary standard and contains 35% of the current DHHS recommendation.

The current discolored water experienced by Mr. Nerone in Greenbrier is an issue that the water department is working on. There appears to be some localized issues at the Nerone residence that are exacerbating their problem for them. In the near term we are working with our chemical supplier and they have recommended a different phosphate blend and also recommended a change of the injection point and add an inline mixer.

The long-term solution is in the capital plan approved by Council last fall and involves replacement of the transmission line from the Franklin Street well field in 2018 in conjunction with the resurfacing of the roads in Greenbrier. The transmission line will be extended through the Greenbrier Subdivision to Solon Road where it will mix directly with Cleveland water. When this project is completed, all customers will receive a homogeneous blend of Cleveland and Chagrin water.

The meeting adjourned at 8:30 p.m.

Jim Newell, Chairman