



WATER TREATMENT PLANT SOFTENING ENHANCEMENT PROJECT

FREQUENTLY ASKED QUESTIONS (FAQ's)

What is this project?

The Enhanced Water Softening Project was a project at our Water Treatment Plant (WTP) to expand the WTP and to install the necessary equipment to further soften the water before it is delivered to our water customers. The “raw water” enters the plant at around 56 grains hardness and will now leave the plant at around 8 grains hardness. This is a significant softening from previous operations, where water was treated to around 35 grains hardness. This project was funded, in part, by a \$7,000,000 Point Source Implementation Grant (PSIG) through the Minnesota Pollution Control Agency (MPCA).

Why was this project completed?

The Minnesota Pollution Control Agency (MPCA) has placed a chloride (salt) limitation on the City of Marshall Wastewater Treatment Facility (WWTF) discharge permit. The permit requires the water that our WWTF discharges to the Redwood River to contain less than 264 mg/L chloride by 2024. Following completion of a study using a water quality engineering firm, it was determined that the most economical method of achieving compliance with the coming chloride restriction was to keep salt from entering the waste stream. It was determined that upgrading the Water Treatment Plant (WTP) to produce a softer water was the most efficient method of attaining compliance with the required limits set by the MPCA.

How much salt enters the Redwood River?

A February 2017 study conducted for Marshall Municipal Utilities (MMU) by engineering firm AE2S estimated that 11,356 pounds per day on average, and 15,881 pounds per day maximum, enter the Redwood River. Of this amount, AE2S estimated that 7,330 pounds of salt could be traced back to ion exchange water softener regeneration in residential, commercial, and light industrial applications.

Why should I care about salt entering the Redwood River?

From the MPCA Chloride 101 website, high levels of chlorides (salt) are toxic to freshwater fish, aquatic plants, and other aquatic life. Further, chloride from water softener salt enters lakes, streams, and groundwater that supplies drinking water. It only takes one teaspoon of salt to permanently pollute five (5) gallons of water. Once chlorides are in the water, there is no easy way to remove them.

Am I required to remove my water softener?

No. It is a personal choice whether you choose to keep or remove your water softener. Many water customers enjoy their water softened to 0-1 grains hardness and will wish to keep their water softening unit. It is best to replace older units that recharge/regenerate based on time with newer units that recharge/regenerate based on usage. This will help limit your contribution of salts to the waste stream.

What am I being asked to do?

If you own or rent a water softener in the City of Marshall, your water softener settings should be adjusted based on softer incoming water to your property on or after June 1, 2021 to minimize salt use



Why should I adjust my water softener?

While the water hardness coming into your property will be reduced to eight (8) grains, your water softener settings will need to be adjusted accordingly to avoid unnecessary salt use. The lower salt use will dramatically reduce the chloride levels in the City of Marshall's WWTF discharge to the Redwood River.

If I have a new style water softener, do I need to do anything further?

Yes. At any point after June 1, 2021, all water softeners should be adjusted to reflect the new, reduced water hardness of the delivered water. Following June 1, 2021, Marshall Municipal Utilities (MMU) will be delivering water to its customers at 8 grains hardness, which is significantly lower than the 35 grains hardness that the water was delivered prior to June 1st. You must adjust your water softener to ensure that your unit is not unnecessarily using too much salt, costing you additional money. It is up to each individual property owner to adjust their water softeners to do their part to help the City of Marshall Wastewater Treatment Facility (WWTF) meet its chloride (salt) discharge limits.

What if I don't adjust my water softener?

If you do not adjust your water softening unit to reflect the reduced hardness of the water being delivered, you will not see the benefits of reduced salt use. To reduce salt use and save money, you must have your softener adjusted to reflect an incoming water hardness of eight (8) grains.

Who can adjust my water softener settings?

You may be able to adjust your water softener settings by yourself; however, if you have questions, or need assistance, please contact a water softening company or plumber of your choice to assist with making the adjustment. There may be a one-time service charge associated with having a service technician adjust your water softener settings.

What do I gain from adjusting my water softener?

Each Marshall Municipal Utility (MMU) water customer may reduce their salt use by up to 75% by adjusting their water softener to reflect an incoming water hardness of eight (8) grains. You will also use less water due to fewer regeneration cycles. In addition to saving money, each customer will be reducing their environmental impact by doing their part to reduce salt use.

I still have questions; who can I contact?

If you have questions regarding the Water Treatment Plant Softening Enhancement Project or the City of Marshall's Wastewater Treatment Facility Discharge Permit, please contact City of Marshall Public Works at Public.Works@ci.marshall.mn.us or 507-537-6773.