

## QUESTIONS AND ANSWERS

### Q: What is the City's water quality?

**A:** The City's drinking water complies with all state and federal safe drinking water requirements and is therefore considered safe for human consumption. However, the drinking water is considered hard. Hard water is water that has a high mineral content. It is formed when water passes through deposits of limestone, chalk, or gypsum. Hard Water can cause:

- Mineral buildup on plumbing fixtures
- Poor soap and detergent performance
- Clogged pipes
- Decreased water heater efficiency
- Skin irritation or dryness

According to the United States Geological Services, the following guidelines are applicable for hard water:

Soft Water	0 to 60 mg/L as Calcium Carbonate
Moderately Hard	61 to 120 mg/L as Calcium Carbonate
Hard Water	121 to 180 mg/L as Calcium Carbonate
Very Hard	Over 180 mg/L as Calcium Carbonate

### Q: Why doesn't the City treat the water to remove the hardness?

**A:** Currently, the City uses an ion exchange process which is primarily used to remove radium. The ion exchange process does soften the water, however, the treated water is still classified as hard. There are not any state or federal mandated limits for hardness.

### Q: If the City is treating the water for hardness, why am I having to replace my water heater?

**A:** The City gets its water from deep wells. Unfortunately, the water from the wells has very high levels of hardness (500-600 mg/L). The City's current treatment system reduces the hardness levels down to approximately 250 mg/L.

### Q: What causes the hardness in water?

**A:** Hardness is measured by the amount of calcium and magnesium ions in the water. These ions are naturally found in the aquifers the City pulls their water from.

### Q: Is it safe to drink hard water?

**A:** Yes. There are not any health side effects that occur with hard water. The primary concern with hardness is that it can lead to scaling in your house's plumbing system which can decrease the capacity, cause scaling of plumbing fixtures, and can lead to the failure of appliances.

### Q: If the City is already removing hardness, why doesn't the City provide adequate treatment to provide soft water?

**A:** The City currently uses an ion exchange process. The ion exchange process relies on salt to backwash the softeners. The DNR has placed a limit on how much salt the City can discharge to the stream adjacent to the wastewater treatment plant. The City recently completed a pilot study on an alternative treatment process called reverse osmosis.

### Q: Will the City be switching their treatment process to reverse osmosis?

**A:** The pilot study results were very promising, and it is likely the City will be upgrading the treatment plant to accommodate a reverse osmosis treatment system.

### Q: If the City decides to move forward with reverse osmosis treatment, when will the project occur?

**A:** It is likely construction would begin in 2025.

### Q: Will I still need to soften the water in my home if the City decides to move forward with reverse osmosis treatment?

**A:** The City's drinking water would be considered soft water. Therefore, you would no longer need your water softener. The City would encourage residents to bypass or remove their existing softeners because they also rely on salt for treatment which eventually flows to the City's wastewater treatment facility and is discharged to Clear Creek. There are not any wastewater treatment technologies that can economically remove salt from wastewater.