



Water Utility Frequently Asked Questions

Q. What are the peak population projections for Brandon? How much water is needed to serve that many people?

A. The City of Brandon is projected to reach a population of 16,800 by the year 2045. If each person utilizes 95 gallons of water per day, the Brandon Water Treatment Plant (WTP) needs the capacity to provide 1,596,000 gallons per day (average day demand). With greater use in the summer this capacity requirement increases to 4,000,000 gallons per day (peak day demand).

Q. What does the City do to ensure that the water is safe to drink?

A. The State of South Dakota has honored the City of Brandon for its excellent drinking water every year for more than two decades. The South Dakota Department of Agriculture and Natural Resource gives the Secretary's Award for Drinking Water Excellence to public water systems and system operations specialists that meet all the compliance monitoring and reporting requirements, drinking water standards, and certification requirements for 10 consecutive years or more.

MCLs are standards set by the U.S. Environmental Protection Agency (EPA) for drinking water quality. An MCL is the legal threshold limit of a substance allowed in public water systems under the Safe Drinking Water Act. The Safe Drinking Water Act provides public health protection to drinking water the United States.

Q. Where does the City of Brandon water come from and how many wells does the City operate?

A. Brandon's water supply comes from five wells named Well 1, Well 3, Well 6, Well 7, and Well 8. Well 1 supplies water from the Big Sioux Aquifer and Wells 3, 6, and 8 utilize the Split Rock Creek Aquifer. Well 3 is rarely used as it by-passes the Brandon WTP and is connected directly in the distribution system. The City built Well 7 in the Split Rock Creek Aquifer but has delayed usage. Most recently, the City brought on Well 8 which was built to provide additional water supply redundancy.

Q. Are all the wells connected to the WTP? Why isn't well #3 connected and when will it be connected?

A. Well 3 is the only well not connected to the WTP. Historically Well 3 is typically only used as a backup when needed. In the future, Well 3 is planned to be connected to the WTP.

Q. Why do we have Well #8 and why is it important to have an auxiliary source of water?

A. Redundancy in the water supply and water treatment is important to ensure the City has the capability to supply and treat water even during routine maintenance/repair of pumps and equipment. Well 8 was installed to provide redundancy for Well 6, which provides a majority of the City's water.

Q. How is Brandon treating the water from Well #7 for radium?

A. Well 7 draws water from the Split Rock Creek Aquifer. The water in Well 7 has higher levels of radionuclide concentrations, therefore the City of Brandon has delayed usage of Well 7. The maximum contaminant level (MCL) of radium set by the EPA is 5 pCi/L (picocurie per liter). The existing treatment process removes radium from the water to below the detection limit of 1 pCi/L, well below the EPA limit, and the reverse osmosis (RO) treatment process that will be added during the Brandon WTP expansion project will provide an additional system for radium removal as well. The WTP expansion is scheduled to be completed in November 2024.

Q. How much water can our current WTP provide?

A. The current WTP has a maximum capacity of approximately 2,000 gallons per minute (gpm). The WTP expansion project will increase the WTP's maximum capacity to approximately 4,000 gpm when the project is completed in late 2024.

Q. How does the City of Brandon treat its water?

A. The City of Brandon treats drinking water utilizing a combination of chemicals and filtration to remove dissolved metals and radium and disinfect the water. After the WTP expansion project is completed in late 2024, the water will also be treated with reverse osmosis (RO), which is a treatment process where water is pressurized and pushed through a very thin membrane which allows the water through but holds back the dissolved minerals and contaminants within the water.

Q. What is backwash, how much water can we reclaim, and how much goes to the sewer?

A. Backwashing the filters is the process of periodically cleaning the filter media. This is necessary to keep the filter media operating and filtering the water. The backwash water contains sediment and suspended solids held back by the filter media, which is stored in a reclaim tank and allowed to settle so that a majority of the backwash water can be reclaimed back into the treatment process. Less than 1% of the backwash water is sent to the sewer.

Q. Why was reverse osmosis (RO) treatment and an expansion of the WTP recommended?

A. As the City continues to grow the expansion of the WTP was needed and with that expansion it was recommended to also take the opportunity to improve the water quality by reducing the hardness in the City's water. The RO system in the expanded WTP will reduce the hardness of the City of Brandon's water from approximately 400 parts per million (ppm) to approximately 200 ppm, which is the equivalent of approximately 24 grains to approximately 12 grains.

Q. Where can I view the final Facility Plan Report?

A. The Final Water Treatment Plant Facilities Plan report can be found at this [link](#).

Q. When can we expect construction of the WTP expansion project to start and be completed?

A. Construction on the WTP expansion started in the fall of 2022 and is scheduled to be completed in November 2024.

Q. Will our water quality change after the WTP expansion project is completed?

A. Yes, the main change to the water quality will be the lower hardness level.

Q. How does the City of Brandon determine water rates?

A. Water rates are determined by calculating the cost of providing the water, which includes treatment, maintenance, operation, staffing, and improvements costs against the amount of water treated. Water rates are subject to change and are reviewed annually.