

THE CITY OF LLOYDMINSTER

Water Treatment

PLANT



You can be *sure* your tap water is clean and safe to drink.



LLOYDMINSTER

The City of Lloydminster continues to meet and exceed all provincial health standards and guidelines, providing residents with safe, clean water.

Did You Know?

Lab technicians conduct over 20 tests on 9 different parameters every day to ensure our online systems are accurate and the treatment process is working well.

And . . .

Chlorine and turbidity parameters are monitored as well in the city's extremities to ensure proper levels of chlorine residuals are maintained weekly.

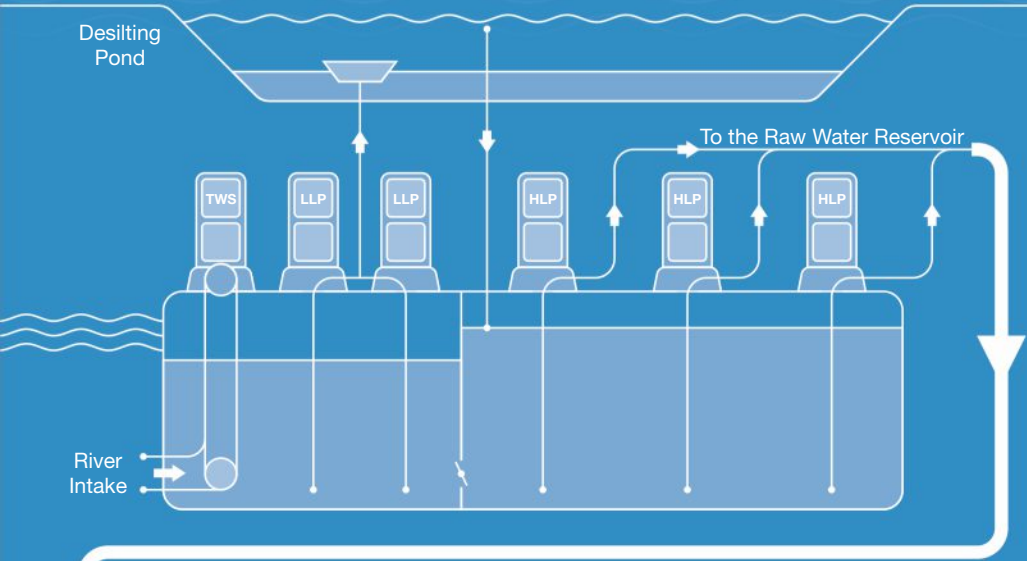


Where does our water come from?

The North Saskatchewan River supplies water to the City of Lloydminster Water Treatment Plant.

Did You Know?

In Lloydminster, the average daily water consumption is 345 litres per capita.



River water flows by gravity to the river intake building, where it is screened of large debris by the travelling water-screen (TWS). Two low lift pumps (LLP) then pump the water to the desilting pond where suspended sand or silt settles out.

After settling, water then flows by gravity back into the building to be pumped by 700 HP high lift pumps (HLP) into the 30-inch diameter steel pipeline that travels 32 kilometres to the Raw Water Reservoir.

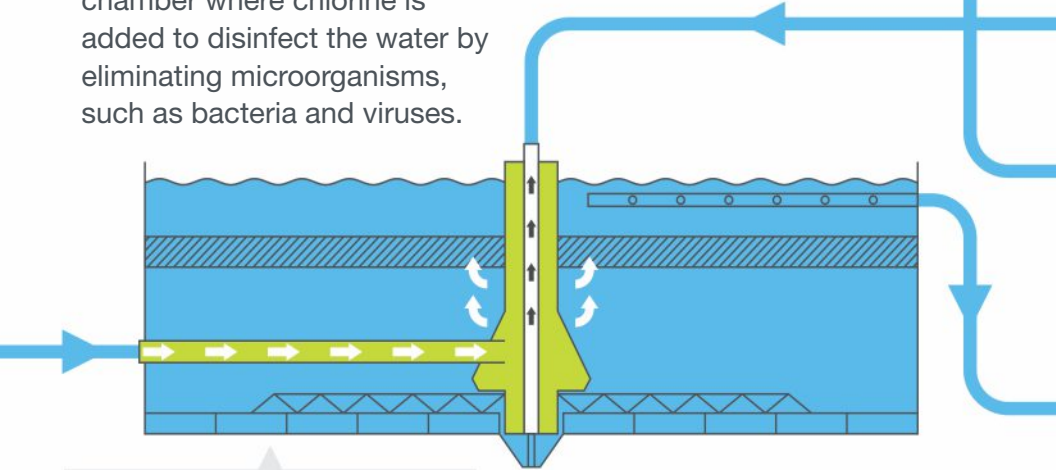
Raw Water Reservoir (RWR):

The RWR stores approximately 1,700,000 m³ of untreated water. This stored water flows into the Water Treatment Plant by gravity for treatment.

The treatment process

UpFlow Clarifier Unit: By adding the chemicals to the raw water, floc is formed as the clarifier mixes and then settles out to the bottom of the clarifier as sludge. There are tube settlers just below the launderers that increase settling of the floc, leaving being clarified water known as supernatant.

The supernatant enters the launder trough into the contact chamber where chlorine is added to disinfect the water by eliminating microorganisms, such as bacteria and viruses.



Sludge is collected into a waste pit that is then pumped to the Waste Water Treatment Plant.



Your Tap: Clean and safe water, right to your home.

West End Reservoir: Provides an additional 24,796 m³ of storage for peak water demands, to meet fire flows and supply the city with water overnight.



Aluminum Sulfate (ALUM): Added as a part of the coagulation process that helps impurities such as suspended particles, bacteria and algae lump together. These small lumps are called “floc” and will settle in the clarifier.



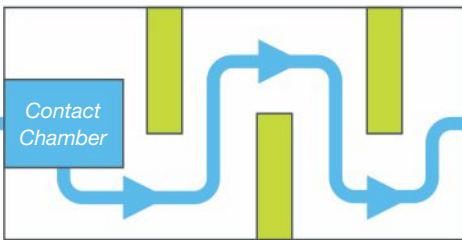
POLYMER: Added as a flocculent aid to strengthen floc and help it settle in the clarifier.



LIME: Added to help the coagulation process.

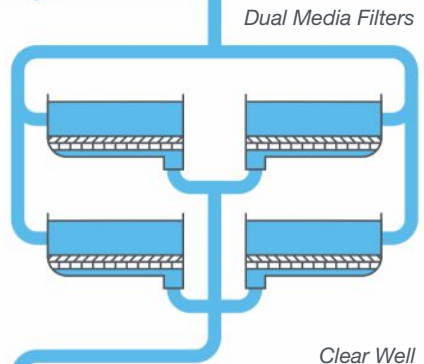


POWDER ACTIVATED CARBON: Added to remove undesirable tastes and odours.

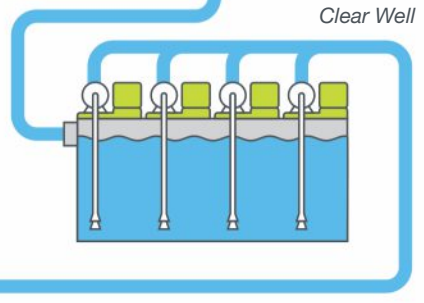


The Contact Chamber contains baffles that give chlorine extra contact time to disinfect before being sent to the filters.

Dual Media Filters (Anthracite and Sand): The final polishing stage removes any remaining suspended particles in the water.



Clear Well: Water enters the 1,200 m³ clear well for storage. From here, three pumps move the water into the city and West End Reservoir.





The people behind the water

Certified Treatment Plant Operators: Oversee every aspect of the treatment process to provide you with safe and clean drinking water.

Laboratory Technician: Responsible for testing the water at the treatment plant and in the city to ensure your water meets and exceeds health and safety guidelines.

Distribution Operators: Maintain and repair water mains, hydrants and valves to ensure that water will be available when needed.



DID YOU KNOW? Our online monitoring system constantly reports chlorine, turbidity and pH which better ensures our customers receive the highest quality treated water, exceeding regulatory standards.



DID YOU KNOW? A tap that drips a mere six drops per minute will lose 1,200 litres of water per year. That is seven bath tubs down the drain!

LEARN TO CONSERVE!

Water is a precious resource and we all must find ways to conserve water where we can. Every step taken to conserve water saves you money, lessens the load on the water treatment plant and reduces the impact on the environment.

- 1** Pay attention to those dripping sounds and fix the leak(s).
- 2** Complete a toilet leak test by doing a dye test. Use a couple of drops of food colouring to dye the water in the toilet's holding tank. If, after 20 minutes, the dye enters the bowl, you have a leak.
- 3** Ensure your sprinklers only spray on areas that need water (not the sidewalk) and do not water your lawn during the middle of the day when the water will evaporate.
- 4** Replace your showerhead with a water efficient model. This saves as much as six gallons per minute.
- 5** Never run the dishwasher or washing machine without a full load.
- 6** Turn off taps while brushing your teeth or shaving.
- 7** When buying a new household appliance, check its water and energy efficiency ratings. Water and energy efficient appliances will save you money long term.



DID YOU KNOW? The average lawn sprinkler uses about 1,500 litres of water every hour, and half the water that we use outdoors is lost through runoff and evaporation!

lloydminster.ca/waterservices

WATER SOURCE: North Saskatchewan River

COMMISSIONED: 1984

PROCESS: Solids up-flow contact clarifier with dual media filtration (anthracite and sand)

CURRENT AVERAGE DAILY PRODUCTION: 11,000 m³

PLANT CAPACITY: 21,800 m³/day

PHYSICAL ADDRESS

4701 67 Street
Lloydminster, SK

MAILING ADDRESS

4420 50 Avenue
Lloydminster, AB/SK
T9V 0W2

PUBLIC WORKS MISSION STATEMENT:

A team committed to providing essential water, waste and roadway services in a safe, reliable and efficient manner.

