



Duffin Creek Water Pollution Control Plant Performance 2021

The handling of wastewater is a highly complex process. Think of it as a sophisticated engineering system of tanks, pipes, specialized equipment and facilities covering the

equivalent of 400 football fields. It is a massive operation with a vital job. Serving York and Durham Regions, the Plant treats wastewater from homes, businesses and industry.

Once treated, the clear water is returned to Lake Ontario. Let's look at some annual performance metrics behind this impressive Plant.

Wastewater Flow

Average Daily Flow

Average volume of wastewater treated at the Plant each day:

334,832 m³

(equivalent to filling 134 Olympic-sized swimming pools)

Maximum Daily Flow

Highest volume of wastewater that has come into the Plant on a single day:

686,292 m³

(equivalent to filling 275 Olympic-sized swimming pools)

Total Flow

Total amount of wastewater that flowed into the Plant over the year:

122,213,710 m³

(equivalent to filling 48,885 Olympic-sized swimming pools)

Number of by-passes, spills or abnormal discharge events:

0

¹ The maximum flow is affected by large rain events or melting snow that enters the sewer system through holes and openings in pipes and maintenance hole covers.

* 1 m³ = 1,000 litres



Solids Processed

Total amount of inflowing solids processed:

38,532 dry tonnes

Amount of solids received and treated from other wastewater treatment plants in York and Durham Regions:

3,711 dry tonnes

Energy

Amount of solids reused as heat energy:

26,696 dry tonnes

Amount of greenhouse gases avoided by using biosolids as fuel at the Plant and not trucking waste to landfills:

3745 tonnes

Water Quality

| | Concentration in wastewater entering the Plant | Allowable concentration in water leaving the Plant (limits set by province) | Actual concentration in water leaving the Plant | Average % removal |
|---|--|---|---|-------------------|
| Total Phosphorus ² | 6.3 mg/L | 0.8 mg/L | 0.28 mg/L | 95% ³ |
| Total Suspended Solids ⁴ | 315 mg/L | 25 mg/L | 5.3 mg/L | 98% |
| Biological Oxygen Demand (BOD ⁵) ⁵ | 204 mg/L | 25 mg/L | 3.4 mg/L | 98% |

² Total Phosphorus is a measure of the total amount of phosphorus in the wastewater in its different forms – both particulate (small pieces like small grains in the water) and soluble (phosphorus dissolved in the water). It is used as a measure of Plant performance.

³ This value changes from year to year, but phosphorus levels in the clear treated wastewater leaving the Plant remain well within the Environmental Compliance Approval issued by the Ministry of Environment, Conservation and Parks (MECP) for the Plant.

⁴ Total Suspended Solids (TSS) is the amount of material suspended in a wastewater sample. It is used as a measure of Plant performance.

⁵ BOD⁵ is a measure of the amount of oxygen needed by living organisms in the wastewater to break down organic material over a period of five days. The Plant removes this organic material from the water before it is discharged to the lake.

Air Quality

Number of odour complaints received:

0



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