



City of Summerside
Waste Water Treatment Plant
Report 2010

Introduction:

The City of Summerside operates a Treatment Facility that services approx. 13,000 people within the city. The plant is a tertiary BNR system that removes ammonia, phosphorus and nitrogen from the water before it leaves the facility.

This report is prepared to give the public a clear understanding of the facilities operation over the past year, 2010.

Operation:

Summerside Water Pollution Control Centre 2010 Results from Gov Lab Testing

Date Sampled	Field Notes	ID #	cBOD (mg/L)	TSS (mg/L)	Faecal (MPN/100mL)
Jan 20/10	After UV Lights	249599	<10	12	2
Jan 20/10	Effluent After UV Chamber	249600	<10	12	<2
Feb 01/10	Effluent After UV Chamber	249831		223	170
Feb 24/10	UV Light Outfall	250464	<10	4	<2
Feb 24/10	WWTP Effluent	250046	<10	68	<2
Feb 28/10	After UV Lights	250516		218	6,400
Mar 17/10	After UV Lights	251024	<10	6	<2
Mar 01/10	After UV Lights	250515		556	16,000
May 06/10	UV Lights out Fall	252569	<10	5	<2
May 27/10	UV Lights out Fall	253600	<10	4	<2
Jun 24/10	UV Lights out Fall	W100624001	<10	4	<2
Jul 29/10	WWTP Effluent	729001	<10	6	5
Aug 26/10	WWTP Effluent	w100826001	<10	6	<2
Sept 30/10	WWTP Effluent	w100930001	<10	3	<2
Oct 28/10	WWTP Effluent	w101028002	<10	5	<2
Nov 24/10	WWTP Effluent	W101125001	<10	4	<2
Dec 23/10	Sample Missed				

The City of Summerside is required to meet 25mg/L of CBOD and 25 mg/L of TSS with Faecal Coliform of 200/MPN/100ml.

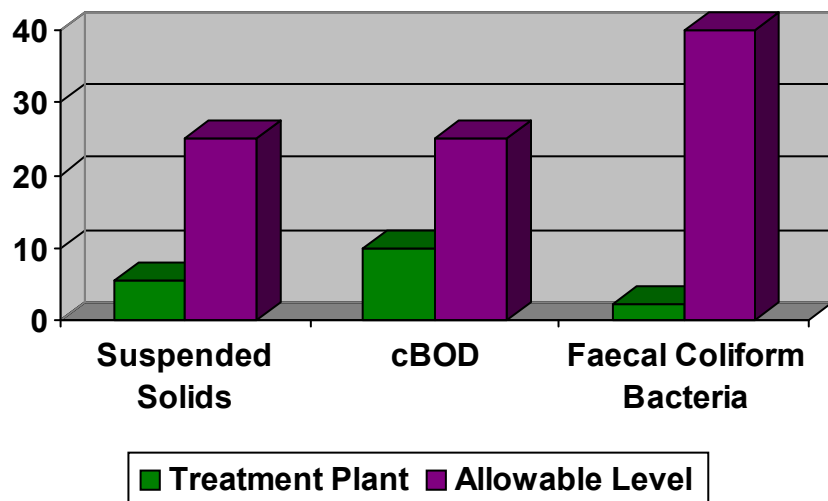
Note that the chart shows numbers higher than the allowable limits. These are instances when the plant was out of compliance and reports were sent in.

Carbonaceous Biochemical Oxygen Demand (CBOD) is a quantitative measure of the amount of dissolved oxygen required for the biological oxidation of carbon-containing compounds in a sample.

Total Suspended Solids (TSS) is the amount of insoluble solids floating and in suspension in the wastewater.

Faecal Coliform Bacteria are aerobic and facultative, Gram-negative, non-spore-forming, rod-shaped bacteria capable of growth at 44.5 °C, and associated with fecal matter of warm blooded animals.

Final Effluent Quality



Major Operational Modifications:

The city has been running two shifts from the beginning of start up of this facility in 2008. We have been dealing with the job of getting rid of the large amount of waste activated sludge (WAS) that the facility produces and the small amount of primary clarifier sludge that we collect each day. The blend tank that mixed the primary and WAS solids was upgraded to obtain a better blend of sludge before it gets sent to the N-VIRO system. This change has allowed us to avoid taking the solids to a landfill. The combination of primary and WAS that is produced goes to a process that turns the sludge into a usable lime additive. The sludge is put through two, three channel presses. We have tried many ways to shorten the run time of this process and reduce the need for the extra shift by reducing the amount of WAS produced but with little success. It was realized that the addition of two new channels to the Fournier presses is the best way to reduce the operating time. This was completed and is working very well; not only by reducing the shifts but allows us to also stretch out our primary and WAS ratio. We also installed an air relief valve to allow us better control of the air that is being fed to the bio-reactor, thus preventing the growth of unwanted filaments that causes bulking in the bio-reactor and the secondary clarifiers.

Major Construction for the Year:

The City has done major upgrades to both Northumberland Street lift station and Eustane Street lift station this year by installing larger pumps and motors at Northumberland street station along with installing larger motors at Eustane street lift station. The generators at both stations were also upgraded to take the capacity in a power outage. Suction and discharge lines were also sized to fit the pumps capacity. Both stations now should handle the cities wet weather flows. Aerial photo of lift stations attached. The city had to replace the floor in one of the secondary clarifiers. This was discovered when the staff drained the tank for inspection. The floor had lifted and developed cracking in the floor bottom. This was a major job as we had to remove the entire old floor and replace with new material. We have since installed a dewatering well on site beside both the secondary clarifiers and the bio-reactor, to prevent this from happening again. Since this has been installed all tanks have been taken down for inspection with no major problem to the floors.

Summary of Waste Water Discharges:

Date	Time	WW Type	Location	Period of Discharge	Total Discharge	Reason for Discharge
Feb 22/10	9:40am	Treated	WWTP	½ hr	300 m ³	Sludge Bulking
Feb 28/10	5:42pm	Treated	WWTP	1 hr	300 m ³	Sludge Bulking
Mar 01/10	10:49am	Treated	WWTP	¾ hr	300 m ³	Sludge Bulking
Mar 01/10	1:51am	Treated	WWTP	½ hr	300 m ³	Sludge Bulking
Oct 13/10	2:00am	Treated	WWTP	8 ½ hr	2441 m ³	Pump Failure, Lift Stn. Northumberland Street

Summary of Biosolids Production Data:

Sludge Total (Kg)	Lime Total (Kg)	Lime Dust Total (Kg)	Fournier Press % Solids Average	Final Product % Solids Average	Product Total (tonnes)
3,840,263	240,485	1,425,201	20.83	66.57	3,726.5