

**Municipality of Trent Hills**

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Staff Report**

<b>Dept. Report No.</b>	<b>To: Council</b>	<b>Prepared by: John C. Seguire</b>
<b>Subject: ANNUAL SUMMARY REPORT FOR THE CAMPBELLFORD WASTEWATER TREATMENT FACILITY – 2009</b>		<b>Date: April 14, 2010</b>

**BACKGROUND:**

Condition 10(6) of Certificate of Approval No. 7739-6SBLXS states, “*The owner shall prepare and submit to the District Manager a performance report, on an annual basis, within ninety (90) days following the end of the period being reported upon...*” The purpose of this report is to provide a performance record for future references, to ensure that the Ministry is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in the Certificate of Approval. On March 15, 2010 the annual performance report was submitted to the MOE and the Municipality of Trent Hills.

At the request of the Municipality of Trent Hills, the following summary report has been prepared. Please note that this summary report does not fulfill the requirements of the performance report required by the Certificate of Approval but rather has summarized the highlights of the performance report and is intended for distribution to council, not the MOE.

**RECOMMENDATION:**

That the Council of the Municipality of Trent Hills acknowledges receipt of the Annual Summary Report for the Campbellford Wastewater Treatment Facility - 2009. That Council also acknowledges receipt of the Annual Performance Report for the Campbellford Wastewater Treatment Facility – 2009 previously submitted.

**RATIONALE:**

Council should be aware of the performance of the wastewater treatment facility.

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John C. Seguire,  
Cluster Manager, OCWA

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Richard Bolduc,  
Director of Public Works

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Mike Rutter,  
CAO



**Ontario Clean Water Agency**  
**Agence Ontarienne Des Eaux**

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**Annual Summary Report**  
**for the**  
**Campbellford Wastewater Treatment Facility**  
**for the year**  
**2009**

prepared for the Municipality of Trent Hills  
by the Ontario Clean Water Agency

## Compliance Summary with Certificate of Approval Requirements

The Campbellford Wastewater Treatment Facility (WWTF) operated both adequately and successfully with respect to operation of the wastewater treatment process. There were no difficulties with respect to maintaining compliance with the Certificate of Approval (CofA) effluent quality requirements.

Effluent quantity and quality criteria stipulated in CofA Conditions 7(1) through 7(6) are summarized as follows;

<b>Campbellford WWTF - Effluent Non-compliance Limits - 2009 (per CofA No. 7739-6SBLXSL, Condition 7(1) to 7(6))</b>					
<b>Effluent Parameter</b>	<b>CofA Maximum Concentration</b>	<b>Actual Annual Average Concentration</b>	<b>CofA Maximum Monthly Loading</b>	<b>Actual Maximum Monthly Loading</b>	<b>Definition of Concentration Non-compliance</b>
<b>CBOD<sub>5</sub></b>	25.0 mg/L	<3.1	n/a	n/a	non-compliance occurs when annual average exceeds the maximum concentration value
<b>Suspended Solids</b>	25.0 mg/L	<3.3	n/a	n/a	non-compliance occurs when annual average exceeds the maximum concentration value
<b>Total Phosphorus</b>	n/a – see table below	n/a – see table below	2.27 kg/d	Max. monthly loading = <0.67 kg/day	for loadings non-compliance please see footnote
<b>(Ammonia + Ammonium) Nitrogen (June 1 - Oct 15)</b>	5.0 mg/L	<0.18	n/a	n/a	non-compliance occurs when seasonal average exceeds the maximum concentration value
<b>(Ammonia + Ammonium) Nitrogen (Oct 16 - May 31)</b>	20.0 mg/L	<3.23	n/a	n/a	non-compliance occurs when seasonal average exceeds the maximum concentration value
<b>pH</b>	6.0 to 9.5	6.95 to 8.55	n/a	n/a	non-compliance occurs when the effluent pH falls outside this range.
<b>E. Coli</b>	200 org/100mL	n/a - see table below	n/a	n/a	non-compliance occurs when monthly geometric mean density exceeds the specified value
<b>FOOTNOTE: Condition 7(2)(c) of CofA No. 7739-6SBLXS - Non-compliance with respect to loading of Total Phosphorus is deemed to have occurred when the monthly average loading of total phosphorus named in Column 1 of subsection (1) exceeds the corresponding maximum waste loading set out in Column 3 of subsection (1)</b>					

The results tabulated above show that there were no effluent non-compliance events in accordance with the Certificate of Approval for the 2009 reporting period.

The following table provides a summary of the monthly average total phosphorus concentrations in the final effluent discharged to the Trent River. There is no compliance limit for total phosphorus concentration in the facility CofA, however, the Bay of Quinte Remedial Action Plan

limits the concentration of total phosphorus being discharged to the Bay of Quite tributary to 0.5 mg/L so the results have been provided. The table also summarizes the monthly loading of total phosphorus. The results show that the monthly average concentration of total phosphorus did not exceed the maximum concentration of 0.5 mg/L and the monthly loading of total phosphorus did not exceed the maximum waste loading of 2.27 kg/d.

<b>Campbellford WWTF - Monthly Average Total Phosphorus Concentration &amp; Loading Results Final Effluent - 2009</b>												
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<b>Avg. Total Phosphorus Concentration (mg/L)</b>	0.07	0.13	0.14	<0.03	<0.09	<0.06	0.08	<0.06	0.04	0.07	0.04	<0.05
<b>Total Phosphorus Loading (kg/d)</b>	0.52	0.59	0.67	<0.26	<0.56	<0.22	0.29	<0.20	0.12	0.21	0.12	<0.28

The following table provides a summary of the monthly geometric mean density of E. Coli in the final effluent discharged to the Trent River. The results will show that the WWTF was operated and maintained such that the effluent was continuously disinfected so that the monthly geometric mean density of E. Coli in the final effluent did not exceed 200 organisms per 100 millilitres of effluent discharged at any time during the reporting period as specified in CofA Condition 7(2)(3).

<b>Campbellford WWTF - Monthly Average Geometric Mean Density of E. Coli Results Final Effluent - 2009</b>												
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<b>Avg. Geometric Mean Density of E. Coli per 100 mL</b>	<6	<2	<26	8	<4	<3	<3	<2	<2	<3	<2	<4

The following table provides a monthly summary of the pH of the effluent. Non compliance is deemed to have occurred when any singular measurement is outside the required range of 6.0 to 9.5, as specified in Condition 7(1) and 7(2)(d) of the CofA.

### **Operations and Maintenance Summary**

There were no operational issues encountered during the 2009 reporting period.

#### **Flow Data:**

The following table provides a comparison of the rated capacity of the works to the actual flow data obtained during the 2009 reporting period. The Certificate of Approval states, "The Owner shall use best efforts to: operate the works within the Rated Capacity of the Works."

**Campbellford WWTF - Effluent Objectives  
Flow Data for 2009  
(per CofA No. 7739-6SBLXS, Condition 6(3)(b))**

Month	Avg. Daily Flow (m <sup>3</sup> )	CofA Rated Capacity (m <sup>3</sup> )
January	7,140	6,600
February	4,427	6,600
March	4,955	6,600
April	8,072	6,600
May	6,029	6,600
June	3,840	6,600
July	3,724	6,600
August	3,256	6,600
September	2,822	6,600
October	3,080	6,600
November	2,930	6,600
December	5,664	6,600

The above table shows that the Campbellford WWTF CofA rated capacity was exceeded during the month of January and April 2009. These exceedances did not result in non-compliance with the CofA as this condition is an **objective**, not a limit. The facility experienced higher than normal flows for the majority of January and April. The high flows were attributed to heavy precipitation and snow freshet. Although the design capacity flow rate was exceeded, the effluent quality remained well below the effluent concentration and loadings requirements as stated in Section 7 of CofA No. 7739-6SBLXS.

Maintenance:

Maintenance activities at the Campbellford WWTF are based on a computerized Work Management System (WMS) using the Hansen application. Each piece of equipment at the facility has been tagged with a unique bar code number, and this information has been entered into the electronic WMS database. Preventative maintenance procedures and schedules have been developed for each piece of equipment. Each work order generated by the Preventative Maintenance schedule includes materials and parts required, any special tool requirements, work protection, job safety planning, running checks, a preventive maintenance job procedure, and upon completion of the task, a work order close out.

Corrective or breakdown maintenance is required when equipment is determined to be non-serviceable, or the potential for non-serviceability exists. All preventive and corrective/breakdown maintenance is executed and accounted for under a Hansen work order.

The WMS database populates work orders and schedules for the calibration and maintenance of a wide variety of equipment. These work orders are generated on a daily, weekly, monthly,

quarterly, semi-annual or annual basis - depending upon the type of procedure being undertaken. The WMS also automatically tracks each individual maintenance event, calibration of all meters, and certification of all devices.

During the 2009 reporting period over 1900 work orders were issued and completed at the Campbellford WWTF, Main Street pumping station, Trent Drive pumping station and Inkerman Street pumping station.

#### Biosolids Summary:

The final biosolids disposal method used for the solids produced in the Campbellford Wastewater Treatment process is dewatering and landfill. During the 2009 reporting period, 5,410.99 m<sup>3</sup> of biosolids were dewatered and taken to landfill from the Campbellford Wastewater Treatment Facility.

#### Community Complaints:

There were no complaints received during the 2009 reporting period.

#### Bypass, Spills or Abnormal Discharges:

There were no by-pass, spills or abnormal discharge events during the 2009 reporting period.