

Provincial Officer's Report

Order Number
4703-933KH3

The Corporation of the City of Timmins
220 Algonquin Blvd E
Timmins, Ontario, P4N 1B3
Canada

Site

815 Gervais St N Sewage collection system for the community of Porcupine & South Porcupine as associated with the Whitney-Tisdale Sewage Treatment Plant
Timmins, District of Cochrane

Observations

Definitions:

For the purposes of this Report and Order, the following definitions shall apply:

- "*Action Plan*" means the *City's* Action Plan dated November 12, 2012, as signed by Luc Duval, Director of Public Works and Engineering, City of Timmins.
- "*Bypass*" means any discharge from the Works that does not undergo any treatment or only receives partial treatment before it discharges to the natural environment.
- "*City*" means The Corporation of the City of Timmins, Ontario.
- "*CofA*" means sewage works approval for the *Works* issued under the *OWRA*, namely, Certificates of Approval No. 3-1228-78-006, issued 1978, No. 3-1063-78-006, issued 1978, and Notice 3-1228-78-006, issued 1998.
- "*ECA*" means an Environmental Compliance Approval issued under the *EPA*.
- "*EPA*" means the *Environmental Protection Act*, R.S.O. 1990 c. E.19.
- "*MOE*" means the *Ontario Ministry of the Environment*.
- "*Orderee*" means The Corporation of the City of Timmins.
- "*OWRA*" means the *Ontario Water Resources Act*, R.S. O. 1990 c.L.3.
- "*Receivers*" means Porcupine Lake and/or the Porcupine River which receives *Bypassed* sewage from the *Works* .
- "*Professional Engineer*" means an engineer in good standing licensed pursuant to the Professional Engineer's Act, R.S.O. 1990, c. P. 28, who is qualified and has experience in sanitary engineering related to the *Works* .

- "RVA" means the consultant R.V. Anderson Associates Limited.
- "Sewage" has the same meaning as provided in the OWRA.
- "STP" means the Whitney-Tisdale Sewage Treatment Plant.
- "Works" means the system for sewage collection and transmission in the communities of South Porcupine and Porcupine, as owned and operated by the City

Description of Works :

The City encompasses the communities of Porcupine and South Porcupine. The sewage collection system in these communities consists of seven (7) lift stations (identified as ST1, ST2, ST3, ST4, ST5, ST6, and ST7) conveying wastewater to the STP which is rated for an average daily flow of 6,819 m³/day and a peak day flow of 20,457 m³/day (see attached diagram entitled "Porcupine Sanitary Sewer System Key Plan in Appendix B). The collection system services close to 280 hectares of residential, commercial, industrial, and institutional areas. Approximately 98% of the sewage collection system reports to six (6) lift stations operating in series along the perimeter of Porcupine Lake. The seventh lift station (i.e. ST7), known as the Penland Pumping Station, services a small residential area in the northwestern area of the community.

The collected sewage is pumped to the STP located in the community of Porcupine. Following treatment, effluent from the STP is discharged directly to the Porcupine River, downstream of Porcupine Lake.

Background:

The City has experienced a significant number of *Bypass* events from the *Works*; specifically there were 113 reported *Bypasses* from the *Works* and the *STP* during the 2005 to 2011 time period. These *Bypasses* typically occurred during spring melt and high precipitation events. The City indicated that the *Bypasses* occurred in order to reduce or prevent sewage from backing up into residences surrounding Porcupine Lake. These *Bypasses* resulted in the discharge of untreated sewage directly to the environment, mainly Porcupine Lake.

Porcupine Lake and the Porcupine River downstream of the lake has been impacted by a combination of municipal and industrial sewage inputs, as documented in the Ministry of the Environment "Environmental Monitoring Study on the Porcupine River" dated January 2003. One of these sources continues to be *Bypasses* from the *Works*, which are a source of various parameter loadings (e.g. phosphorous and bacterial loadings).

Some of the *Bypasses* from the *Works* have occurred during periods of recreational use on Porcupine Lake and may present a potential risk to human health; that is, the *Bypass* overflow from lift station #3 (ST3) is within 50 meters of a public beach.

RVA was retained by the City to complete an assessment of the *Works*. The study was commissioned to determine issues related to high sanitary flows in the collection system, which has resulted in the occurrence of *Bypasses*. The initial evaluation of the collection system by RVA included a review of as-built information, bypass logs, a previous lift station evaluation report, smoke testing, lift station site visits, flow monitoring, theoretical flow analyses, and a review of applicable requirements and regulations. Additionally, a review of system

performance and rainfall data during storm events was conducted subsequent to wastewater releases in April 2011.

The “*Porcupine / South Porcupine Sanitary Sewer System Bypass Study Final Report*” prepared by *RVA* and signed on May 25, 2012, summarizes the results of the smoke testing and flow monitoring, observed conditions at the lift stations, theoretical sanitary flows, options to address *Bypasses*, and recommendations with supporting data for the *Works*.

The alternatives provided in the report to address *Bypasses* are summarized as follows:

- Alternative #1: Upgrade Lift Station Pumps to the Hydraulic Capacity of the Forcemains,
- Alternative #2: Upgrade Lift Station Pumps and Forcemains to Accommodate Future Domestic and Extraneous Flows, and
- Alternative #3: Include Storm Retention Facility at ST4 and Upgrade Pumping to Accommodate Flows

RVA reported that each of the above alternatives have common recommendations to be addressed as part of larger upgrade projects.

To address *Bypasses* and to improve the efficiency of the *Works*, *RVA* recommended that the *City* consider a phased implementation of Alternative #3, that is, upgrading the lift station capacities and constructing a storm retention facility.

As such, Alternative #3, is described in the *RVA* report as including the following work at each lift station (ST):

- ST1 - upgrading the pumping capacity and forcemain to accommodate future development and extraneous flows;
- ST2 - upgrading pumping capacity and forcemain to accommodate future development and extraneous flows;
- ST3 - upgrading pumping capacity and forcemain to accommodate future development and extraneous flows;
- ST4 - constructing new storage facility to buffer wet weather peak flows and upgrading pumping capacity to accommodate future development and extraneous flows;
- ST5 - replacing pumps to match the current rated capacity;
- ST6 - upgrading pumping capacity to match the capacity of the forcemain.

Previous direction:

Provincial Officer’s Order No. 1760-8TPNU6: On May 18, 2012, the *City* was issued Provincial Officer’s Order No. 1760-8TPNU6. The Order contained 4 (four) action items summarized as follows:

Item No. 1 (Provide the final “Sanitary Sewer System Bypass Study” by June 15, 2012).

The *City* retained *RVA* who consequently completed the report entitled “The Corporation of the City of Timmins Porcupine / South Porcupine Sanitary Sewer System Bypass Study Final Report” dated May 25, 2012. This report was submitted to the ministry on June 15, 2012, in

compliance with this action item. The *City* complied with Order Item No. 1.

Item No. 2: (Provide an Action Plan by July 17, 2012, with time lines detailing the steps the *City* will take to significantly reduce *Bypasses* of raw sewage from the *Works*.)

In compliance with this item, the *City* submitted an *Action Plan* dated July 17, 2012. Following an October 17, 2012, meeting, the *City* submitted a revised *Action Plan* on November 12, 2012. This plan provides a schedule of actions that will be taken to minimize, if not eliminate, *Bypasses* from the *Works*. The *Action Plan* indicates the *City's* commitment to implementing Alternative #3 from the *RVA* report. The *Action Plan* was written such that it covers multiple phases implemented over several years; that is, 4 phases implemented over the August 2012 to November 2017 time period. The items to be implemented were based upon the recommendations made by the *City's* engineer, *RVA*, as detailed in the report submitted in compliance with Order Item No. 1. The actions will require an estimated \$15 million capital investment. With the submission of the *Action Plan* Order Item No. 2 has been complied with.

Item No. 3: (Provide a Receiving Water Monitoring Plan for the Porcupine River and Porcupine Lake by July 17, 2012).

In compliance with this item the *City* submitted a "Receiving Water Monitoring Plan for Porcupine River and Porcupine Lake" on July 17, 2012, for consideration by the undersigned Provincial Officer. This plan was forwarded for review by the ministry's Technical Support Section and ministry review comments were provided to the *City*. In response to these comments, the *City* provided the ministry with an updated plan on November 09, 2012. With the submission of the first Receiving Water Monitoring Plan, Order Item No. 3 has been complied with.

Item No. 4: (Develop and implement a public notification protocol for Bypass events from the Whitney-Tisdale sewage collection system by June 15, 2012.)

In compliance with this item the *City* submitted a Public Notification Protocol on June 15, 2012. This protocol was reviewed and revised and the *City* provided an updated Public Notification Protocol on November 14, 2012. With the submission of the first Public Notification Protocol on June 15, 2012, Order Item No. 4 has been complied with.

Compliance with Provincial Officer's Order No. 1760-8TPNU6:

The four (4) action items of Provincial Officer's Order No. 1760-8TPNU6 have been complied with and that Order has been closed. In order to address the proposed actions by the *City*, which are outlined previously in this report, this Provincial Officer's Order is being issued to require the *City* to implement: the *Action Plan* dated November 12, 2012, the Receiving Water Monitoring Plan for Porcupine River and Porcupine Lake, dated November 9, 2012, and the Public Notification Protocol dated November 30, 2012.

Grounds for issuing Order:

The attached Order is being issued to ensure that;

- timely action is taken to address *Bypasses* from the *Works* in order to prevent the further

- discharge of contaminants into the natural environment;
- public notification is undertaken when *Bypass* events occur during periods of recreational use on Porcupine Lake to ensure public health is protected; and that
- monitoring for impacts on the *Receiver* is undertaken to determine if further mitigative measures are needed.

Authority to Issue Order:

Ontario Water Resources Act:

- Section 16.1: The undersigned Provincial Officer reasonably believes that it is in the public interest to issue this preventive measures order.
- Section 16: The undersigned Provincial Officer reasonably believes that the City contravened Section 30(1) of the OWRA in having Bypasses occur at their Works and discharge untreated and/or partially treated sewage to the natural environment.

Environmental Protection Act:

- Section 157.1: The undersigned Provincial Officer reasonably believes that the requirements specified in this Order are necessary or advisable so as:
 - to prevent or reduce the risk of a discharge of a contaminant into the natural environment from the *Works*; and
 - to prevent, decrease or eliminate an adverse effect that may result from the discharge of a contaminant from the *Works*.
- Section 157: The undersigned Provincial Officer reasonably believes that the *City* contravened Section 14(1) of the EPA in having *Bypasses* occur at their *Works* and discharge untreated and/or partially treated sewage to the natural environment.

Offence(s)

Suspected Violation(s)/Offence(s):	
Act - Regulation - Section, Description {General Offence}	

Daryl Firlotte
 Provincial Officer
 Badge Number: 231
 Date: 2012/12/18
 District Office: Timmins District Office