

**ENVIRONMENTAL SERVICES
MEMORANDUM**

TO: MAYOR J. LEHMAN AND MEMBERS OF COUNCIL

FROM: S. COULTER, MANAGER OF WASTEWATER OPERATIONS

**NOTED: J. THOMPSON, P. ENG., CMM III IP, PMP
DIRECTOR OF ENVIRONMENTAL SERVICES**

**R. FORWARD, MBA, M.SC., P. ENG.
GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT**

M. PROWSE, CHIEF ADMINISTRATIVE OFFICER

**RE: 2017 LAKE SIMCOE REGIONAL AIRPORT ANNUAL REPORT
FILE: A22-AN**

DATE: APRIL 9, 2018

The purpose of this Memorandum is to apprise members of Council of the compliance status of the 2017 reporting year for the Lake Simcoe Regional Airport (LSRA) sewage works which is operated by the Wastewater Operations Branch of the Environmental Services Department. The Airport's Amended ECA (Environmental Compliance Approval) for the airport sewage works requires that the facility *Owner* (defined in the ECA as the City of Barrie) report annually to the Ministry of Environment and Climate Change (MOECC) within 90 days of the end of the reporting period (calendar 2017). This Memorandum is confirmation that the report for the year 2017 was submitted to the MOECC on March 29th, 2018 in keeping with requirements of the ECA. A copy of the 2017 Annual Report, which has been submitted to MOECC, has been placed in the Councillor's Lounge for Council's perusal.

The LSRA sewage works are located at 224 Line 7 North, Township of Oro-Medonte and operates under the MOECC's Amended Environmental Compliance Approval (ECA) No. 3223-ADYKC4 dated September 27, 2016. The ECA was amended in 2016 to reflect the construction of a new hangar and new sewage works to service the hangar. More hangars will be constructed in future on adjacent lots located on the airport property.

Existing sewage treatment processes include:

- Septic tanks, pumps, wet wells, force mains, and subsurface disposal systems (located at both older and new sewage works); and
- Waterloo Biofilters (located only at the new works).

The capacity of the old works is 13,044 litres per day while the capacity of the new works is currently 2,700 litres per day. In 2017, both works were in compliance with the maximum allowable flows stipulated in ECA document. The Wastewater Operations Branch has been trying to minimize infiltration and inflow (I and I) into the older works by installing "rain-stoppers" in manholes, raising manhole covers and locating sources of infiltration through camera work. As flow capacities are relatively low, even a running toilet can cause an exceedance if not promptly addressed. More effort will be required in 2018 to reduce I and I to consistently meet flow capacities in the older works. The City will also improve remote monitoring capabilities to ensure that high flows are detected and responded to without delay.

Raw sewage and biofilter effluent must also be sampled for quality according to ECA requirements. Objectives for the biofilter effluent are also outlined in the ECA. Results of sampling are compared with these objectives in the table below:

LSRA Compliance with Regulated Parameter Objectives

Regulated Parameter	Concentration Objective	Sample April 17, 2017	Sample Oct. 20, 2017
Carbonaceous Biological Oxygen Demand – (cBOD ₅) (mg/L)	10	12	5
Total Suspended Solids (TSS) (mg/L)	10	3	2
Total Nitrate Nitrogen (NH ₃ –N) (mg/L)	15	15.2	25.9

The data reveal that there are occasional shortfalls in meeting quality objectives. These shortfalls are likely due to cold weather, flow conditions or trace de-icing chemicals entering sewage. In general, sewage is coldest in March or April due to melting ice and snow. Cold weather presents challenges for biological sewage systems which is perhaps why objectives (and not limits) are imposed on these sewage works.

In summary, the operation of the works was generally successful with minor exceptions as noted above. It is believed that these exceptions can be addressed and corrected in 2018.

If you have any questions or require further information please contact the undersigned or Mr. Sandy Coulter, Manager of Wastewater Operations at extension 5826.