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Ontario

February 4, 2020

Sent by Email: sgeraghty@southdundas.com

Shannon Geraghty
Chief Administrative Officer
The Municipality of South Dundas
34 Ottawa Street
Morrisburg, Ontario
K0C 1X0

Dear: Shannon Geraghty

Re: Williamsburg Lagoon Inspection Report # 1-NXQTC 2020-2021

The enclosed report documents findings of the inspection that was performed at the Williamsburg Lagoon sewage works on October 21, 2020.

Two sections of the report, namely "Non-compliance with Regulatory Requirements and Actions Required" and "Summary of Recommendations and Best Practice Issues", if found, may cite due dates for the submission of information or plans to my attention.

Please note that "Non-compliance with Regulatory Requirements and Actions Required" are linked to incidents of non-compliance with regulatory requirements contained within an act, a regulation, or site-specific approvals, licenses, permits, orders, or instructions. Such violations may result in the issuance of mandatory abatement instruments which could include orders, tickets, penalties, or referrals to the ministry's Environmental Enforcement and Compliance Office.

"Recommended Actions" convey information that the owner or operating authority should consider implementing in order to advance efforts already in place to address such issues as emergency preparedness and conformance with existing and emerging industry standards. Please note that items which appear as recommended actions do not, in themselves, constitute violations.

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Thank you for the assistance afforded to me during the conduct of the compliance assessment. Should you have any questions regarding the content of the enclosed report, please do not hesitate to contact me.

Yours truly,

Pat Lalonde
Water Inspector/ Provincial Officer #1996
Ministry of the Environment, Conservation and Parks
Drinking Water and Environmental Compliance Division
Ottawa District Office
Tel: 613-363-1652
Fax: 613-521-5437 Email: Patrick.Lalonde@ontario.ca

Enclosure

-Denis Villeneuve, Supervisor of Water/Wastewater Operations - Municipality of South Dundas,
Email: dvilleneuve@southdundas.com

- Dawn Crump, Process & Compliance Technician - Ontario Clean Water Agency, Chesterville Hub, 5 Industrial Dr, Chesterville, ON K0C1H0
Email: dcrump@ocwa.com

- Rami Basha, Program Manager, Safe Water, Program Coordinator, Safe Water Eastern Ontario Health Unit, 1000 Pitt Street, Cornwall, ON K6J 5T1
Email: rbasha@eohu.ca

- Sandra Mancini, Team Lead, Engineering - South Nation Conservation, 38 Victoria St., P.O. Box 29, Finch, ON K0C 1K0
Email: smancini@nation.on.ca

c: File SI-ST-SD-C5-441 (2020-2021)

Ontario

Ministry of the Environment, Conservation and Parks

WW WILLIAMSBURG LAGOON

Inspection Report

Site Number:	120002013
Inspection Number:	1-NXQTC
Date of Inspection:	Oct 21, 2020
Inspected By:	Patrick Lalonde

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OWNER INFORMATION:

Company Name: SOUTH DUNDAS, THE MUNICIPALITY OF
Street Number: 34 **Unit Identifier:**
Street Name: OTTAWA St
City: MORRISBURG
Province: ON **Postal Code:** K0C 1X0

CONTACT INFORMATION

Type: Owner **Name:** Shannon Geraghty
Phone: (613) 543-2673 **Fax:** (613) 543-1076
Email: sgeraghty@southdundas.com
Title: Chief Administrative Officer - Municipality of South Dundas

Type: Operating Authority **Name:** Denis Villeneuve
Phone: (613) 543-2631 **Fax:** (613) 543-1076
Email: dvilleneuve@southdundas.com
Title: Supervisor of Water/Wastewater Operations - Municipality of South Dundas

Type: Compliance **Name:** Dawn Crump
Phone: (613) 448-3098 **Fax:** (613) 448-1616
Email: dcrump@ocwa.com
Title:

Type: Health Unit **Name:** Rami Basha
Phone: (613) 933-1375 x269 **Fax:** (613) 933-7930
Email: rbasha@eohu.ca
Title: Program Coordinator, Safe Water

Type: Conservation Authority **Name:** Sandra Mancini
Phone: (613) 984-2948 x223 **Fax:** (613) 984-2872
Email: smancini@nation.on.ca
Title: Team Lead, Engineering - South Nation Conservation

INSPECTION DETAILS:

Site Name: WW WILLIAMSBURG LAGOON
Site Address: 12319 COUNTY RD 18 WILLIAMBURG ON K0C 2H0
County/District: SOUTH DUNDAS
MECP District/Area Office: Cornwall Area Office
Health Unit: EASTERN ONTARIO HEALTH UNIT
Conservation Authority:
MNR Office:
Site Number: 120002013
Inspection Type: Announced
Inspection Number: 1-NXQTC
Date of Inspection: Oct 21, 2020

Date of Previous Inspection: Apr 02, 2014

COMPONENTS DESCRIPTION

Site (Name): Williamsburg Lagoon
Type: Plant Classification **Sub Type:** Class I
Comments:
The facility is located west of the Village of Wiliamsburg in the Township of South Dundas on County Road 18.

Site (Name): Williamsburg Lagoon
Type: Lagoon Sewage Treatment System **Sub Type:** Facultative
Comments:
The facultative lagoon consists of two cells, east and west, which have an approximate total area of seven hectares and are operated on a rotating basis. Influent is directed to one cell over a period of a year, while the second is dormant until discharge in the spring discharge.

Site (Name): McMartin Drain
Type: Effluent Discharge Receiver **Sub Type:** Surface Water
Comments:
Treated effluent is discharged to a ditch that outfalls to the McMartin Drain, which lies within the South Nation River Watershed.

Site (Name): Seasonal Discharge
Type: Effluent Discharge Frequency **Sub Type:** Seasonal
Comments:
The approved annual discharge window is from March 15 to April 21, to coincide with peak flows in the receiving stream.

Site (Name): Sewage Collection System
Type: Sewage Collection System **Sub Type:** Nominally Separated Sewers
Comments:
The Village is served by a gravity fed collection system and includes two pumping stations. An overflow pipe exsists in the collection system immediately upstream of each pumping station.

Site (Name): SPS #1
Type: Collection System Component **Sub Type:** Pumping station
Comments:
The larger, main pumping station is located just south of the lagoon at 12319 County Road 18 and receives sewage from service area and smaller pumping station (SPS #2) and conveys sewage to the lagoon.

Site (Name): SPS #2
Type: Collection System Component **Sub Type:** Pumping station
Comments:
SPS #2 is located along County Road 31 at the south end of the Village and pumps sewage received from residential properties south of the McMartin Drain to the larger pumping station.

Site (Name): Natural Gas Powered Stand-by Generator
Type: Stand-by Power Generation **Sub Type:** Pumping Station Generator(s)

Comments:
A natural gas powered stand-by generator is located at the main pumping station (SPS #1), registered as R-002-316-0864499.

INSPECTION SUMMARY:

Introduction

- **The primary focus of this inspection is to confirm compliance with Ministry of the Environment, Conservation and Parks (MECP) legislation as well as evaluating conformance with ministry policies and guidelines during the inspection period.**

  This wastewater treatment and collection system is subject to the legislative requirements of the Ontario Water Resources Act (OWRA) and the Environmental Protection Act (EPA) and regulations made therein. This inspection has been conducted pursuant to Section 15 of the OWRA and Section 156 of the EPA.

  This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

  On October 21, 2020 Pat Lalonde, Water Inspector/Provincial Officer (Ministry Inspector), Badge #1996 visited the Williamburg Sewage Lagoon communal sewage system for the purpose of performing a scheduled inspection to assess compliance with applicable Ministry of the Environment, Conservation and Parks legislative requirements (Acts and Regulations), Environmental Compliance Approvals (ECA), as well as conformance with Ministry guidelines and procedures.

  The Williamburg Wastewater Collection System (WWCS) and lagoon treatment facility, which together constitute the sewage or wastewater system, are owned and operated by the Municipality of South Dundas. The wastewater collection and treatment system (sanitary and stormwater sewer mains, manholes and connections) and Sewage Pumping Stations (SPS) are operated and overseen by Owner's Water and Wastewater division also herein referred the "Operating Authority". The Ontario Clean Water Agency (OCWA) also provides compliance support for the Owner.

  The wastewater system inspection included a physical inspection of the lagoon site and both pumping station accompanied by Dennis Villeneuve, Supervisor of Water and Wastewater Operations, John Cameron Wastewater Operator and Dawn Crump, Process Compliance Technician, OCWA which were interviewed to gain insight into operating procedures and best practices employed in the system. Dawn Crump also assisted the Inspector with provision of the information.

  Documentation associated with the operation, maintenance, sampling, testing and monitoring of the system was reviewed for the period covering January 1, 2018 to October 21, 2020 a time frame that will hereafter be referred to as the "inspection period."

  The previous inspection conducted on February 10, 2015, did not identify any issues of non-compliance with regulatory requirements and actions required and no recommendations.

Authorizing/Control Documents

- **The owner had a valid Environmental Compliance Approval for the sewage works.**

  The facility operates under amended Certificate of Approval (C of A) No. 3-0456-84-887, dated January 28/1992.

Capacity Assessment

- **The annual average daily flow was approaching the rated capacity of the sewage works.**

  The design capacity of the Williamsburg Lagoon is 387 m3/d. This was determined through assessment carried out

Capacity Assessment

by Greer Galloway in a July 25/2012 report.

The daily average flow during the Inspection Period is as follow:

- Average daily flow for 2018 was 328 m3/day which represents 86%
- Average daily flow for 2019 was 294 m3/day which represents 77%

Municipalities should acknowledge that when the annual average flow into the sewage works is approaching the rated capacity, future plant expansion may need to be considered. Municipalities should recognize that upgrades typically require a minimum 3 to 5 years to develop, and should therefore plan for their long term development needs accordingly. The Village can also refer to ministry Procedure D-5-1: Calculating and Reporting Uncommitted Reserve Capacity at Sewage and Water Treatment Plants for additional information.

- **Flow measuring devices were not installed, calibrated and maintained.**

  The installation of the flow measuring device for the measurement of the influent entering the sewage works is required for monitoring of the rated capacity for the average daily flow which the works are approved to handle. In addition, a flow measuring device to measure the flow rate of the effluent discharged from the sewage works should be installed. Calibration of flow measuring devices is required at regular intervals not exceeding one year to ensure their accuracy to within margin of error prescribed by the manufacturer's specifications.

  The Operating Authority explained that raw flows are calculated at the pumping station based on the level transmitter and rated pumping capacity of the submersible pumps. The lagoon discharge flows are calculated based on a transit level taken at the beginning and at the end of the discharge the calculated by the surface area of the lagoon cells.

  The Inspector did a review of the raw flows and discharge flows for the inspection period and flows dating back to the previous inspection. Upon the inspectors request, the Operating Authority provided copies of the SOP for the Williamsburg Lagoon Discharge and the Williamsburg Lagoon Pumping Station Flow. Although the SOP provided a description on the calculations of determining flows, the lagoon discharge flows do not coincide with raw flows entering the lagoon cells.

  Based on the calculations of the surface area and depths of both lagoon cells, each cell have a holding capacity of 70,000 m3 each for a total approximate capacity of 140,000 m3. Based on the provided annual reports and flow summary reports since 2014 below is a summary of the system

  - The annual raw flows varied between 85,550 - 123,285 m3;
  - The annual lagoon discharges flows varied between 17,708 - 75,223 m3.
  - Since 2014 the lagoon discharges have been emptied between 14% - 61% compared to the calculated annual raw flow. Based on the information provided the lagoon cells would have less than 2 years of holding capacity.

Treatment Processes

- **The owner had ensured that all equipment/components associated with the works was installed in accordance with the Environmental Compliance Approval.**

  During the supervised tour of the system, a cross reference of the components listed in the ECA was verified with those components/equipment observed to be in place at the facility.

- **The operator-in-charge had ensured that all equipment used in the processes was monitored, maintained, inspected, tested and evaluated.**

  Subsection 18(2) of O.Reg. 129/04 states "An operator-in-charge shall, (d) ensure that all equipment used in the processes within his or her responsibility is properly monitored, inspected and evaluated and that records of

Treatment Processes

equipment operating status are prepared and available at the end of every operating shift.

Based on a review of logbooks, monthly logs from the pumping station, call in reports, and lagoon maintenance reports, it was concluded that the operator-in-charge fulfilled the requirements as per the regulation.

- **There was no obvious evidence of groundwater or surface water impact from the sewage works on the day of inspection.**

Effluent Quality and Quantity

- **The sewage works effluent limits were prescribed by the Environmental Compliance Approval.**

  The ECA includes the following effluent limits:
  - Annual Average Concentration of 30 mg/L for BOD5; and
  - Annual Average Concentration of 30 mg/L for Total Suspended Solids.
  - Hydrogen Sulphide limit defined as not to produce lethal levels of undissociated hydrogen at point of complete mixing with received waters

- **The sewage works effluent sample results did not demonstrate compliance with BOD5 or CBOD5 limits prescribed by the Environmental Compliance Approval.**

  The ECA prescribes an effluent limit for BOD5 of 30 mg/L (annual average concentration).

  During the review of data provided, the Inspector noticed that the BOD5 parameter for testing was not being collected as per the ECA. Records indicated that as of April 18, 2018, the testing parameter on the chain of custody form had been changed to CBOD5. The annual reports references BOD in the performance assessment report (PAR) and CBOD in the Lagoon PAR. The inspector followed up with the Operating Authority and OCWA, correspondence provided on December 29, 2020 explained that an error was made when filling out the initial effluent chain of custody "COC" for the lab. BOD was accidentally omitted and was replaced by CBOD5.

  The inspector reviewed the analytical results of the lagoon discharges since 2018 and determined that the due to low results in CBOD5, Nitrates and Nitrites the BOD5 results would have been similar or lower the reported CBOD5.

  The annual average concentrations during the inspection period for CBOD5 were as follow:
  2018 - 3.0 mg/L;
  2019 - 1.5 mg/L; and
  2020 - 1.5 mg/L

- **The sewage works effluent sample results demonstrated compliance with total suspended solids limits prescribed by the Environmental Compliance Approval.**

  The ECA prescribes an effluent limit for Total Suspended Solids (TSS) of 30 mg/L (annual average concentration).

  The annual average concentrations during the inspection period were:
  2018 - 6.7 mg/L for TSS
  2019 - 7.7 mg/L for TSS
  2020 - 9.5 mg/L for TSS

- **The sewage works effluent sample results demonstrated compliance with total phosphorous limits prescribed by the Environmental Compliance Approval.**

  No limits are prescribed in the ECA for total phosphorus in effluent from the Williamsburg Lagoon.

Effluent Quality and Quantity

MOE Guideline F-8 states "All municipal and institutional sewage treatment works, having nominal design capacities of 4,546 cubic metres per day, or more, discharging into the Lake Superior basin, Lake Huron basin, Lake Ontario basin, St. Lawrence River basin, or Ottawa River basin shall have effluents not exceeding a total phosphorus concentration of 1.0 mg/l.

An Engineering Assessment carried out by Greer Galloway in 2012 concluded that phosphorus control is not required at that time based on consistently low (<1.0 mg/L) phosphorus concentrations.

- **The sewage works effluent sample results demonstrated compliance with additional limits prescribed by Environmental Compliance Approval.**

  The ECA prescribes an effluent limit for Hydrogen Sulphide (H2S) as not to produce lethal levels of undissociated hydrogen at point of complete mixing with the receiving water.

  The H2s residuals during the inspection period varied as follow:

  - During the 2018 discharge results varied between 0.002 - 0.009 mg/L;
  - During the 2019 discharge results varied between 0.00 - .0013 mg/L; and
  - During the 2020 discharge results varied between 0.00 - 0.0053 mg/L.

- **The sewage works effluent was discharged during the prescribed period.**

  The ECA permits seasonal discharge, with discharge time coinciding generally with peak flows in the receiving stream but not before March 15th nor after April 21st.

  During the inspection, the effluent was discharged as follow:

  2018 discharge period occurred between April 17 to April 20 (4 days) with a discharge flow of 17,708 m3
  2019 discharge period occurred between April 17 to April 21 (5 days) with a discharge flow of 22,354 m3
  2020 discharge period occurred between April 14 to April 21 (8 days) with a discharge flow of 41,847 m3

- **The inspector did not collect audit samples during the inspection.**

Monitoring Requirements

- **The sampling requirements were not prescribed by the Environmental Compliance Approval.**

  A review the ECA determined that it does not contains sampling requirements which would be found in the Monitoring and Recording found in a modern ECA.

  The Operating Authority follows the approved methods and protocols for sampling including those specified in the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works", the Ministry's publication, "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" and the publication, "Standard Methods for the Examination of Water and Wastewater".

- **The owner had maintained the monitoring records since the date of the last inspection.**

  The ECA does not contain record retention requirments but the Operating Authority has a record retention system for all records and information related to or resulting from the monitoring activities related to the operation of the sewage works for a minimum period of four (4) years.

Monitoring Requirements

Reporting Requirements

- **The reporting requirements were not prescribed by an Environmental Compliance Approval.**

  The current ECA does not contain modern requirements therefore there are no reporting requirements prescribed by the ECA.

- **The annual performance reports met the submission and contents requirements of the Environmental Compliance Approval.**

  The requirements for the submission and content of an annual performance report would be stipulated in the "Reporting" section of the ECA. Although the ECA does not contain any requirements to submit the annual performance report, the Owner does provide one annually to the Ministry.

Bypasses and Overflows

- **Bypasses/overflows had not occurred at the sewage works during the inspection period.**

Wastewater Collection Systems

- **The plant received sewage from a combined sewer collection system.**

  During the inspection the Operating Authority explained that the town Williamsburg does not have a storm sewer collection system. Houses which are connected to the sanitary sewers have been known to have their sump pump connected and in some case eavestrough and gutters connected to sanitary. These flows are noticeable at the pumping station during storm events and the spring thaw.

- **A characterization study had been undertaken.**

  It is recommended that all municipalities complete a characterization study, particularly if they have combined sewers or ongoing bypasses and overflow at separated sewer systems.

  During the inspection it was explained that the town of Williamsburg does not have a storm sewer collection system and houses which are connected to the sanitary sewers have sump pumps and in some case eavestrough and gutters connected to dwelling sanitary. These inflows flows are noticeable at the pumping station during major storm events and the spring thaw.

Biosolids Management

- **The facility did not receive sludge or biosolids from another location.**

- **The owner had a program for the routine removal of sludge from the lagoon system.**

  Records and logbook entry indicate that a sludge monitoring program is in place. Records provided confirm that a sludge profile assessment was conducted on both lagoon cells during July 17 & 18, 2019. The report also confirms that desludging of the lagoon does not appear necessary.

Certification and Training

- **The classification certificates of the subsystems were conspicuously displayed at the workplace or at premises from which the subsystem was managed.**

  O. Reg. 129/04, ss. 4(5) states that the owner shall ensure that the certificate of classification of the facility is conspicuously displayed at the facility or at premises from which the operations of the facility are managed.

Certification and Training

On the day of the inspection, facility classification certificates were displayed in the main pumping station.

- **Operator licences were displayed in a conspicuous location at the workplace or at the premises from which the subsystem was managed.**

  O.Reg. 129/04, s. 13 states that the owner of a facility shall ensure that a copy of the licence of every licensed operator who is employed in the facility is conspicuously displayed at the operator's workplace or at premises from which the operations of the facility are managed.

  Operator licenses were duly displayed at the South Dundas Regional Water Treatment Plant, 99 Augusta Street, Morrisburg.

- **The overall responsible operator had been designated for the wastewater treatment and collection works.**

  In order to ensure that the facility will be operated as designed, the owner must ensure that the responsibility for the overall operation of the facility is placed with an operator who has the applicable level of training for that facility.

  During the Inspection period the designated ORO was John Cameron.

- **An adequately licensed operator was designated to act in place of the overall responsible operator when the overall responsible operator was unable to act.**

  During the absence or unable to act, the designated ORO were Vince Lauzon or Denis Villeneuve during the inspection period.

- **All operators had the appropriate level of licences for the wastewater treatment and collection works.**

  A review of the information provided and obtained from the Ontario Water Wastewater Certification Office indicated every operator employed in the subsystem held a valid and appropriate certification.

- **Only licenced operators made adjustments to the treatment equipment.**

  A review of the logbook was conducted by the inspector for the Inspection Period. The information examined during the review of the logbook indicated only certified operators made adjustments to the treatment equipment.

- **Operators-in-charge were designated for the wastewater treatment plant and all associated collection works.**

- **The operator-in-charge ensured that records were maintained of all adjustments made to the processes within his or her responsibility.**

Logbooks

- **The logs and other record keeping mechanisms complied with the record keeping requirements.**

  Section 19 of O.Reg. 129/04 requires the following record keeping procedures:
  (1) The owner of a facility shall ensure that logs or other record-keeping mechanisms are provided to record information concerning the operation of the facility.

  (2) Entries in the logs or other record-keeping mechanisms shall be made chronologically.

  (3) No person shall make an entry in a log or other record-keeping mechanism unless the person is an operator-in charge or is authorized to make an entry by the owner or an operator-in-charge.

Logbooks

(4) A person who makes an entry in a log or other record-keeping mechanism shall do so in a manner that permits the person to be unambiguously identified as the maker of the entry.

(5) An operator-in-charge or a person authorized by an operator-in-charge shall record the following information in the logs or other record-keeping mechanisms in respect of each operating shift:
a. The date, the time of day the shift began and ended and the number or designation of the shift.
b. The names of all operators on duty during the shift.
c. Any departures from normal operating procedures that occurred during the shift and the time they occurred.
d. Any special instructions that were given during the shift to depart from normal operating procedures and the person who gave the instructions.
d. Any unusual or abnormal conditions that were observed in the facility during the shift, any action that was taken and any conclusions drawn from the observations.
e. Any equipment that was taken out of service or ceased to operate during the shift and any action taken to maintain or repair equipment during the shift.

(6) The owner shall ensure that logs and other record-keeping mechanisms are accessible in the facility for at least two years after each entry in it was made.

- **Logs and other record keeping mechanisms were available for at least two (2) years.**

Operations Manuals

- **Operators and maintenance personnel had ready access to operations and maintenance manuals.**

  During the physical inspection the operator demonstrated that a Health and Safety, Policy and Procedure Manuals for components of the system was accessible at the main pumping station.

- **The operations and maintenance manuals contained up-to-date plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.**

  The ECA does not contain any operations and maintenance manual conditions which focus on "procedures" but Section 20 of O.Reg. 129/04 requires maintenance manuals to contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the facility.

  This requirement applies to all parts of the Sewage Works including collection and treatment. Plans/drawings should depict treatment process units, chemical application points and process monitoring / sampling points. The plans/drawings for collection system should also include mains, valves, pumping stations and other appurtenances associated with the collection system. Plans/drawings may depict the entire system as a whole or individual systems as separate drawings. Process descriptions should describe treatment process. The description of each treatment process should include the purpose of the process, the equipment included in the process (treatment and monitoring), and how the process/equipment works.

  Section 20 (2) of O.Reg 129/04 requires the Owner to ensure that the manuals are reviewed and updated at least once every two years.

  It is recommended that a review of the operation and maintenance manual be made to fulfill the legislative requirements.

Contingency/Emergency Planning

- **A spill prevention control and countermeasures plan was not established.**

  Spill prevention control and countermeasures plan may consist of contingency plans and procedures for dealing

Contingency/Emergency Planning

with equipment breakdowns, potential spills and any other abnormal situations, including notification of the District Manager. The plan should include an emergency contact information and phone numbers.

It is recommended that an update the OM and emergency/contingency plans as changes occur and to verify that the information contained in OM and emergency/contingency plans are up to date on a bi-annual basis.
By ensuring that contact information and emergency numbers are current, and that the manual includes the most up-to-date operating instructions and parameters, operation staff will be better prepared to respond to system upsets.

- **For Lagoon Systems, the owner is conforming with the freeboard and berm conditions in the MECP Design Guidelines for Sewage Works.**

  Freeboard should be measured from the top of the lagoon cell berm at the lowest elevation of each cell to the top of the liquid level. The amount of supernatant cover refers to the amount of supernatant, or liquid, over the top of the sludge layer. The supernatant cover minimizes odours from the sludge.

  During the physical inspection, a visual inspection confirmed that the lagoon discharge chamber appeared to be operated accordingly. The lagoon berms also appeared to be properly slopped to divert stormwater runoff around the lagoons and protect the lagoons embankments from erosion.

- **Spill containment was provided for the process chemicals and/or standby power generator fuel.**

- **The owner had provided security measures for the facility.**

  The lagoon site access road is gated and locked. The sewage pumping station is also locked.

NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED

This section provides a summary of all non-compliance with regulatory requirements identified during the inspection period, as well as actions required to address these issues. Further details pertaining to these items can be found in the body of the inspection report.

1. **The sewage works effluent sample results did not demonstrate compliance with BOD5 or CBOD5 limits prescribed by the Environmental Compliance Approval.**

   During the review of data provided to the Inspector, it was noticed that the BOD5 parameter for testing was not being collected as per the ECA. Records indicated that as of April 18, 2018, the testing parameter on the chain of custody form had been changed to CBOD5. The annual reports references BOD in the performance assessment report (PAR) and CBOD in the Lagoon PAR. The inspector followed up with the Operating Authority and OCWA, correspondence provided on December 29, 2020 explained that an error was made when filling out the initial effluent chain of custody "COC" for the lab. BOD was accidentally omitted and was replaced by CBOD5.

   A new chain of custody has since been issued to staff that is to be used during 2021's discharge period and all discharge periods moving forward. Furthermore, as soon as it is feasible to do so, a full review of the facility's ECA will be conducted with operations staff to ensure they are aware of all regulatory requirements associated with this particular wastewater system.

   Action(s) Required:

   Notification of ECA non-compliance has been reported under SAC reference #6625-BWRNUU and corrective actions have been implemented as per correspondence dated December 29, 2020.

   OCWA has revised the laboratory chain of custody form and provided a copy to operational staff.

   By no later than February 26, 2020 provide the Water Inspector training records that Staff have reviewed the ECA.

SUMMARY OF RECOMMENDATIONS AND BEST PRACTICE ISSUES

This section provides a summary of all recommendations and best practice issues identified during the inspection period. Details pertaining to these items can be found in the body of the inspection report. In the interest of continuous improvement in the interim, it is recommended that owners and operators develop an awareness of the following issues and consider measures to address them.

1. **Flow measuring devices were not installed, calibrated and maintained.**
The Inspector did a review of the raw flows and discharge flows for the inspection period and flows dating back to the previous inspection. Upon the inspectors request, the Operating Authority provided copies of the SOP for the Williamsburg Lagoon Discharge and the Williamsburg Lagoon Pumping Station Flow. Although the SOP provided a description on the calculations of determining flows, the lagoon discharge flows do not coincide with raw flows entering the lagoon cells.

   Based on the calculations of the surface area and depths of both lagoon cells, each cell have a holding capacity of 70,000 m3 each for a total approximate capacity of 140,000 m3. Based on the provided annual reports and flow summary reports since 2014 below is a summary of the system

   - The annual raw flows varied between 85,550 - 123,285 m3;
   - The annual lagoon discharges flows varied between 17,708 - 75,223 m3.
   - Since 2014 the lagoon discharges have been emptied between 14% - 61% compared to the calculated annual raw flow. Based on the information provided the lagoon cells would have less than 2 years of holding capacity.

   Recommendation:

   It is imperative that flow calculations are correct, the Operating Authority should conduct a review of both raw and discharge flow calculations including a review of the SOP to ensure proper flows are provided to the Ministry. The Water Inspector has concerns regarding how flows are calculated, the quantities reported and the potential impact on the receiving water body.

   A follow up is to be reviewed during the annual report submission.

2. **A spill prevention control and countermeasures plan was not established.**
Spill prevention control and countermeasures plan may consist of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the District Manager. The plan should include an emergency contact information and phone numbers.

   Recommendation:

   It is recommended that an update the OM and emergency/contingency plans as changes occur and to verify that the information contained in OM and emergency/contingency plans are up to date on a bi-annual basis. By ensuring that contact information and emergency numbers are current, and that the manual includes the most up-to-date operating instructions and parameters, operation staff will be better prepared to respond to system upsets.

SIGNATURES

Inspected By: Signature: (Provincial Officer)

Patrick Lalonde

Reviewed & Approved By: Signature: (Supervisor)

Charlie Primeau

Review & Approval Date: 02/02/2021

Note: This inspection does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they apply or may apply to this facility. It is, and remains, the responsibility of the owner and/or operating authority to ensure compliance with all applicable legislative and regulatory requirements.

APPENDIX A

ENVIRONMENTAL COMPLIANCE APPROVAL(S)

Ministry of the Environment / Ministère de l'Environnement

Ontario

Certificate of Approval (Sewage)
Certificat d'autorisation (eaux usées)

Number / *Numéro* 3-0456-84-887

Whereas / *Attendu que* TOWNSHIP OF WILLIAMSBURG

of / *d*

has applied in accordance with Section 24 of the Ontario Water Resources Act for approval of:
a fait, conformément à l'article 24 de la loi sur les ressources en eau de l'Ontario, une demande d'autorisation:

Sewage works to serve an equivalent population of 470 persons in the Village of Williamsburg, comprising sanitary sewers and appurtenances to be constructed in the Township of Williamsburg, as follows:

Street	From	To
Recreation Grounds Access Road	County Road 18	Approx. 50 m North of County Road 18 (S. Pumping Station #1)
County Road 18	Approx. 400 m West of Park Lane	Approx. 640 m East of Highway 31
County Road 18 and Twp. Road (westerly Ext. of County Road 18)	Approx. 400 m West of Park Lane	Twp. Road (N-S Section) (southerly Ext. of County Road 18)
County Road 18 and Twp. Road (southerly Ext. of County Road 18)	Twp. Road N-S Section (westerly Ext. of County Road 18)	Approx. 210 m North of Street "A"
Street "A"	Twp. Road N-S Section (southerly Ext. of County Road 18)	Approx. 110 m westerly and then 105 m northerly
Park Lane	County Road 18	Approx. 200 m South of County Road 18
Locke Lane	County Road 18	Approx. 145 m North of County Road 18
Highway 31	Approx. 405 m South of Park Lane	Approx. 425 m North of County Road 18

/2 ...

ow therefore this is to certify that after due enquiry the said proposed works have been approved under Section 24 of the ntario Water Resources Act.

Le présent document *certifie qu'après vérification en bonne et due forme la construction dudit projet d'ouvrages a été approuvée aux termes de l'article 24 de la loi sur les ressources en eau de l'Ontario.*

This Certificate of Approval supersedes previous Certificate of pproval No. 3-0456-84-006 dated July 5, 1984.

DATED AT TORONTO this 24th day of May 1988
DATÉ À TORONTO ce *jour d*

cc: M. Waddell, Clerk, Township of Williamburg
H. Garlough, Township Engineer
A.J. Graham Engineering Consultants Limited
D. Guscott, Regional Director, Southeastern Region

fc
31 05/84

Director / *Directeur*

together with the construction of two sewage pumping stations, one (No. 1) equipped with two Flygt CP 30101 14 L/s capacity submersible sewage pumps and a 7.25 m long x 150 mm diameter forcemain to the waste stabilization ponds and one (No. 2) equipped with two Myers WG 20 65 L/min pumps and a 40 m long x 32 mm diameter forcemain to the gravity sewer on the north side of McMartin Drain on Highway #31, and construction of a two cell 7.1 ha (total) annual discharge waste stabilization pond with an effluent outfall into McMartin Drain including appurtenances, yard piping, mechanical and electrical work, all in accordance with the final plans and specifications prepared by A.J. Graham Engineering Consultants Ltd., Consulting Engineers, at a total estimated cost, including engineering and contingencies, of ONE MILLION, FOUR HUNDRED AND FORTY THOUSAND DOLLARS ($1,440,000), subject to the following special terms and conditions which are considered necessary by the undersigned:

SPECIAL TERMS AND CONDITIONS

1. The waste stabilization ponds shall be operated on an annual discharge basis, the discharge time coinciding generally with peak flows in the receiving stream but not before March 15th nor after April 21st.

2. The following effluent criteria shall be maintained:

Parameter	Maximum Concentration
BOD_5	30 mg/L
Suspended Solids	30 mg/L
Hydrogen Sulfide	so as not to produce lethal levels of undissociated hydrogen at point of complete mixing with receiving water

Where mg/L = milligram per litre

3. An effluent quality monitoring program will be carried out by the staff of the Southeastern Region of the Ministry. Corrective action shall be taken by the Municipality (immediately in the case of hydrogen sulfide) should any of the effluent quality parameters be unduly exceeded.

4. If the quality of the proposed lagoon outside perimeter ditch discharge causes water quality impairment in the McMartin Drain, any such discharge shall be collected and pumped back into the waste stabilization ponds.

NOTICE OF AMENDMENT

TO: Township of Williamsburg
Box 160
Williamsburg, Ontario
K0C 2H0

You are hereby notified that approval issued under Certificate of Approval No. 3-0456-84-887, dated May 24, 1988, is hereby amended to include the following:

The following description:

"together with the construction of two sewage pumping stations, on (No. 1) equipped with two (2) Flygt CP 30101 14 L/s capacity submersible sewage pumps and a 7.25 m long x 150 mm diameter forcemain to the waste stabilization ponds and one (No. 2) equipped with two Myers WG 20 65 L/min pumps and ..."

is amended and superseded by the following :

"together with the construction of two (2) sewage pumping stations, on (No. 1) equipped with two (2) submersible sewage pumps each with a capacity of 14 L/s and a 7.25 m long x 150 mm diameter forcemain to the waste stabilization ponds and one (No. 2) equipped with one (1) submersible sewage grinder pump with a rated capacity of 65 L/min and ..."

This Notice shall constitute part of the approval issued under Certificate of Approval No. 3-0456-84-887 dated May 24, 1988

You may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 63 of the Ontario Water Resources Act, R.S.O. 1980, C. 361, as amended, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to <u>each</u> portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the sewage works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary,
Environmental Appeal Board,
112 St. Clair Avenue West,
5th Floor,
Toronto, Ontario.
M4V 1N3

AND

The Director,
Section 24, Ontario Water Resources Act,
Ministry of the Environment,
250 Davisville Avenue, 3rd Floor,
Toronto, Ontario.
M4S 1H2

This is to certify that after due enquiry the proposed works have been approved under Section 24 of the Ontario Water Resources Act.

DATED AT TORONTO this 28th day of January, 1992.

W. Gregson, P. Eng.
Director
Section 24
Ontario Water Resources Act

Attn:Mr. M. Waddell, Clerk, Township of Williamsburg
cc: H. Garlough, Township Engineer
A. J. Graham Engineering Consultants Limited
B. Ward, Director, MOE Southeastern Region
D. F. Carr, Supervisor, Municipal Approvals SE/NE/C Unit
M. Tybinkowski, Coordinator, Municipal Approvals SE/NE/C Unit

VP/fn

APPENDIX B

STAKEHOLDER SUPPORT

Helpful Resources for Municipal Wastewater Owners and Operators

Many useful materials are available to help you operate your wastewater system. Below is a list of key materials owners and operators of municipal wastewater systems frequently use. To access these materials online click on their titles in the table below or use your web browser to search for their titles.
Contact the Ministry if you need assistance or have questions at:

1-866-793-2588 or
AskMECPWastewaterCompliance@ontario.ca.

For more information on wastewater visit
www.ontario.ca/page/wastewater-operators-training-and-licences

PUBLICATION TITLE	PUBLICATION NUMBER
Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater	Website
Guide to Applying for an Environmental Compliance Approval	Website
Environmental Registration – Standby Power Systems Fact Sheet	8544E
F-5-1 Determination of Treatment Requirements for Municipal and Private Sewage Treatment Works Discharging to Surface Waters	Website
F-8 Provision And Operation Of Phosphorus Removal Facilities At Municipal, Institutional And Private Sewage Treatment Works	Website
F-10-1 Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)	Website
Water Management, Policies, Guidelines: Provincial Water Quality Objectives	Website
Licensing Guide for Operators of Wastewater Treatment Facilities	Website

PIBS 9485b01

Ressources utiles pour les propriétaires et les exploitants d'installations municipales d'eaux usées

De nombreux documents utiles peuvent vous aider à exploiter votre installation d'eaux usées. Vous trouverez ci-après une liste de documents que les propriétaires et exploitants d'installations municipales d'eaux usées utilisent fréquemment.
Pour accéder à ces documents en ligne, cliquez sur leur titre dans le tableau ci-dessous ou faites une recherche à l'aide de votre navigateur Web. Communiquez avec le ministère au 1-866-793-2588, ou encore à AskMECPWastewaterCompliance@ontario.ca si vous avez des questions ou besoin d'aide.

Pour plus de renseignements sur l'eau potable en Ontario, consultez le site https://www.ontario.ca/fr/page/exploitants-de-reseaux-deaux-usees-formation-et-permis

PUBLICATION TITLE	PUBLICATION NUMBER
Protocole sur l'échantillonnage et l'analyse des eaux usées industrielles et municipales	Site Web
Guide pour soumettre une demande d'autorisation environnementale	Site Web
Environmental Registration – Standby Power Systems Fact Sheet (en anglais seulement)	8544F
F-5-1 Établissement des exigences visant le traitement des effluents d'usines de traitement des eaux usées municipales ou privées lorsque ces effluents se déversent dans les eaux de surface	Site Web
F-8 Fournitures et utilisation d'installations d'élimination du phosphore dans les usines de traitement des eaux d'égout municipales, institutionnelles et privées	Site Web
F-10-1 Procédures d'échantillonnage et d'analyse des eaux provenant d'usines de traitement des eaux d'égouts municipales, institutionnelles ou privées (flux de déchets liquides seulement)	Site Web
Gestion de l'eau : politiques, lignes directrices, objectifs provinciaux de qualité de l'eau	Site Web
Guide sur l'accréditation des exploitants d'installations d'eaux usées	Site Web

PIBS 9485b01