



2023

ANNUAL PERFORMANCE REPORT

Stormwater Management System
Municipality of West Grey

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**2023 Annual Performance Review
Stormwater Management System
Municipality of West Grey**

July, 2024

22-012

1 EXECUTIVE SUMMARY

Durham and Neustadt's Stormwater Management System (SWM) is owned and operated by the Municipality of West Grey in accordance with Consolidated Linear Infrastructure Environmental Compliance Approval (CLI-ECA) No. 096-S701, issued September 5, 2023. The SWM system consists of approximately 11.9 km of storm sewers in Durham and 2.6 km in Neustadt. There is 0.6 km of ditches in Durham and 3.8 km in Neustadt. The SWM system also includes SWM ponds, oil/grit separators, stormceptors and appurtenances that are essential for the operation of the works.

Throughout the reporting period (January 1, 2023 to December 31, 2023), staff worked diligently completing several maintenance, rehabilitation and renewal projects to ensure the adequacy of the municipal stormwater system infrastructure.

No Ministry of Environment, Conservation and Parks (MECP) inspections occurred during the reporting period.

2 REPORT REQUIREMENTS STIPULATED IN CLI - ECA

In accordance with the CLI - Environmental Compliance Approval No. 096-S701, Schedule E Section 5.2, West Grey, as the Owner of the Municipal Stormwater Management System, shall prepare and submit a performance report to the Ministry of the Environment, Conservation and Parks (MECP) on an annual basis.

Schedule E Section 5.2 of the ECA requires the Annual Performance Report to contain the following elements:

- i) A summary and interpretation of all monitoring data, including an overview of condition and operational performance of the Works and any Adverse Effects on the Natural Environment;
- ii) A summary and interpretation of environmental trends based on all monitoring information and data for the previous five (5) years;
- iii) A summary of any operating problems encountered and corrective actions taken;
- iv) A summary of all inspections, maintenance and repairs carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Authorized System;
- v) A summary of the calibration and maintenance carried out on all monitoring equipment;
- vi) A summary of any complaints related to the Works received during the reporting period and steps taken to address the complaints;
- vii) A summary of all alterations to the Authorized System within the reporting period that are authorized by this Approval including a list of Alterations that pose a Significant Drinking Water Threat;
- viii) A summary of all spills or abnormal discharge events;
- ix) A summary of actions taken, including timelines, to improve or correct performance of any aspect of the Authorized System; and
- x) Include a summary of the status of actions for the previous reporting year.

3 ANNUAL PERFORMANCE REPORT

This report was generated from the records maintained by West Grey's staff or input provided by them for the calendar year 2023.

i) Interpretation of Monitoring Data

Monitoring and inspection of the SWM system includes annual programs consisting of storm main flushing and camera work, stormwater management facility inspections and maintenance hole cleaning, repair/replacement. All programs help to sustain an effective Capital Works program that coordinates with the municipality's maintenance objectives. The programs in the past have been informal, however, as a consequence of the CLI's requirement and Stormwater Management Manual prepared for the system, the programs shall be formally implemented and documented in future reports.

Table 3.1 details the monitoring activities performed by staff during the reporting period. Based on the data collected and reviewed, it has been determined that the system is performing adequately to meet demand and maintenance requirements. At this time there are no required major modifications required for the SWM system. Continuous improvement and optimization will continue to be a priority for staff and management.

ii) Interpretation of Environmental Trends

Prior to the implementation of the new CLI-ECA, West Grey did not have the monitoring programs in place (**Table 3.2**). There were some annual checks completed on the SWM ponds, but work was not tracked.

The consistent program that has been in place is catch basin cleaning and storm sewer flushing on an annual basis. Catch basin cleaning is completed by an external contractor and there have been no abnormal conditions reported.

Staff are expecting this section of the Annual Performance Report to be more informative after the first few years of the new monitoring programs being in effect with proper documentation. At that time, there will be reliable and consistent data that can be compared and interpreted for environmental trending.

iii) Operating Problems and Corrective Actions

Table 3.3 is utilized to document a summary of operating problems that required immediate corrective action to allow the system to function as designed. No operational issues were found that could have required corrective actions.

iv) Inspections, Maintenance and Repairs

Table 3.4 is utilized to document a summary of all inspections, maintenance and repairs carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Authorized System.

In 2023, apart from annual visual inspection of ponds and cleaning of storm structures, no repairs were needed.

v) Calibration and Maintenance of Monitoring Equipment

The existing storm water management system does not have any pumping stations or structures incorporating electrical/mechanical components. Therefore, this CLI-ECA requirement is inapplicable to West Grey.

vi) Complaints

There were zero complaints related to the stormwater infrastructure during this reporting period. During heavy rain events, no complaints were received from residents concerning stormwater flooding in their yards or basement flooding from drainage, storm and sanitary private cross connections. **Table 3.5** is the format proposed to be used for documenting the complaints, if any, in future annual reports.

vii) Alterations to the Authorized System

Table 3.6 summarizes the format to document alterations to the SWM system in 2023. Several of the projects in the reporting period were water only and did not include any storm-related work, except one, as indicated in **Table 3.6**. There were no new developments that connected to the system in 2023.

Completed Form SW 1 and SW 2 for Rockwood Terrace project are included in **Appendix A**.

viii) Spills and Discharges

Table 3.7 provides the format to document any spills or abnormal discharges that occur in the SWM system during the reporting period. No spills into storm water systems or abnormal discharges to water bodies occurred during the reporting period.

ix) System Performance Improvements

Table 3.8 provides the format to document the capital and operating projects that are incorporated during the reporting period and that had an overall positive impact on system performance.

x) Previous Reporting Year Update

This section is to include a summary of the status of actions for the previous reporting year. Since this is the inaugural year for the new CLI-ECA and the required Annual Performance Report, there are no pre-existing actions for the SWM system. New goals and objectives are being developed internally and there will be quantifiable and tangible action items and performance improvements reviewed in the 2024 Annual Performance Report.

ANNUAL PERFORMANCE TABLES

Table 3.1 – Summary of Monitoring Programs

Program Title	Program Description	Adverse Effects on the Natural Environment?
Storm Sewer Flushing	Completed on annual basis	No
Oil/Grit Separator Inspections	Inspected annually & sediments vacuumed	No
Ditch Inlet Inspections	Inspected annually & sediments vacuumed	No
Outfall Inspection	Inspected annually	No
SWM Pond Inspection	Visually inspected annually	No
Catch Basin Cleaning	All catchbasins were annually cleaned by an external hydrovac contractor.	No
Street Sweeping	Completed on annual basis	No

Table 3.2 – Environmental Trends

Monitoring Data	Environmental Trend	Interpretation and Comments
N/A	N/A	N/A

Table 3.3 – Operating Problems and Corrective Actions

Operating Problem	Corrective Action	Date
N/A	N/A	N/A

Table 3.4 – Summary of Maintenance and Repairs

Work Order	Work Description	Work Type	Date
N/A	N/A	N/A	N/A

Table 3.5 – Summary of Complaints

Complaint	Resolution	Date
N/A	N/A	N/A

Table 3.6 – Summary of Alterations to the Authorized System

Alteration to the Authorized System Project Name	Project Details	Does This Project Pose a Significant Drinking Water Threat (SDWT)?
Durham Road East, Durham	750 ø storm sewer from Kincardine St. to ± 65 m east of Garafraxa St. N. Storm sewer discharges to a ditch which outlets to river.	No
Stormwater Pond Outlet	300 ø and 525 ø storm sewer outlet to ditch south of Durham Road E. Ditch flows to river.	No
Rockwood Terrace Project	New storm sewer (various pipe sizes) along Rock St. S. extension and South St. E. (Rock St. S. to Kincardine St. S.). Storm sewer has two temporary outlets to private property.	No
Park St W. Project	New storm sewer (various pipe sizes) along Park St. W. (Queen St. to ± 700 m towards west). Storm sewer outlet to north of Park St. W. towards river. Another storm sewer outlet connection on Queen St. S. Project to be constructed in 2024.	No

Table 3.7 – Spills and Discharges

Spill/Discharge Event	Details	Date
N/A	N/A	N/A

Table 3.8 – System Performance Improvements

System Performance Improvement	Project Description
South Street East, Durham	Design and construction of new storm sewer to service the new development related to Rockwood Terraces. Project not completed yet.

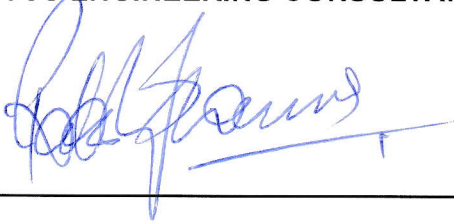
4 CONCLUSIONS

The following summaries the conclusions and recommendations:

- 1) Year 2023 was the first year of CLI-ECA requirement compliance. Although the stormwater system is routinely inspected and maintained, there is no formal system in place to document the items that are stipulated in the CLI-ECA. The documentation system is being developed by receiving feedback from other municipal departments and shall be in place well before the 2024 Annual Report.
- 2) In general, the stormwater system performed without any complaints or any noteworthy issues. West Grey staff is looking forward to implementing the documentation system as outlined in Stormwater Management Manual.

Prepared by:

GSS ENGINEERING CONSULTANTS LTD.



Rakesh Sharma, P.Eng., Secretary-Treasurer
Consulting Engineer

RS/nc

APPENDIX A

Form SW1 for Rockwood Terrace Project

Form SW 2 for Rockwood Terrace Project

RETAIN COMPLETED FORM - DO NOT SEND TO THE MINISTRY

Part 1 - Environmental Compliance Approval Number

(Insert the Environmental Compliance Approval number authorizing the alteration of Storm Sewers, Ditches or Culverts)

096-S701

Part 2 - Description of storm sewer/ditch/culvert alteration (Use attachments if required)

Various storm sewer works to support the new Rockwood Terrace long-term care home and also future development. Four storm drains will be installed from the new Rockwood site: 1) to new catch basin on Rock St; 2) to new manhole on Rock St; 3) to new manhole on South St; 4) temporary drain on South St to outlet on lands directly to the south of South St. Two other temporary outlets are required across South St that will outlet to the lands to the south. A drainage easement agreement will be in place prior to any stormwater outletting on their lands. Downstream upgrades to the storm drain will occur which will allow the stormwater to be directed through a drain to be installed along South St.

The description shall include:

- 1) A brief description above of the undertaking (e.g. street name(s); subdivision name; project name); and
- 2) An attachment including plan and profile drawings identifying at a minimum:
 - a) location(s) of the undertaking (e.g. showing street names, easements, discharge points, slope, etc.); and
 - b) nominal diameter of the sewer/culvert(s), associated with the alteration.

Part 3 - Verification by Licensed Engineering Practitioner

I hereby verify that I am a Licensed Engineering Practitioner who is licensed to practice in the Province of Ontario and the design of the storm sewer/ditch/culvert alteration:


- 1) Has been prepared by a Licensed Engineering Practitioner who is licensed to practice in the Province of Ontario;
- 2) Has been documented in a design report and any other applicable design forms;
- 3) Has been designed only to collect and transit stormwater, and not designed to collect or treat any sanitary sewage, nor designed to collect, store, treat, control, or manage groundwater, unless for the purpose of foundation drains, road subdrains, or LIDs;
- 4) Satisfies the design criteria set out in the Ministry's publication "Design Criteria for Sanitary Sewers, Storm Sewers and Force mains for Alterations Authorized under Environmental Compliance Approval", as amended, and have documented the reasons for this opinion;
- 5) Satisfies the standards as set in Ontario Provincial Standard Specifications and Ontario Provincial Standard Drawings, as applicable to ditches and culverts;
- 6) Is consistent with, or otherwise addresses, the design objectives, as applicable, contained within the Ministry of the Environment, Conservation and Parks publication "Design Guidelines for Sewage Works, 2008", as amended;
- 7) Has been planned, designed and built to be consistent with the Ministry's publication "Stormwater Management Planning and Design Guidance Manual, 2003", as amended;
- 8) Does not increase stormwater flow of an existing storm sewer, unless the existing downstream municipal SWM system has sufficient residual conveyance and treatment capacity to accommodate the additional stormwater, and have documented the reasons for this opinion; and
- 9) Does not increase local hydraulic capacity of an existing storm sewer or ditch to accommodate new stormwater flows unless the existing downstream municipal SWM system has sufficient residual hydraulic capacity to accommodate the additional stormwater, and have documented the reasons for this opinion.

Name (Print) Allison Atkinson, P. Eng	PEO Licence Number 90344623
Signature Allison Atkinson, P. Eng. <small>Digitally signed by Allison Atkinson, P. Eng. Date: 2023.09.27 17:52:12 -04'00'</small>	Date (yyyy/mm/dd) 2023-09-27

Part 4 - Verification by Owner

I hereby verify that:

- 1) Alteration of the stormwater system's storm sewers/ditches/culverts, and/or appurtenances will not result in:
 - a) Adverse effects; or
 - b) A deterioration on the approved quantity of downstream stormwater management facilities which results in not being able to achieve the overall stormwater performance criteria per Appendix A of the ECA identified in Part 1 of this form.
- 2) The storm sewer, ditch or culvert alteration will not adversely affect the municipal stormwater management (SWM) system's ability to maintain a gravity flow without overflowing or increasing surcharging any maintenance holes as per design, or provide smooth flow transition to existing gravity storm sewers.
- 3) The alteration does not establish or alter any outlets that discharge to land not owned by the Owner without the expressed written consent of the owner(s) of such private land(s) that the works will discharge to;
- 4) An assessment of the proposed works has been completed to determine if the works pose a Significant Drinking Water Threat. The proposed works do not pose any threats to sources of drinking water or design includes features that mitigate the threat to sources of drinking water, such as those included in: Ministry's Standard Operating Policy for Sewage Works, as amended from time to time; and Source Protection Plan policies pertaining to the works;
- 5) The proposed works are wholly located within the municipal boundary over which the owner has jurisdiction except where there is an agreement existed between municipalities;
- 6) The owner consents to the storm sewer/ditch/culvert alteration;
- 7) The owner has consulted with the local Conservation Authority and obtained necessary clearance, as required;
- 8) Any works that establish new or increase discharges to a municipal drain have obtained written approval by the Owner and a signed engineer's drainage report, in accordance with the Drainage Act; and
- 9) I am an authorized representative of the owner to complete this verification.

Name of Owner (Print) Municipality of West Grey	Name of Owner Representative (Print) Geoff Aitken, Manager of Public Works
Signature 	Date (yyyy/mm/dd) 2023/9/28

Part 5 - Post Construction Verification by Owner for Inspection and Testing

I hereby verify that:

- 1) The storm sewer alteration has complied with inspection and testing requirements set out in the Ministry of the Environment, Conservation and Parks publication "Design Criteria for Sanitary Sewers, Storm Sewers and Forcemains for Alterations Authorized under Environmental Compliance Approval", as amended, and have documentation of the inspection and testing results.

Name of Owner (Print)	Name of Owner Representative (Print)
Signature	Date (yyyy/mm/dd)

Note: Parts 1 to 4 above shall be completed before construction.
Part 5 is to be completed after the inspection and testing have been undertaken.

RETAIN COMPLETED FORM - DO NOT SEND TO THE MINISTRY

Part 1 - Environmental Compliance Approval Number

(Insert the Environmental Compliance Approval number authorizing the alteration of Stormwater Management Facilities)

096-S701

Part 2 - Description of stormwater management facility alteration (Use attachments if required)

Various storm sewer works will be installed to support the new Rockwood Terrace long-term care home and to support future development. Two stormwater ponds will be constructed to handle the stormwater on the new Rockwood site, one in the northeast corner and one the northwest corner. Two storm drains will be installed from these ponds, one will connect to a new catch basin on Rock Street, outletting east, and one temporary drain installed to outlet on lands directly to the south of South Street East. Two other temporary outlets are required across South Street East that will outlet to the lands to the south. A drainage easement agreement will be in place prior to any stormwater outletting on their lands.

The description shall include:

- 1) A brief description above of the undertaking (e.g. street name(s); subdivision name; project name); and
- 2) An attachment including plan and cross-section drawing identifying at a minimum:
 - a) location(s) of the undertaking (e.g. showing street names, easements, discharge points, etc.); and
 - b) components of the alteration of the stormwater management facility

Part 3 - Verification by Licensed Engineering Practitioner (as applicable to the undertaking)

I hereby verify that I am a Licensed Engineering Practitioner who is licensed to practice in the Province of Ontario and the design of the stormwater management facility alteration:


- 1) Has been prepared by a Licensed Engineering Practitioner who is licensed to practice in the Province of Ontario;
- 2) Has been documented in a design report and any other applicable design forms;
- 3) Has been designed to collect, receive, treat, or control only stormwater, and not designed to collect, receive, treat, or control sanitary sewage;
- 4) Has been planned, designed and built to be consistent with the Ministry of the Environment, Conservation and Parks publication "Stormwater Management Planning and Design Guidance Manual, 2003", as amended;
- 5) Satisfies the design criteria set out in the Ministry's publication "Design Criteria for Sanitary Sewers, Storm Sewers and Forcemains for Alterations Authorized under Environmental Compliance Approval", as amended, and have documented the reasons for this opinion;
- 6) Satisfies the requirements outlined in Appendix A of the ECA identified in Part 1 of this form, and have documented the reasons for this opinion;
- 7) Includes an outlet or an emergency overflow for the works, with the verification of the location, route, and capacity of the receiving major system to accommodate overflows; and
- 8) If adding new Manufactured Treatment Devices, has met the requirements of the conditions of the ECA identified in Part 1 of this form which authorizes the alteration.

Name (Print) Allison Atkinson, P. Eng	PEO Licence Number 90344623
Signature Allison Atkinson, P. Eng. <small>Digitally signed by Allison Atkinson, P. Eng. Date: 2023.09.27 17:54:15 -04'00'</small>	Date (yyyy/mm/dd) 2023-09-27

Part 4 - Verification by Owner

I hereby verify that:

- 1) Any alteration by adding, modifying, replacing, or extending stormwater management facilities will not result in:
 - a) Adverse effects; or
 - b) A deterioration on the approved quantity of downstream stormwater management facilities which results in not being able to achieve the overall stormwater performance criteria per Appendix A of the ECA identified in Part 1 of this form.
- 2) The alteration does not establish or alter any outlets that discharge to land not owned by the Owner without the expressed written consent of the owner(s) of such private land(s) that the works will discharge to;
- 3) If privately owned stormwater works have been used in the stormwater treatment train to achieve Appendix A criteria of the ECA identified in Part 1 of this form, then the Owner has met the requirements of the conditions of the ECA identified in Part 1 of this form which authorizes the use of privately owned stormwater works;
- 4) An assessment of the proposed works to determine if the works pose a significant drinking water threat has been completed and where applicable, mitigation measures are incorporated to protect water sources in accordance with the Ministry's Standard Operating Policy for Sewage Works, as amended; and Source Protection Plan policies pertaining to the works;
- 5) The proposed works are wholly located within the municipal boundary over which the owner has jurisdiction except where there is an agreement existed between municipalities;
- 6) The owner consents to the stormwater management facility alteration;
- 7) The owner has consulted with the local Conservation Authority and obtained necessary clearance, as required;
- 8) Any works that fall under the Drainage Act has obtained approval of a petition for the works under the Drainage Act;
- 9) Any works that establish new or increase discharges to a municipal drain have obtained written approval by the Owner and a signed engineer's drainage report, in accordance with the Drainage Act; and
- 10) I am an authorized representative of the owner to complete this verification.

Name of Owner (Print) Municipality of West Grey	Name of Owner Representative (Print) Geoff Aitken, Manager of Public Works
Signature 	Date (yyyy/mm/dd) 2023/9/28

Part 5 - Post Construction Verification by Owner for Inspection

I hereby verify that:

- 1) Any alterations to low impact development or end-of-pipe stormwater management facilities have been inspected before operation to ensure that the works as constructed will continue to conform to the Design Criteria and the ECA, and have documentation of the inspection results.

Name of Owner (Print)	Name of Owner Representative (Print)
Signature	Date (yyyy/mm/dd)

Note: Parts 1 to 4 above shall be completed before construction.
Part 5 is to be completed after the inspection and testing have been undertaken.