

Town of Bradford West Gwillimbury 2024 Stormwater Management System Performance Report

**Consolidated Linear Infrastructure Environmental
Compliance Approval No. 116-S701**

Infrastructure Services Department, April 2025



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1. Introduction

This report contains the relevant information to meet the annual reporting requirements for the Town of Bradford West Gwillimbury's (Town of BWG or the Town) Stormwater Management (SWM) system. The performance report is for the period from January 1st to December 31st, 2024. Annual performance reports for the stormwater management system are required to be submitted to the Ministry of the Environment, Conservation and Parks (MECP) by April 30th.

More specifically, this report fulfills the reporting requirements set out within the Town of BWG's Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA) 116-S701, Schedule E Section 5.2. The associated requirements are outlined in **Table 1** below.

Compliance with regulatory requirements continues to be overseen by qualified staff, compliance staff, and regular reporting mechanisms.

1.1. Regulatory Requirements

Table 1. CLI ECA Reporting Requirement.

CLI ECA Reporting Requirement	Report Section
A. Includes a summary of all required monitoring data along with an interpretation of the data and an overview of the condition and operational performance of the Authorized System and any Adverse Effects on the Natural Environment.	3.1
B. Includes a summary and interpretation of environmental trends based on all monitoring information and data for the previous five (5) years.	3.2
C. Includes a summary of any operating problems encountered and corrective actions taken.	3.3
D. Includes 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.	3.4
E. Includes a summary of the calibration and maintenance carried out on all monitoring equipment.	3.5
F. Includes a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.	3.6
G. Includes 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.	3.7
H. Includes a summary of all Spills or abnormal discharge events.	3.8
I. Includes a summary of actions taken, including timelines, to improve or correct performance of any aspect of the Authorized System.	3.9
J. Includes a summary of the status of actions for the previous reporting year.	3.10

2. Stormwater Management System

2.1. System Description

The Town is part of both the Lake Simcoe and Nottawasaga watersheds, which are managed by the Lake Simcoe Region Conservation Authority (LSRCA) and the Nottawasaga Valley Conversation Authority (NVCA) respectively. There are two (2) sub-watersheds within the municipal boundaries of the Town, the Holland River sub-watershed and the Innisfil Creek sub-watershed.

The Town’s SWM system is owned and operated by the Town of BWG in accordance with the Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA) No. 116-S701. The CLI ECA was first issued in July 2022. The issuance of the CLI ECA consolidated the individual ECA’s that had previously governed individual facilities.

The SWM System is subdivided into two groups for inspection and maintenance purposes: Stormwater Management Facilities and Stormwater Collection System.

Facilities

- Stormwater Management Ponds
- Manufactured Treatment Devices (MTD)
- Low Impact Development (LID) Units
- Storage Tanks

Collection System

- Catch Basins
- Culverts
- Ditches
- Storm Sewers

The Town’s Stormwater Management System collectively services a population of approximately 45,000 people.

The Town of BWG’s SWM pond system is currently comprised of twenty-one (21) facilities. **Table 2** shows a breakdown of SWM ponds by type (i.e. wet, constructed wetland, and dry pond) and includes only ponds currently owned by the Town of BWG. There are an additional 9 SWM ponds currently under development, identified as transitional facilities within the CLI ECA, which are the responsibility of the developer to maintain until assumption by the Town.

Table 2. Stormwater Pond by Type.

Number of Ponds	Type of Pond		
	Wet	Dry	Wetland
21	16	3	2

Recently, in March 2025, the McKenzie Way Pond (SWMF-0012), a developer-owned pond, was assumed by the Town. Staff have provided the MECP with the Director's Notification form indicating the change in ownership. Further details will be provided in the 2025 Annual Report.

A complete list of SWM Ponds, including all related details on their size and drainage area, can be found in the Town's SWM CLI ECA under Schedule B Section 1.4. In addition, Table B3 in the SWM CLI ECA includes a breakdown of SWM facilities by type. The Town's CLI ECA is available upon request.

The Town's Stormwater Collection system consists of 138.98 km of storm sewer main, 2,104 storm manholes, 4.3 km of culverts, 32 Litta Traps, 16 OGS and MTDs, 1 stormwater storage tank, and an estimated 217 road sections with open ditches.

3. Performance Reporting Data

The following sections provide the relevant information regarding the performance and compliance of the Town's SWM system.

3.1. Interpretation of Monitoring Data

The creation and implementation of a Monitoring Plan for the Town's Stormwater Management System is a pending requirement as per Schedule E Section 4 of the CLI ECA. At the time of this annual report, the MECP has not published the monitoring guidance. As such, there is currently no required water quality monitoring data for the Stormwater system.

While there is no current water quality monitoring data gathered by the Town, programs to maintain continued operational performance of the Stormwater Management System are undertaken by the Town. These programs ensure there are no adverse effects on the natural environment from the Town's SWM system. Additional information on these programs can be found in **Section 3.4 Inspection, Maintenance, and Repair** of this report.

In 2024, the Town contracted LSRCA to conduct hydraulic monitoring at nine (9) SWM ponds within the Town. The data was received in late November 2024. Hydraulic data was used to compare the observed normal water level (NWL) of the SWM ponds to their design NWL. SWM ponds are designed to drain to a set water level after rainfall events. When a SWM pond repeatedly fails to drain to its designed NWL or drains lower than its designed NWL an issue is occurring. In addition, the data was used to calculate the draw down time of the ponds during the monitoring period. A summary of the gathered data can be found in **Table 3**.

Table 3. SWM Pond Hydraulic Monitoring Data and Draw Down Time.

Pond ID	Design NWL (masl)	Observed NWL (masl)	Observed Draw Down Time (hr)
SWMF-0008	221.3	221.261	~30
SWMF-0011	250	249.904	>48
SWMF-0007	221.3	221.104	~24
SWMF-0016	244.3	244.358	>48
SWMF-0022	250.4	250.365	~26
SWMF-0003	222.8	223.444	~30
SWMF-0002	NA	235.483	~24
SWMF-0010	257.6	258.42	>48
SWMF-0004	249.5	249.72	~48

The draw down time of a SWM pond is the time it takes for a facility to return to its NWL after a rain event. An extended draw down time indicates a potential outlet blockage is occurring. An additional sign is when a SWM pond continuously fails to return to its NWL. Based on the data, three SWM ponds were noted as likely having a blockage based on both their extended draw down times and a failure to return to their NWL. The ponds are: SWMF-0003, SWMF-0010, SWMF-0011. A pond maintenance prioritization ranking was created for the nine (9) monitored ponds. Maintenance activities performed and plans for future maintenance are discussed in **Section 3.3 Operating Problems and Corrective Actions**.

LSRCA hydraulic monitoring of SWM ponds will continue in 2025. The monitoring devices will be rotated to a new set of SWM ponds, based on discussions with the LSRCA. This will occur in late spring or early summer 2025.

3.2. Interpretation of Environmental Trends

There is currently no water quality monitoring data required to be gathered by the Town, as mentioned in **Section 3.1**. This section will be revisited and updated in future annual reports after the creation and implementation of the Monitoring Plan.

The hydraulic monitoring data collected in 2024 is summarised and interpreted in **Section 3.1**. As 2024 was the first year of hydraulic monitoring data collection, a yearly trend cannot be created. Data gathered in 2025 and onwards will be used to create a trend moving forward when possible.

3.3. Operating Problems and Corrective Actions

A majority of Stormwater Management System infrastructure in the Town operates largely through natural processes such as gravity and sedimentation. Continued maintenance, detailed in the Town's SWM System Operations and Maintenance (O&M) Manual, ensures

the continuous function of the system. For further information regarding the maintenance programs refer to **Section 3.4 Inspection, Maintenance, and Repair**.

The SWM pond drainage issues identified by the LSRCA discussed in **Section 3.1** are further detailed in this section. Suspected causes have been identified for each of the three ponds previously mentioned in **Section 3.1**. Two of the drainage issues are believed to be related to outlet blockages and/or debris buildup. A project to address drainage issues in the receiving stream of SWMF-0010 was completed in early 2025. Buildup of material in the receiving stream was causing a backup of water which prevented the pond from properly draining. Details of the maintenance work, follow-up inspections, and continued monitoring of the SWM pond will be in the 2025 Annual Performance Report.

An inspection at SWMF-003 is planned for spring 2025 after the ice and snow coverage thaws. Based on the results of the inspection, a maintenance plan to relieve the debris buildup will be created.

The final drainage issue in pond SWMF-0011 is related to poor outlet design. Additional preventative maintenance will be planned to pre-emptively address the buildup of material on the undersized orifice plate until a permanent solution is possible.

There were no other operating problems encountered in the 2024 year in the Town of BWG's Stormwater Management System.

3.4. Inspection, Maintenance, and Repair

Regular maintenance and inspection programs have been implemented for the Town's Stormwater Management System to ensure the continued function of the system. These programs identify and prioritize necessary repairs.

All SWM infrastructure components are managed, operated, and maintained through the cooperation and participation of multiple divisions within the Town of BWG. All SWM Ponds were inspected in 2024, including those still under developer ownership and maintenance. Required maintenance activities were identified through the inspections. Maintenance needs identified through annual inspections of SWM ponds owned by the Town were completed by either the Transportation Division or third-party contractors. Routine maintenance activities include vegetation management, garbage removal, and repair of fencing.

Maintenance requirements on unassumed ponds were provided to developers for their completion of tasks. Routine inspections will continue on an annual basis, with additional inspections performed as required.

All thirteen (13) Oil Grit Separator (OGS) units owned by the Town were inspected in November 2024. Inspections of units were done by a third-party contractor. A fourteenth OGS unit is listed in the CLI ECA. Investigation by Town staff has proven the OGS unit is privately owned, the proper paperwork has been submitted to the MECP to have the additional unit removed from the CLI ECA. Cleaning of the units is scheduled for 2025, and cleanout will be completed by a third-party contractor.

In the Stormwater Collection System, a total of 14.3 kilometres of storm sewer mainline were flushed in 2024. As part of the yearly catch basin cleaning program, approximately 10.7% of the catch basins in the urban area of the Town were cleaned. Repairs of catch basins were completed by both Town staff and contractors. Critical repairs were completed on an as-needed basis. Contractors were given scheduled repairs that had previously been identified as required but not of an urgent nature. The Town's Jellyfish™ Manufactured Treatment Devices (MTD) were cleaned twice in the year, once in spring and a second time in fall 2024.

In addition, ditch remediation work was completed by the Rural Transportation department on an as-need basis. Needs were identified based on evidence of standing water and resident inquiries.

There were no significant flooding events that required additional inspections of system facilities. A significant flooding event was defined as a storm event that overwhelms the linear system and causes localized flooding to occur as stated in the O&M Manual.

3.5. Calibration and Maintenance of Monitoring Equipment

The calibration and maintenance of the water level monitoring equipment was completed by the LSRCA as part of their contract with the Town. The contract with the LSRCA has been extended into 2025.

3.6. Summary of Complaints and Customer Inquiries

The Town maintains a record of all stormwater-related complaints and the remedial actions taken to resolve each situation as required by the SWM CLI ECA. Complaint responses are handled by either the Stormwater Division or the Transportation Division depending on the nature of the incident.

Two (2) complaints were received in the 2024 year regarding the Town's Stormwater Management System. Please see **Table 4** below for details.

Table 4 Summary of 2024 SWM System Complaints.

Date	Complaint	Corrective Action
5/27/2024	A catch basin appeared to be clogged and was causing flooding in the road.	The slow drainage was caused by filter cloth over a catch basin because of nearby development. Filter cloth was replaced with new cloth.
11/29/2024	The ditch and culvert in front of a resident's property was blocked by material washed out from the gravel road.	The area was remediated by removing the washed out material from the ditch to restore flow.

The Town receives various calls from residents related to rural ditches and driveway culverts each year. Typically, the calls are related to pooling water, blocked driveway culverts, and vegetation growth or buildup. Transportation staff respond to these calls and remediate if required. These issues are not included in the summary of complaints table as they are not part of the authorized system. Driveway culverts are the responsibility of property owners to maintain.

3.7. Alterations to the Authorized System

The issuance of the CLI ECA shifted the approval of low-risk stormwater infrastructure works connecting to the Authorized System under the responsibility of the Town. A summary of the 2024 SWM system alterations is provided in **Table 5**.

Table 5. Summary of Alterations of the Authorized System.

Alternation Type	Project Name	Submission Date	Description	Status
SW1-Storm Sewer/Ditch/Culvert	Bradford Capital Holdings	4/18/2024	New storm sewer extension from an existing manhole.	Construction has not started.

The Alteration was determined to not pose a Significant Drinking Water Threat. The proposed works are wholly located within the municipal boundaries of the Town of BWG.

3.8. Spills and/or Abnormal Discharge Events

The SWM system had one (1) spill event in 2024. The spill was reported to the MECP Spills Action Centre (SAC) as required. A summary of the spill event, including the date and time of occurrence, the cause of the spill, and the corrective action taken, can be found in **Table 6**.

Table 6. Summary of Stormwater System Spill Event in 2024.

Date	SAC No.	Cause	Corrective Action
8/01/2024	1-9JGP4I	Transmission oil leak from a vehicle.	The Town's Transportation Division applied absorbent material as remediation and swept the area. No further action was required by the MECP.

3.9. System Performance Improvements

The following section details the on-going projects the Town is completing to improve the performance of the Authorized System.

3.9.1. Stormwater Utility Rate Study

To support the growth and sustainability of the Town's stormwater management system, the Town is undergoing a stormwater utility funding study. The purpose of the stormwater utility fund is to invest in the Town's stormwater assets by ensuring funding is available to maintain, repair, and replace infrastructure. The study began in 2024 and is to be presented to council for consideration in 2025.

A Public Information Centre (PIC) to review the Town's funding strategy based on the utility rate study was held on September 23, 2024.

3.10. Previous Reporting Year Update

The following section contains updates on SWM system related projects detailed in the 2023 Stormwater Management System Performance Report. These projects include the installation of staff gauges at wet and wetland SWM ponds, the pilot project for LittaTraps, and the pilot stormwater mainline CCTV program.

3.10.1. CLI ECA Requirement Milestones

Town staff have continued to make progress on the requirements of the Stormwater System CLI ECA.

The educational SWM Pond signs were ordered in 2024. Further information on these signs can be found in **Section 5.2**. As noted below, educational signs will be installed at a select number of SWM ponds in publicly accessible areas. Updated standard SWM pond signage design, which also meets the requirements of the CLI ECA, was undertaken in 2024. All signs are to be installed in 2025.

Gathering of data for the Storm Sewer Catchment Asset Inventory required in the CLI ECA began in 2024. Final compilation and analysis of data will be completed in 2025 for the submission of the information to the MECP.

A training record-keeping system for qualified staff responsible for managing the Stormwater System was established in 2024 to ensure compliance with the requirements of the CLI ECA. In 2024, Spill Response training was completed.

3.10.2. Staff Gauge Installation

In 2024, the Town contracted the LSRCA to install staff gauges at wet SWM ponds across the Town. Installation of the staff gauges was done to meet the CLI ECA requirement to monitor hydraulic operation of SWM ponds as part of yearly inspections. Staff gauges can be used as a simple method to monitor the depth of water in a SWM pond above a set water level.

3.10.3. Pilot Stormwater Mainline CCTV Program

A pilot stormwater mainline CCTV program was undertaken between May and July, 2024. The study area was chosen based on the age of the infrastructure and the date of the last inspection. Based on the findings of the pilot project, maintenance needs of the study area will be identified. The future of the stormwater mainline CCTV program will be explored based on the stormwater utility rate study and budget approval.

3.10.4. LittaTrap™ Installation & Waste Audit

In 2024, a total of 32 LittaTrap™ units were installed in catch basins across the Town as part of a pilot project. The units were installed in May 2024. Each unit captures garbage and pollutants larger than 5 mm, preventing them from entering the stormwater mains through catch basins during rainfall and snow melt events. This protects the natural environment by catching pollutants and preventing them from reaching the downstream environment.

The first cleanout and waste audit were completed in September 2024. The September 2024 waste audit resulted in 263.47 kg of total waste collected. 94.38% of waste was sand/silt, 4.66% was organic material, and 0.96% was plastic. A breakdown of waste type by percentage and weight can be found in **Figure 1**.

A second cleanout and waste audit are planned for Spring 2025. The additional audit will be used to aid staff in determining the frequency of required unit cleaning and the seasonal variations in material captured.

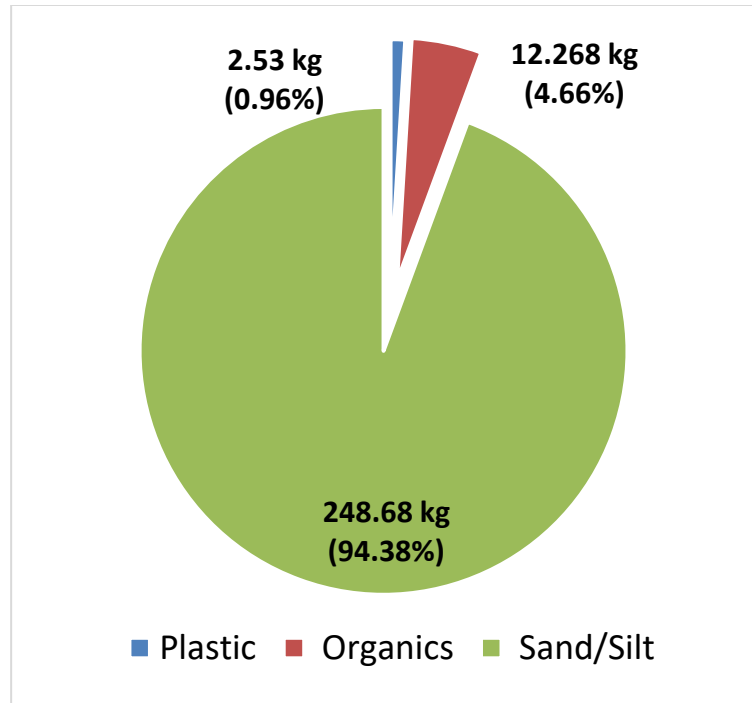


Figure 1. LittaTrap Waste Category by Weight and Type.

4. Source Water Protection

The Source Water Protection Plan for the South Georgian Bay Lake Simcoe Source Protection Region contains policies designed to prevent contaminants from getting into municipal wells and water supplies, refer to **Appendix A** for the wellhead protection area map.

As per the requirements of the Stormwater Management System CLI ECA, the yearly review and update of the Town's Significant Drinking Water Threat Assessment Report was completed in May 2024. The report details how the Town determines if an alteration poses a significant drinking water threat (SDWT), and any existing design considerations or mitigation measures put into place for SDWTs. At the time of this report, there are no SWM alterations that have been identified as a SDWT.

5. Education and Outreach

The Town's website (www.townofbwg.com) contains educational information regarding the stormwater management system and current outreach initiatives.

In addition to electronic information, Town staff attended the BWG Trails Day event to educate the public on how they can help protect the Town's infrastructure and the environment, through informative pamphlets and games. Signs to be installed at stormwater

management ponds have been updated to contain educational material about the stormwater system. More information on pond signage can be found in **Section 5.2**.

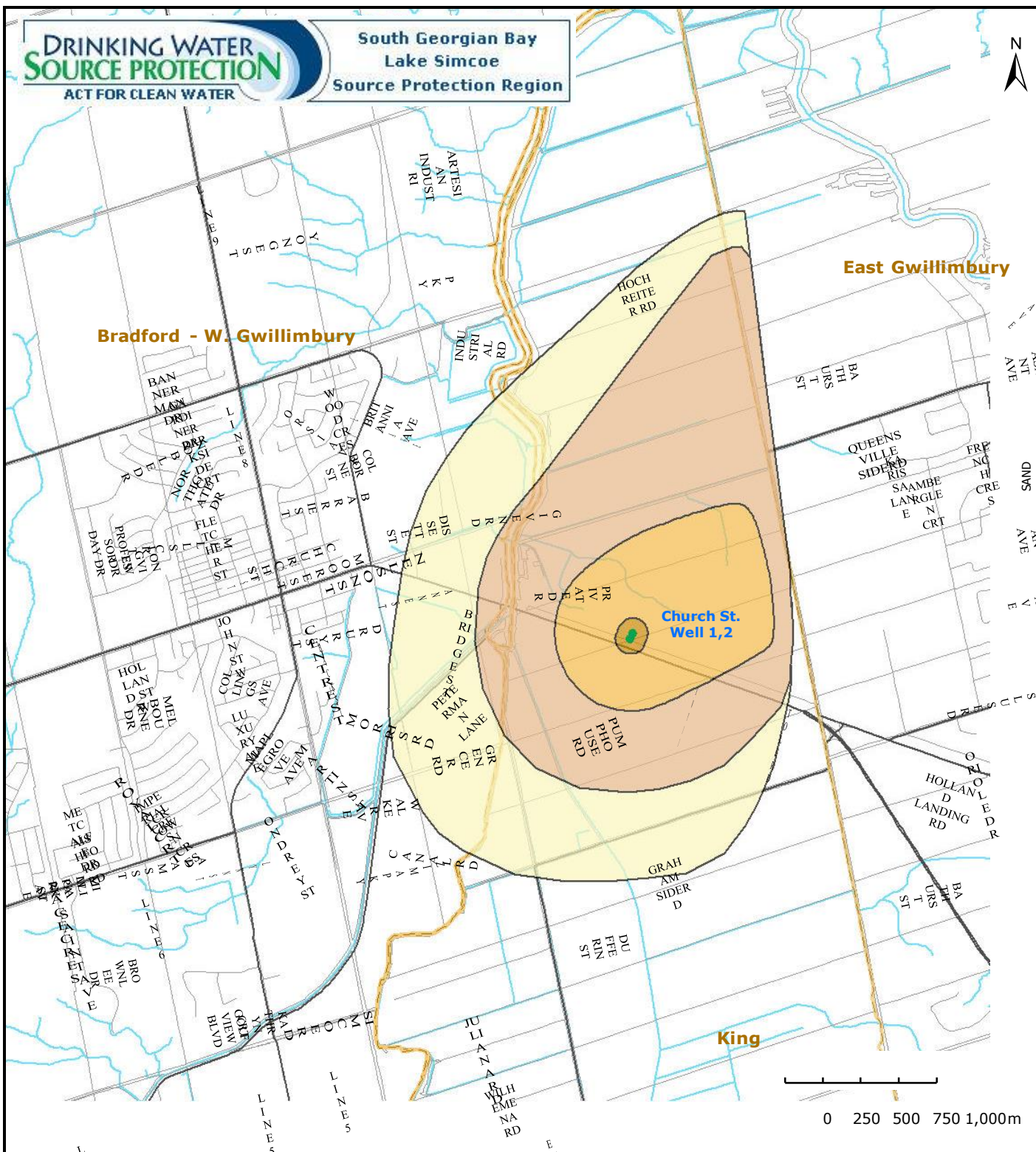
5.1. Stormwater Rate Study Website

The Town's stormwater website page was updated in 2024 to contain information on the purpose behind the stormwater rate study. As mentioned in **Section 3.9.1**, a Public Information Centre (PIC) was held in September 2024. The PIC included a presentation which touched upon the importance of the stormwater system with the intention of increasing public awareness.

5.2. Stormwater Management Pond Signage

Educational Stormwater Management Pond signs were ordered in 2024, these signs will be installed in Spring 2025 as required by the CLI ECA. The signs include a basic overview of how stormwater flows through the SWM system from its start as a raindrop through a SWM pond. These signs will be installed at Wet and Wetland SWM ponds in publicly accessible areas to both educate the public on the purpose of SWM ponds and to meet the requirements of the CLI ECA signage requirements.

Appendix A



- Municipal Supply Well in Bradford-West Gwillimbury
- WHPA-A (100m)
- WHPA-B (2-years time of travel)
- WHPA-C1 (10-years time of travel)
- WHPA-D (25-years time of travel)
- ▬ Municipality Boundary
- ▬ Water Course

Wellhead Protection Areas Bradford-West Gwillimbury

Created by: LSRCA Scale: 1:50,000
Date: 2014-04-08 UTM Zone 18N, NAD83



GENIVAR



This map was produced by the Lake Simcoe Region Conservation Authority, lead agency of the South Georgian Bay Lake Simcoe Region Source Protection Region. Base data have been compiled from various sources, under data sharing agreements. While every effort has been made to accurately depict the base data, errors may exist.



Ontario

Figure 9a-1