



Township of South Frontenac
Municipal Stormwater Management System

ECA Number: 166-S701

2023 Annual Report

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Public Services Department
Date: April 30, 2024

Executive Summary

On September 16th, 2022, the Township of South Frontenac received its first Municipal Stormwater Consolidated Linear Infrastructure Approval (CLI ECA). The new CLI ECA's replace the previous Environmental Compliance Approvals (ECAs) that the Ministry would previously issue for specific projects within stormwater collection systems. These Ministry approvals are issued under the provisions of the Environmental Protection Act and the Ontario Water Resources Act.

The Township of South Frontenac owns and operates a stormwater management system that consists of approximately 11km of underground storm sewers piping ranging in diameter from 250mm to 1050mm. The Authorized System also includes the following:

- 4 manufactured treatment devices (oil grit separators)
- 1 dry stormwater management facility

The enclosed 2023 Annual Report is prepared in accordance with Schedule E 5.0 of Environmental Compliance Approval (ECA) # 166-S701 for the Township of South Frontenac's Municipal Stormwater Management System. This report is to be filed with the Ontario Ministry of the Environment, Conservation and Parks (MECP) on or before April 30th of each year.

A copy of this report is available at no cost at the Public Works Office located at 2490 Keeley Road, Sydenham. The document will also be posted for public viewing on the Township's website on or before June 1st as required by the conditions of approval.

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Reporting Requirements

1) Monitoring Data Summary & Trends

Section 4.0 of the Stormwater CLI ECA requires the Township to implement a Monitoring Plan in accordance with the Ministry of Environment Conservation and Parks (MECP) guidance document within 24 months of receipt of the guidance document. As of the date of this report, the MECP has not released these guidelines. Appendix A of this report includes a summary of the inspection results and cleaning cycles for the 4 manufactured treatment units over the period of 2021 to 2023.

2) Operational Challenges

The Township of South Frontenac is a growing rural community with a population of approximately 20,000 residents. The Township does not own or operate traditional sanitary sewage systems that are regulated under O Reg 129/04. As such, the organization does not have the complement of environmental and licenced operator resources of a traditional urban municipality. There have been staffing resource challenges ramping up for the new requirements of the new CLI ECA authorized for the municipality. The Township encourages the Ministry to continue to offer resources, training, and webinars to assist smaller rural municipalities in the continued roll-out of the next phases and deadlines for the CLI ECA reporting program.

One of the recommended changes that the Township would like to see in the program is an adoption or acceptance of the Erosion and Sediment Control standards and procedures included within the Ontario Provincial Standards and Specifications. These standards are developed with significant technical research by the Ministry of Transportation and should be readily accepted as an industry standard for construction. The Canadian Standards Association (CSA) W2020 Erosion and Sediment Control Inspection and Monitoring Standard has not been readily applied in the road and drainage construction sector to date.

3) Inspection Results & Maintenance

The following inspection and maintenance activities were completed on the Authorized System during the period of January 1st, 2023, to December 31st, 2023:

a) Stormwater Collection System

The Township owns and operates approximately 11km of stormwater collection pipes that are located throughout the settlement areas of Inverary, Perth Road, Battersea, Hartington, Bellrock, Harrowsmith, Sunbury, Sydenham and Verona. The stormwater collection system for these areas includes a total of 349 roadside catch basin structures that have sediment traps ranging in depth from 0.3m to 0.6m.

Planned Maintenance

- i) July 31st to August 30th, 2023 - During the period of July 31st to August 30th, the Township retained the services Contractor to inspect and remove sediments out of all roadside catch basins using a hydro-vac truck. As part of these contracted services, the Contractor is required to identify any damaged catch basin lids and to also report any blocked structures observed during cleaning procedure. No blocked structures were identified during the program however some damaged catch basin grates were identified.

Township staff carried out follow up field inspections of the cleaned structures, each of which were marked in the field with a green paint mark. Three (3) catch basin frames in the Village of Verona on the west side of Road 38 were identified as needing repair along with one (1) catch basin frame in the Village of Hartington. Refer to location details in Appendix B and C.

- ii) October 2023 (Verona) – The Township retained the services of a Contractor to excavate and repair three separate catch basins along the west side of Road 38 in the Village of Verona that had settled under traffic loads. Structures were located on Road 38 in front of civics # 6653, 6769 and 6849. Each of the structures was excavated, new grade rings added, new ironworks placed, and adjusted to match the paved surface. This work was completed between the period of October 23rd and October 26th.
- iii) October 2023 (Harrowsmith) - An additional catch basin was also excavated and replaced by the same Contractor in front of the gas station at 5589 Road 38 in Hartington on October 31st.

Unplanned Maintenance

- i) On October 11th, 2023, staff carried out an inspection of a sink hole at the NW corner of the intersection of Latimer Road and Perth Road in the Village of Inverary. Upon review it was identified that road materials were washing downward into an open joint between the catch basin wall and the downstream pipe. The dig area was located within the area of the local traffic signals therefore short-term repairs were initiated while a larger repair activity was planned.

On November 14th, 2023, the Township hired a Contractor to excavate the catch basin structure and repair the open joint between the catch basin wall and the downstream corrugated steel pipe. The area was backfilled, recompacted and the structure was readjusted to accommodate normal surface drainage. Refer to location details in Appendix D.

b) Stormwater Treatment Facilities

The Township owns and operates one (1) dry stormwater management facility, and four (4) manufactured treatment devices (oil grit separators) across the Township. The inspection and maintenance details for each of the structures is outlined below.

i) Bellrock Village – OGS Discharge to Depot Creek (Asset ID # 90000)

- The oil grit separator located at 5954 Main Street, Bellrock Village is a Stormceptor Model STC 750 (1800mm) with an oil capacity of 915L and a sediment capacity of 2202 L. The recommended service depths are 350mm for oil and 230mm depth for sediments accordingly.
- The structure was inspected by Dedicated Environmental Services on December 13th, 2023. No oils or sheens present and the sediment depth was measured at 203mm. (Note: the previous inspection was on December 6, 2022, and had recorded a depth of 50mm). Sediment removal was recommended.
- Water samples taken on January 17, 2024, and confirmed to be free of PHC's and volatile organics. Structure cleaned on January 31, 2024, and approximately 0.52 cubic meters of dewatered grit sent to Portland Landfill.

ii) Bellrock Village – OGS Discharge to Depot Creek (Asset ID # 90007)

- The oil grit separator located at 6022 Main Street, Bellrock Village is a Stormceptor Model STC 300 (1500mm) with an oil capacity of 300L and a sediment capacity of 1453 L. The recommended service depths are 255mm for oil and 255mm depth for sediments accordingly.
- The structure was inspected by Dedicated Environmental Services on December 13th, 2023. No oils or sheens present and the sediment depth was measured at 229mm. (Note: the previous inspection was on December 6, 2022, and had recorded a depth of 80mm). Sediment removal was recommended.
- Water samples taken on January 17, 2024, and confirmed to be free of PHC's and volatile organics. Structure cleaned on January 31, 2024, and approximately 0.40 cubic meters of dewatered grit sent to Portland Landfill.

**iii) Sydenham Village – OGS Discharge to Millhaven Creek
(Asset ID # 91002)**

- The oil grit separator located at the intersection of George Street and Portland Avenue is a Stormceptor Model STC 200 (2400mm) with an oil capacity of 2890L and a sediment capacity of 6279 L. The recommended service depths are 965mm for oil and 350mm depth for sediments accordingly.
- The structure was inspected by Dedicated Environmental Services on December 13th, 2023. No oils or sheens present and the sediment depth was measured at 889mm. (Note: the previous inspection was on March 31, 2022, and had recorded a depth of 300mm). Sediment removal was recommended.
- Due to high baseflows, the structure is scheduled to be cleaned in late spring of 2024 when conditions are much dryer.

**iv) Sunbury Village – OGS Discharge to Bear Creek
(Asset ID # 91610)**

- The oil grit separator located at 3195 Sunbury Road, Sunbury Village is a Stormceptor Model EF06 (1800mm) with an oil capacity of 610L and a sediment capacity of 3470 L. The recommended service depths are 350mm for oil and 230mm depth for sediments accordingly.
- The structure was inspected by Dedicated Environmental Services on December 13th, 2023. No oils or sheens present and the sediment depth was measured at 250mm. (Note: the previous inspection was on December 6, 2022, and had recorded a depth of 100mm). Sediment removal was recommended.
- Water samples taken on January 17, 2024, and confirmed to be free of PHC's and volatile organics. Structure cleaned on January 31, 2024, and approximately 0.44 cubic meters of dewatered grit sent to Portland Landfill.

**v) Dry Stormwater Management Pond – Sandstone Court
(Asset ID # 91611)**

- The dry stormwater management pond was originally constructed by the developer of Sandstone Court. The facility was inspected on May 19th, 2022, and assumed by the municipality on June 8th, 2022. The facility is located on the east side of Sandstone Court approximately 380m south of the intersection of Moreland Dixon Road. The pond has capacity for 1851 cubic meters of storage at a total depth of 2m. A total of 423.5 cubic meters of the storage is for extended detention of 48 hours.
- The dry pond was inspected by staff on August 3, 2023, after it concerns had been raised regarding the height of grass. Complaints had been received in the previous days. It was identified that the facility has not yet been mowed due to the mowing schedule being behind due to equipment issues.

- A private Contractor was retained to carry out the mowing with a bush hog and the works were scheduled to be completed in late August.
- Site was reinspected on September 1st, 2023, after the mowing and the area was dry, there was no standing water, and there had been no rainfall in the preceding days. Staff findings indicated: a) heavy grass vegetation had been cut, b) pipe inlets and outlets were clear of debris, c) orifice controls were in place, and d) and no litter was observed in the area.
- It was determined in discussions within the Department that the mowing of the stormwater management ponds (new service) should be contracted out in 2024 so future maintenance issues would not arise.

vi) Transitional - Stormwater Treatment Facilities – Not Assumed

The following transitional stormwater management facilities have not been officially transferred to the Township and/or the municipality is working to acquire historical design and operational information:

Hartington Subdivision – Stormwater Management Wet Pond located at the end of Bittersweet Drive in Village of Hartington (Owner – 1278804 Ontario Inc. / Engineer – Forefront Engineering.)

Valleyview Estates Development – Stormwater Management Wet Pond located at Morgan Drive, Sydenham (Owner – RKR Landholdings Corporation)

Deer Creek Subdivision Phase 2 – Stormwater Management Pond located on Fawn Brook Drive, Inverary (Owner – Dekaro Developments Inc.)

Steward Vadala Subdivision – Stormwater Detention Pond located on Clearwater Road, Sydenham (Owner – 855516 Ontario Limited.

The Public Services Department carries out routine inspections of the subdivision sites and reports any issues.

4) Alterations to the Stormwater Management System

There were no alterations to the Stormwater Management System in 2023. Additionally, there were no stormwater alterations that posed a significant drinking water threat to the Sydenham Drinking Water System.

5) Spills / Discharge Events

There were otherwise no spills reported to SAC by the Public Services Department related to the Municipal Stormwater Management System during the reporting period.

6) Complaint Summary

The Public Services Department received one complaint relating to the stormwater system in 2023.

On July 12, 2023 the Township received a complaint from a resident on Sandstone Court that the dry stormwater management pond (Asset # 91611) had overgrown with vegetation. The site was inspected by staff on August 1st and the area was mowed after securing a local Contractor on September 1, 2023. Refer to Section 3 of this report (Inspection Results & Maintenance) for more details on the Sandstone Court dry pond.

7) System Improvements

All the Township's drainage assets were mapped in 2022 using Arc GIS platforms supported by Frontenac County. Additional GIS tools such as LiDAR mapping were added to the GIS system in 2023 to provide enhanced topographic information to support drainage planning and assessments within the municipality.

The Township also completed reporting for Core Assets – Asset Management Plan (AMP) under Ontario Regulation 588//17. The new asset data compiled for the stormwater network provides improved and enhanced data for decision making in support of capital rehabilitation and renewal investments. The AMP also provides a new new framework of risk management in decision making. See website link to the plan below:

[Asset Management Plan - South Frontenac](#)

Piped stormwater networks in Hartington are currently the oldest stormwater assets in the Township. On September 5th, 2023, Township Council approved funding for stormwater reviews for Hartington to support urban sidewalk and drainage improvements in the area. Report findings will be concluded in mid 2024.


8) Update on Previous Action Items

This is the first report filed under the new Consolidated ECA program therefore there are no action items from previous reports.

APPENDIX A

Manufactured Stormwater Treatment Units Monitoring Trends (2021 to 2023)

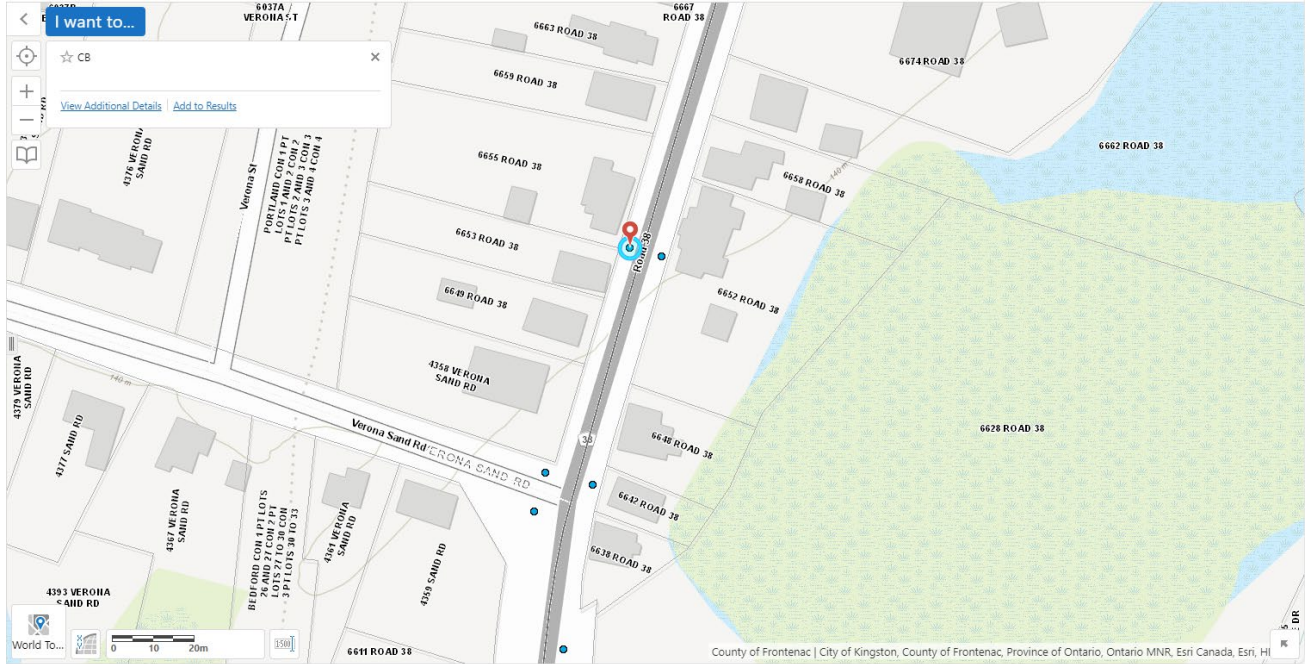
The manufactured stormwater treatment units are visually inspected by an environmental service provider annually and are assessed for depth of oil and sedimentation. Trending on measurements and clean out cycles are summarized in the summary chart below.

 MANUFACTURED STORMWATER TREATMENT UNITS TRENDING (2021 to 2023)										
Location	Asset ID	2021 Readings			2022 Readings			2023 Readings		
		Oil Depth (mm)	Sediment Depth (mm)	Clean Out (Y/N)	Oil Depth (mm)	Sediment Depth (mm)	Clean Out (Y/N)	Oil Depth (mm)	Sediment Depth (mm)	Clean Out (Y/N)
Bellrock Village OGS	90000	No oils or sheens	750	Y	No oils or sheens	50	N	No oils or sheens	203	Jan 2024
Bellrock Village OGS	90007	No oils or sheens	200	N	No oils or sheens	80	N	No oils or sheens	229	Jan 2024
Sydenham Village OGS	91002	No oils or sheens	700	Y	No oils or sheens	300	N	No oils or sheens	889	TBD 2024
Sunbury Village OGS	91610	No oils or sheens	100	N	No oils or sheens	230	N	No oils or sheens	250	Jan 2024

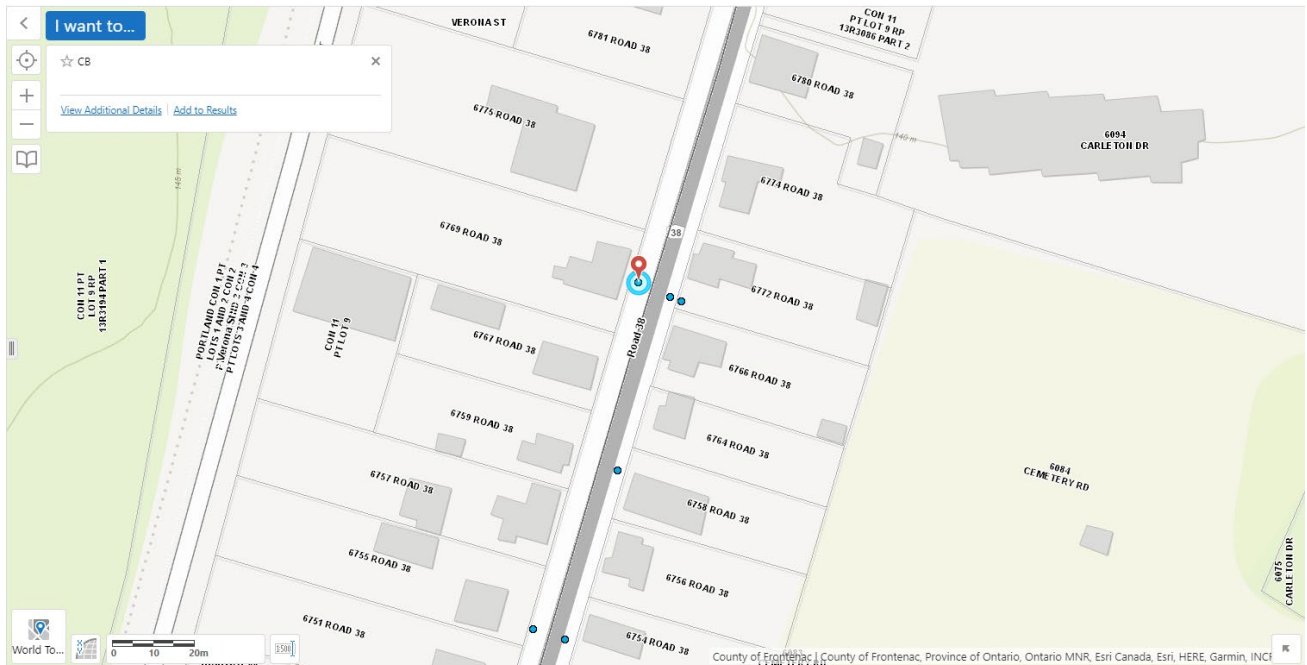
APPENDIX B

Catch Basin Repairs – Verona

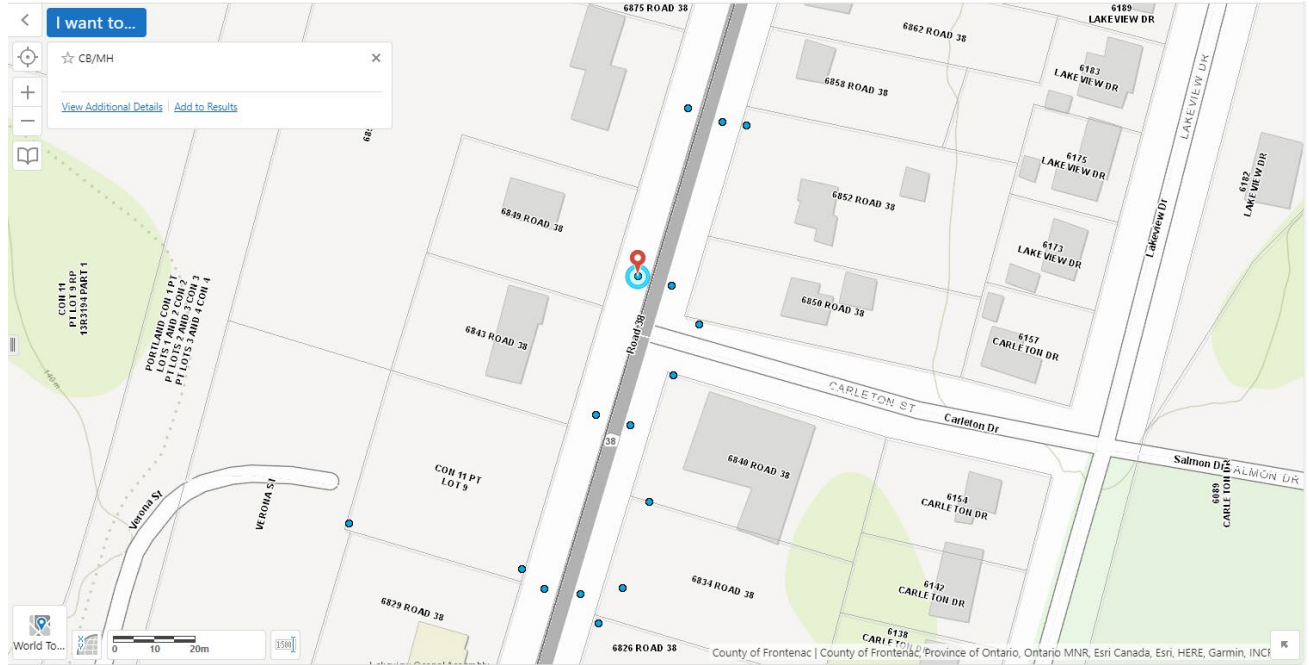
Fronting Civic # 6653 Road 38



Fronting Civic # 6769 Road 38



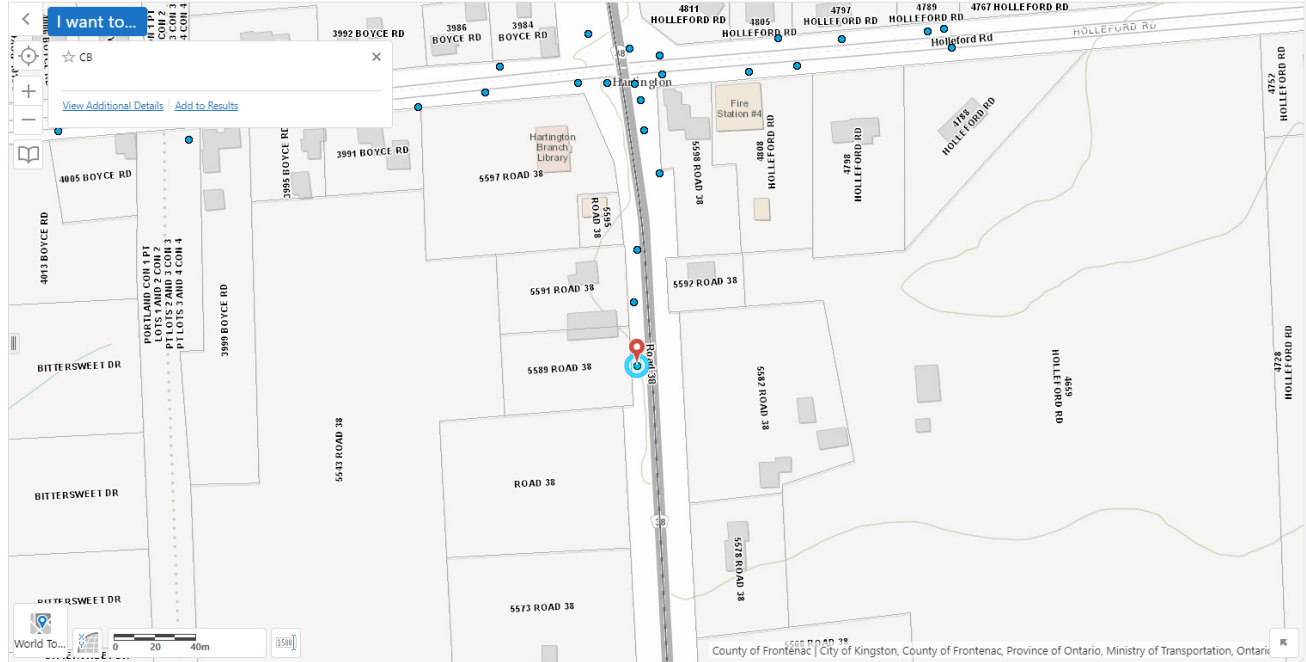
Fronting Civic # 6849 Road 38



APPENDIX C

Catch Basin Repairs – Hartington

Fronting Civic # 5589 Road 38



APPENDIX D

Catch Basin Repairs – Inverary

Fronting Civic # 4401 Perth Road

