



Township of Oro-Medonte

Urbanized Stormwater Management System Annual Performance Report 2023

(Prepared in accordance with Ministry of Environment, Conservation and Parks' Consolidated Linear Infrastructure Environmental Compliance Approval (#126-S701), Schedule E, Section 5).

Period Covering: January 1, 2023 to December 31, 2023

April 30, 2024

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1 Introduction

The Township of Oro-Medonte (Township) has prepared this report to satisfy the reporting requirements of Ministry of Environment, Conservation and Parks (MECP) Consolidated Linear Infrastructure Environmental Compliance Approvals (CLI-ECAs) Schedule E, Section 5, as outlined below and covers the period January 1, 2023 to December 31, 2023.

In 2022, CLI-ECAs were first introduced to modernize the approach to municipal linear infrastructure permissions concerning sanitary sewage conveyance and stormwater management. They include pre-authorization conditions and design criteria similar in scope to municipal drinking water to reduce the burden on municipalities, developers, and the MECP, while imposing a consistent set of conditions intended to improve environmental protection in sewage and stormwater system design, construction and operations across Ontario.

Previous to 2022, all compliance and maintenance requirements for Stormwater Management Facilities (SWMFs) and associated infrastructure were outlined in Environmental Compliance Approvals (ECAs) issued specifically to each facility.

The Township of Oro-Medonte's first CLI-ECA (#126-S701) for the Urbanized Stormwater Management System (Authorized System) was issued on January 11, 2023.

2 Compliance Reporting Requirement

Schedule E, Section 5.2 of the CLI-ECA requires the Township to prepare performance reports on a calendar year basis and submit them to the Director on or before April 30th of the calendar year following the reported period. The report shall contain, but is not limited to, the following information pertaining to the reporting period:

- Includes a summary of all 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;
- Includes a summary and interpretation of environmental trends based on all monitoring information and data for the previous five (5) years;
- Includes a summary of any operating problems encountered and corrective actions taken;
- 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;
- Includes a summary of the calibration and maintenance carried out on all monitoring equipment;

- Includes a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints;
- 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;
- Includes a summary of all spills or abnormal discharge events;
- Includes a summary of actions taken, including timelines, to improve or correct performance of any aspect of the Authorized System; and
- Includes a summary of the status of actions for the previous reporting year.

2.1 Availability of the Urban Stormwater Management Annual System Performance Report

In accordance with Schedule E, Section 5.3 of the CLI-ECA, a copy of the Annual Stormwater Management System Performance Report is available to the public, free of charge from the following outlets:

- Township of Oro-Medonte's website (www.oro-medonte.ca); and,
- Public request at the Municipal Office located at 148 Line 7 South, Oro-Medonte.

The public is advised of the report's availability and how to obtain a copy, without charge, on the Township of Oro-Medonte's website and social media by June 1st, 2024.

3 Stormwater Management Facility Descriptions

SWMFs are designed to protect downstream infrastructure from flooding by temporarily storing runoff and improving water quality by trapping pollutant-laden sediment in runoff from urban drainage areas. The centralized collection of polluted sediments in these facilities helps to prevent their release into rivers, streams and lakes where they can degrade water quality, harm aquatic life and adversely impact downstream recreational areas.

As of 2023, there are twenty-five (25) SWMFs in the Township of Oro-Medonte comprised of dry ponds, wet ponds, and low-impact developments (LIDs). These facilities collect, transmit and treat stormwater before reaching their ultimate receivers in the Lake Simcoe and Eastern Georgian Bay watersheds.

Dry ponds detain water for a short period of time (less than 48 hours) to allow particles and pollutants picked up along the way to settle and reduce stormwater peak flow rates.

Wet ponds hold a permanent pool of water that stores stormwater runoff while releasing it back into the environment at a controlled rate. These types of facilities provide

treatment through extended retention time which allows for the settling of suspended solids and contaminants.

LIDs are land planning and engineering design strategies used to prevent and/or mitigate erosion, sedimentation and pollution caused by stormwater runoff. They are features that mimic natural water cycles by increasing stormwater infiltration into the soil where it is filtered and absorbed by plants and/or specialized filter media.

The Township of Oro-Medonte SWMF inventory of the Authorized System is outlined below in Table 1.

Table 1: Stormwater Management Facility Inventory Table

SWMF ID	Facility Name	Stormwater Management Facility Type
1	Houben Subdivision (Sherwood Forest)	Wet Pond
2	Guthrie Industrial Subdivision	Wet Pond
3	Hastings Estates Subdivision	Dry Pond
4	Arbourwood Estates	Wet Pond
5	Sprucewood Estates	Dry Pond
6	Audobon Estates	Dry Pond
7	Audubon Estates	Dry Pond
10	Heights of Moonstone (Phase 1)	Dry Pond
11	Heights of Moonstone (Phase 2)	Wet Pond
12	Maplehill Estates (100)	Dry Pond
13	Maplehill Estates (200)	Dry Pond
14	Maplehill Estates (300)	Dry Pond
15	Homire/Isabella Estates	Wet Pond
19	Edgar Estates	Dry Pond
20	Orsi Subdivision (Evans)	Dry Pond
21	Kade Meadows (Sunset Cres).	Dry Pond
22	Medonte Estates (Pond A)	Dry Pond
23	Medonte Estates (Pond B)	Wet Pond
24	Craighurst	Dry Pond
25	Shanty Bay	LID (Infiltration Trench)
26	Shanty Bay	LID (Bioretention Facility)
28	Reid's Ridge	Dry Pond
29	Owen Estates	Wet Pond
30	Whispering Creek (Best Ct)	Wet Pond
31	Turtle River Subdivision	Wet Pond

4 Maintenance, Operation and Performance Summary

Monitoring and maintenance programs ensure that the infrastructure within the Authorized System is operating correctly and effectively by continuing to meet the water

quality and quantity design objectives while maintaining and protecting water resources.

The main objectives of stormwater management are:

- Protect life and property from flooding and erosion.
- Maintain water quality for ecological integrity, recreational opportunities, etc.
- Protect and maintain groundwater flow regime(s).
- Protect aquatic and fishery communities and habitats.
- Maintain and protect significant natural features.
- Protect and provide diverse recreational opportunities that coincide with the environment.

Environmental Services is available to respond twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days a year for service calls or emergencies related to the Stormwater Management Facilities that comprise the Authorized System. Further, all Environmental Services Technicians are licenced under Ontario Regulation 129/04 (Regulation Licensing of Sewage Works Operators).

A draft Quality Management System (QMS) for the Authorized System has also been created and is in the revision and review stages. This QMS has been designed based on quality management system principles found in the Municipal Drinking Water Licensing Program and the Drinking Water Quality Management System.

The creation and updating of fulsome operation and maintenance manuals for all facilities is also currently being finalized by an engineering consultant with an anticipated completion date of June 2024.

4.1 Monitoring Data

Monitoring the effectiveness of the infrastructure in the Authorized System encourages the protection and restoration of surface water and groundwater resources. Proactive monitoring allows time for issues to be found and rectified at the source and helps develop strategies to improve existing conditions and protect downstream water uses.

Environmental Services completes monitoring and visual inspections of urbanized stormwater management treatment infrastructure directly related to the Authorized System (including but not limited to inlet(s), forebay(s), weirs, aft bay(s), outlet(s), overflow(s) and outfall(s)). The Township of Oro-Medonte Operations Department staff manages conveyance infrastructure such as manholes, catch basins, ditches, culverts, and infiltration trenches that collect and convey stormwater to stormwater management facilities, as well as agricultural/rural drainage (ditches, municipal drains, swales, and culverts).

CLI-ECA, Schedule E, Section 4.0 requires that the Township develop and implement a fulsome monitoring plan for the Authorized System by October 28, 2024. At the time of this reporting, staff continue to advance this large initiative.

4.2 Environmental Trends

Monitoring programs, including environmental trends, are in the process of continued development. As such, future reports are envisioned to include historical data trending and expanded commentary on local and changing climate and seasonal weather patterns.

4.3 Operational Issues and Corrective Actions

There were no significant operational issues or corrective actions identified in 2023. Routine operational issues were identified and addressed through the maintenance and repair completed and summarized under Section 4.4.

4.4 Inspections, Maintenance, and Repairs

All inspections, maintenance and repairs carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Authorized System are performed by Environmental Services staff or a qualified contractor who exercises due diligence in ensuring works within the Authorized System are properly operated and maintained to achieve compliance with the requirements of the CLI-ECA.

At a minimum, monitoring inspections are carried out by Environmental Services staff on a bi-annual basis (spring and fall) and after significant rainfall events. For more comprehensive inspections and to aid in condition assessment, maintenance and repair project prioritization, a qualified engineering consultant has completed engineering inspections in past years.

Results of 2023 inspections reported that the SWMFs were in ‘good’ and ‘fair’ operation based on the inspection evaluation criteria established by Environmental Services.

Maintenance and repairs conducted on the Authorized System during this reporting period are outlined below in Table 2.

Table 2: Maintenance and Repair Summary Table

Date	Facility	Maintenance Details
2023/06/12	SWMF ID: 12, 13 & 14 Maplehill Estates Subdivision	Vegetation removal, reinforced containment berms (as needed), reconstructed access routes within facilities, re-established positive drainage and reconstructed energy dissipation surfaces. Site restoration with topsoil and hydroseeding.

Table 2: Maintenance and Repair Summary Table (continued)

Date	Facility	Maintenance Details
2023/05/25 & 2023/08/08	SWMF ID: 12, 13 & 14 Maplehill Estates Subdivision	Catch basins, connecting pipes and flow spreader cleaned.
2023/09/07	SWMF ID: 1 Houben Subdivision	Vegetation removal, reconstructed access routes within facilities, re-established positive drainage and reconstructed energy dissipation surfaces. Site restoration with topsoil and hydroseeding.
2023/09/07	SWMF ID: 5 Sprucewoods Estates	Removed damaged fence and posts, and regraded as needed.
2023/10/31	SWMF ID: 6 Audubon Estates	Outlet replacement, vegetation removal, re-establish low flow channel and energy dissipation surfaces. Site restoration with topsoil and seeding.
2023/10/31	SWMF ID: 23 Medonte Estates Subdivision (Pond B)	Vegetation removal, outlet and overflow structure replacement, the re-established bottom of the basin and reinstated positive drainage and energy dissipation surfaces in and out of the facility. Site restoration with topsoil and seeding.
2023/11/14	SWMF ID: 5 Sprucewoods Estates	Catch basins and connecting pipe cleaned.
2023/11/22	SWMF ID: 26 Shanty Bay Bio Retention LID	Vegetation removal, reinstated positive drainage and energy dissipation surfaces leading to and from facility, and vegetation removal within facility.
2023/12/22	SWMF ID: 21 Kade Meadows Subdivision	Vegetation removal, construction of access road, minor regrading as needed.

Based on inspections performed in 2023, the following maintenance work is planned for the near future starting in 2024 and outlined below in Table 3.

Table 3: Planned Maintenance Schedule Summary Table

Facility	Required Maintenance
SWMF ID: 4 Arbourwood Estates	Repair erosion around inlet structure and forebay berm. Restore loss of vegetation at various locations around the facility. Appears shallow despite water level at nominal height. Works to confirm remaining capacity of the facility. Future consideration will be given to alternative outlet structure designs due to the outlet catch basin being prone to blockages and Environmental Services will increase inspection frequency to 'monthly' to keep clear.

Table 3: Planned Maintenance Schedule Summary Table (continued)

Facility	Required Maintenance
SWMF ID: 7 Audubon Estates Subdivision	The outlet pipe eroded and started to undermine the structure. The facility heavily treed throughout reducing the water's ability to flow freely. Limited access to the facility presently.
SWMF ID: 10 Heights of Moonstone Subdivision (PH 1)	Side erosion and slumping with no defined path for flow. Heavily vegetated throughout including roadside ditch reducing flow and ponding near adjacent properties. Adjacent residence discharging foundation and eavestrough water directly in facility creating erosion points.
SWMF ID: 11 Heights of Moonstone Subdivision (PH 2)	Side slopes appear to have slumped. Erosion around the inlet and evidence suggesting accumulation in the forebay. Water flow short-circuiting forebay berm. Maintenance road not constructed. No record of as-constructed capacity. Volume should be confirmed. Fish including goldfish visible in the facility.
SWMF ID: 19 Edgar Estates Subdivision	The facility is heavily vegetated with several areas of limited water flow. Erosion control and energy dissipation surfaces are not visible. Private bridge structures and some other encroachment by adjacent property owners. Phragmites in the easternmost drainage channel. Limited outlet flow downstream due to low-lying lands and some overgrowth in the channel.
SWMF ID: 21 Kade Meadows Subdivision	The facility and surrounding area are heavily treed reducing water flow and creating difficult access. The outlet structure catch basin sump is full, requiring cleanout. No existing vehicle access route.
SWMF ID: 29 Owen Estates	Forebay, bio-retention cell and weir structures are moderately vegetated, removal is recommended when possible.

4.5 Monitoring Equipment Calibration Activities

There is no monitoring equipment located in the Authorized System that requires calibration or maintenance.

4.6 Complaints

In 2023, there were two (2) Authorized System complaints received. In both cases, the consumer complaints were investigated by Environmental Services staff and were related to the removal of dead trees within the SWMF. This work was recorded using the Environmental Services Work Order System.

4.7 Alterations to the Authorized System

There were no significant alterations completed to the Authorized System in 2023.

4.8 Spills and Abnormal Discharge Events

No spills or abnormal discharge events were observed in 2023. Any spills or discharge events that occur will be recorded and addressed in accordance with Part X of the Environmental Protection Act, Ontario Regulation 675 (as amended) and reported with notification (by telephone, and in writing) to the MECP Spills Action Centre, the Medical Officer of Health, and the MECP District Manager, as applicable.

4.9 Authorized System Performance Improvements

Performance improvements for the Authorized System have been summarized in Section 4.4 (Inspections, Maintenance, and Repairs) of this report. In 2023, the main focus of performance improvement was related to SWMF sedimentation removal. Previous engineering inspections recommended that removing excess contaminants and sediment from surface runoff should be prioritized as these maintenance projects enhance the longevity and performance of SWMF by restoring them to their intended design. Table 3 under Section 4.4 outlines performance improvement initiatives planned for 2024.

4.10 Updates from Previous Reporting Year

Since this is the first year of the required annual performance report requirement, there are no pre-existing actions documented to report upon. However, new maintenance programs, objectives and best management practices are being developed to improve future reporting metrics.

5 Financial Planning

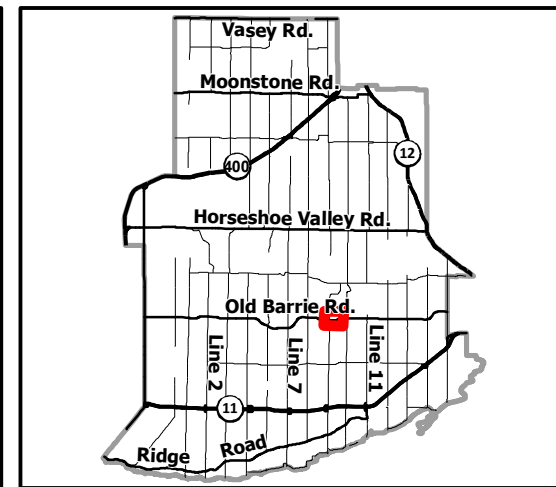
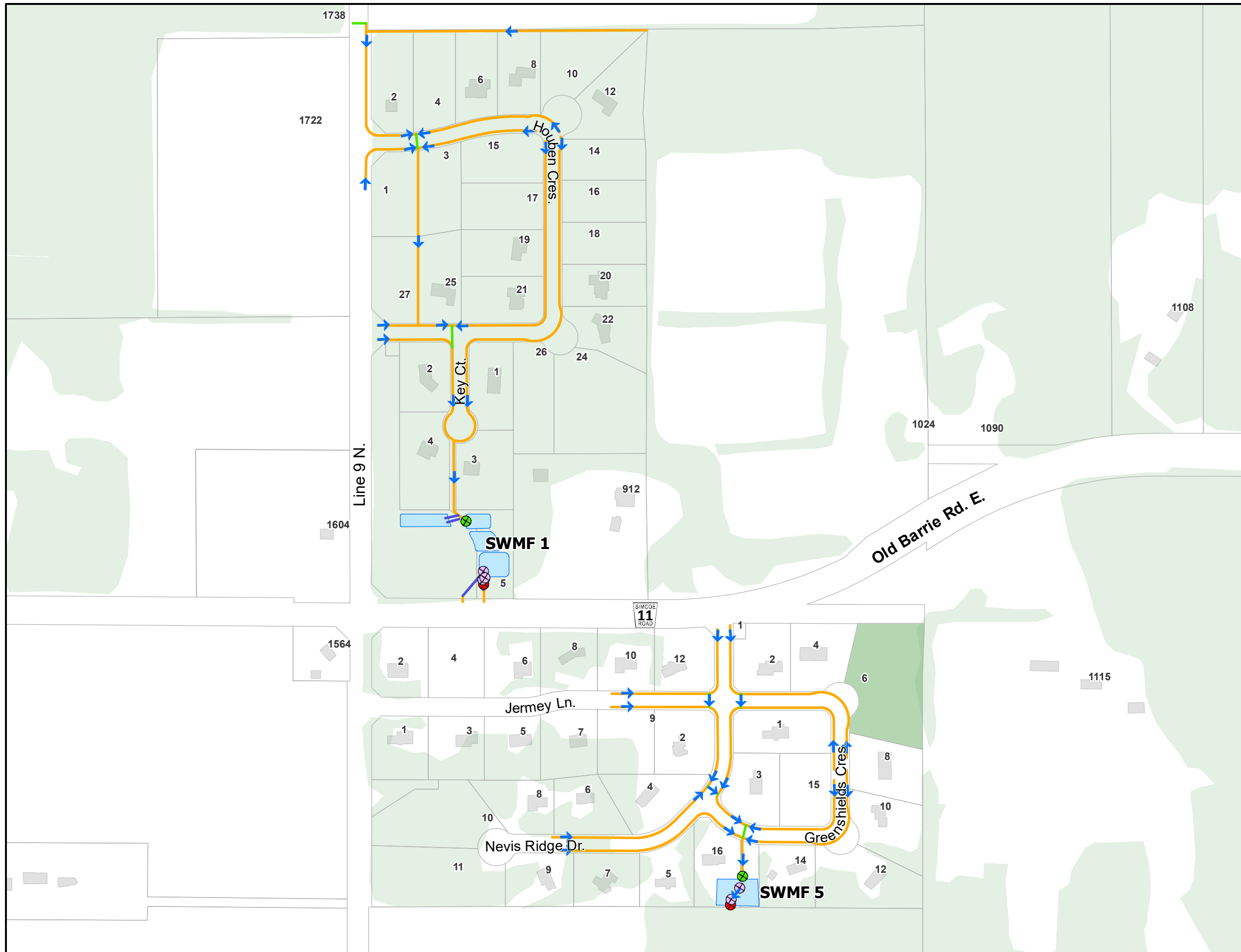
The operation and maintenance of the Authorized System is supported through capital and operating budget allocations approved by the Township of Oro-Medonte Council and funded by the municipal tax base (property taxes).










6 Conclusion

The Township of Oro-Medonte believes that this report satisfies the reporting requirements of Schedule E, Section 5.2 of the CLI-ECA (#126-S701) .

Any questions regarding this report should be directed to Environmental Services.

Appendix A – Urbanized Stormwater Management System Infrastructure Maps



-  Flow Direction
-  Storm Pond Inlet
-  Storm Pond Outlet
-  Storm Control Structure
-  Gravity Pipe
-  Perforated Pipe
-  Open Channel
-  Culvert
-  Storm Pond/LID

Subwatershed: Oro Creeks North

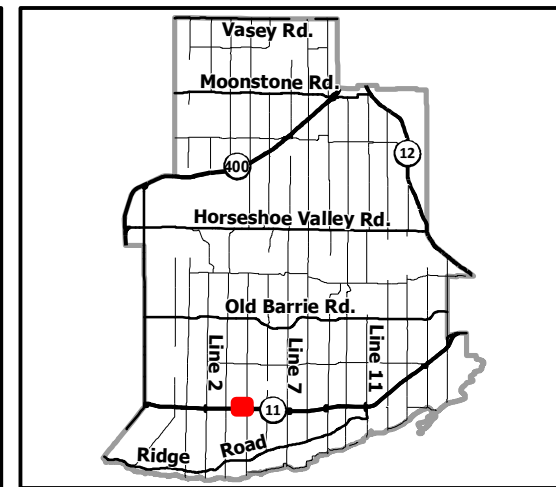
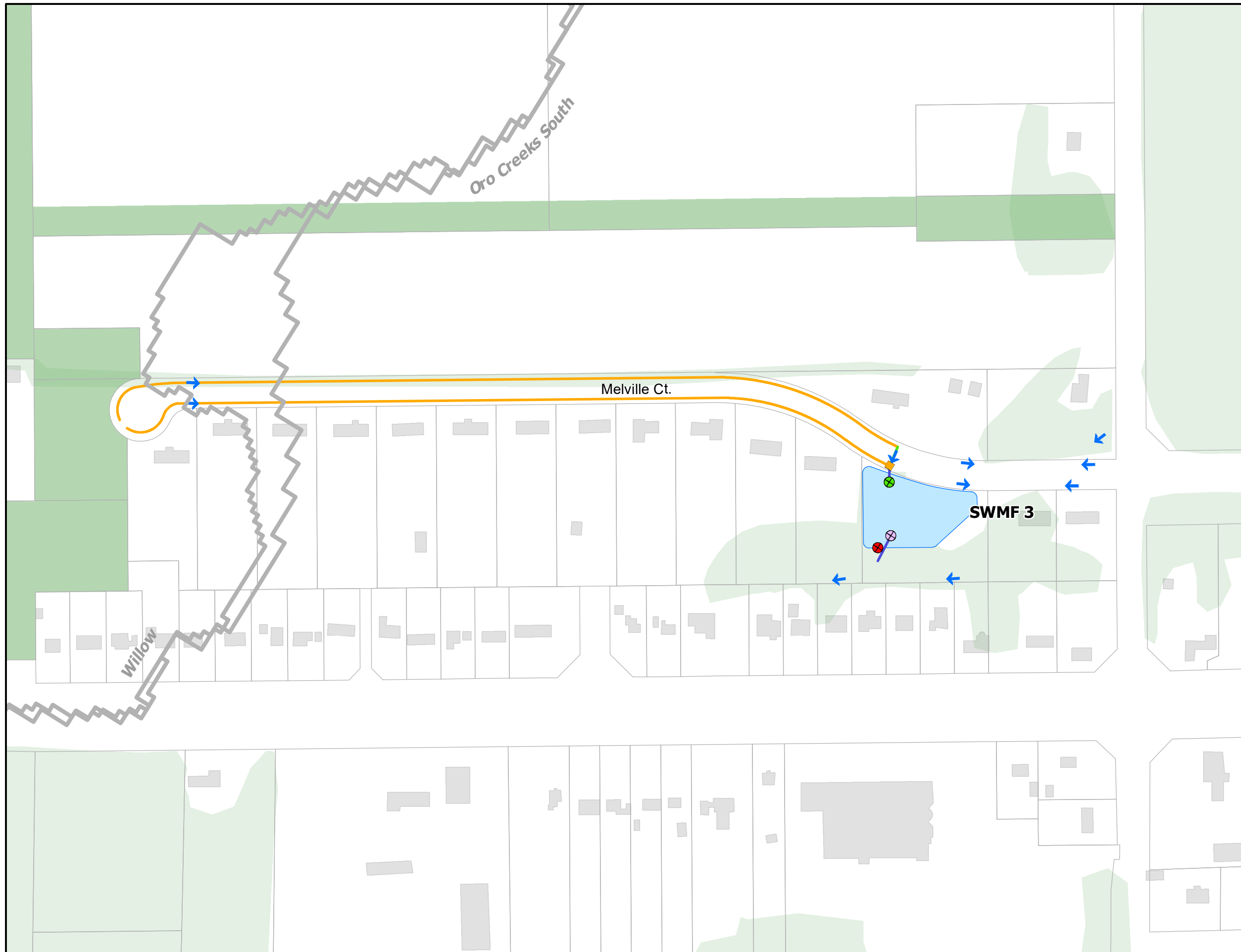
Urbanized Stormwater System
**Houben/
 Sprucewood Estates**

December 2022



Township of
Oro Medonte
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Flow Direction
 Storm Pond Inlet
 Storm Pond Outlet
 Storm Control Structure
 Ditch Inlet Catch Basin
 Gravity Pipe
 Open Channel
 Culvert
 Storm Pond/LID

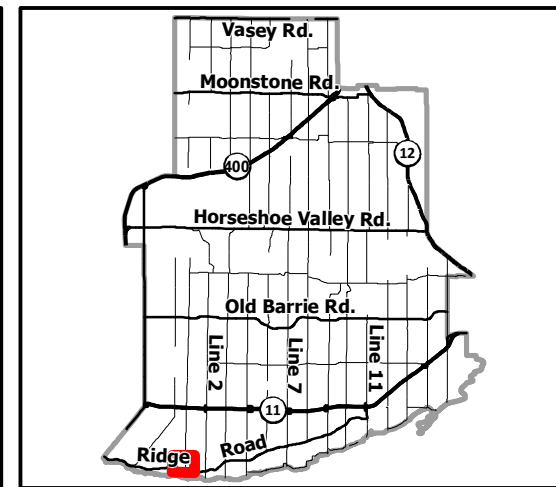
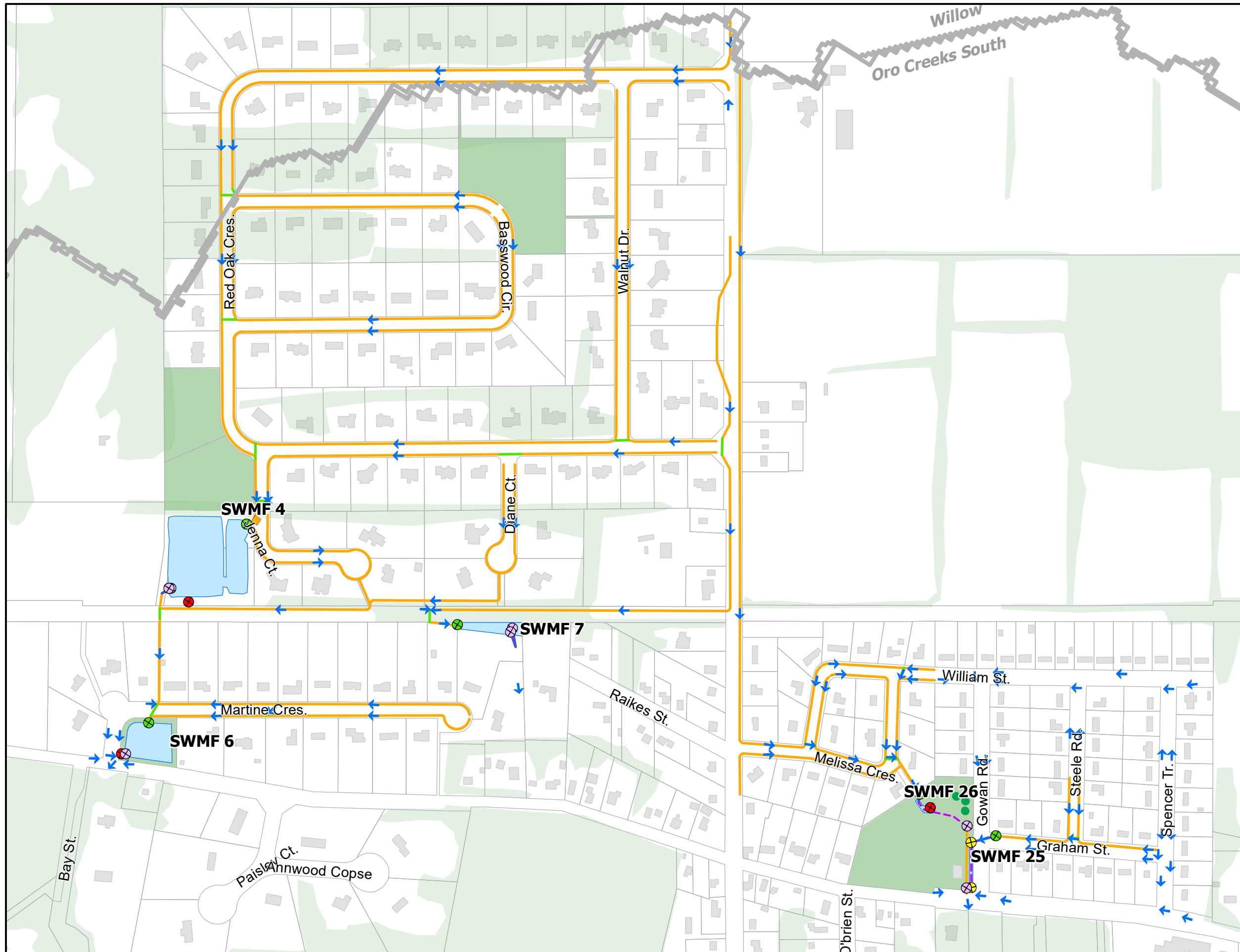
Subwatersheds: Willow Creek and Oro Creeks South

Urbanized Stormwater System
Hastings Estates

December 2022

Township of
Oro Medonte
 Proud Heritage, Exciting Future

0 100 m



- Flow Direction
- Municipal Production Well
- Storm Pond Inlet
- Storm Pond Outlet
- Storm Control Structure
- Manhole
- Ditch Inlet Catch Basin
- Gravity Pipe
- Perforated Pipe
- Open Channel
- Culvert
- Storm Pond/LID

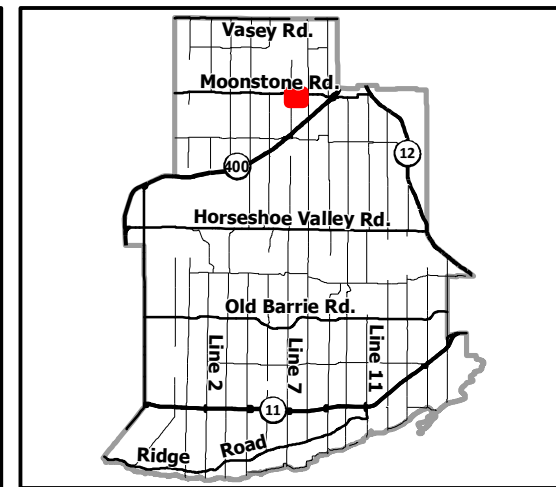
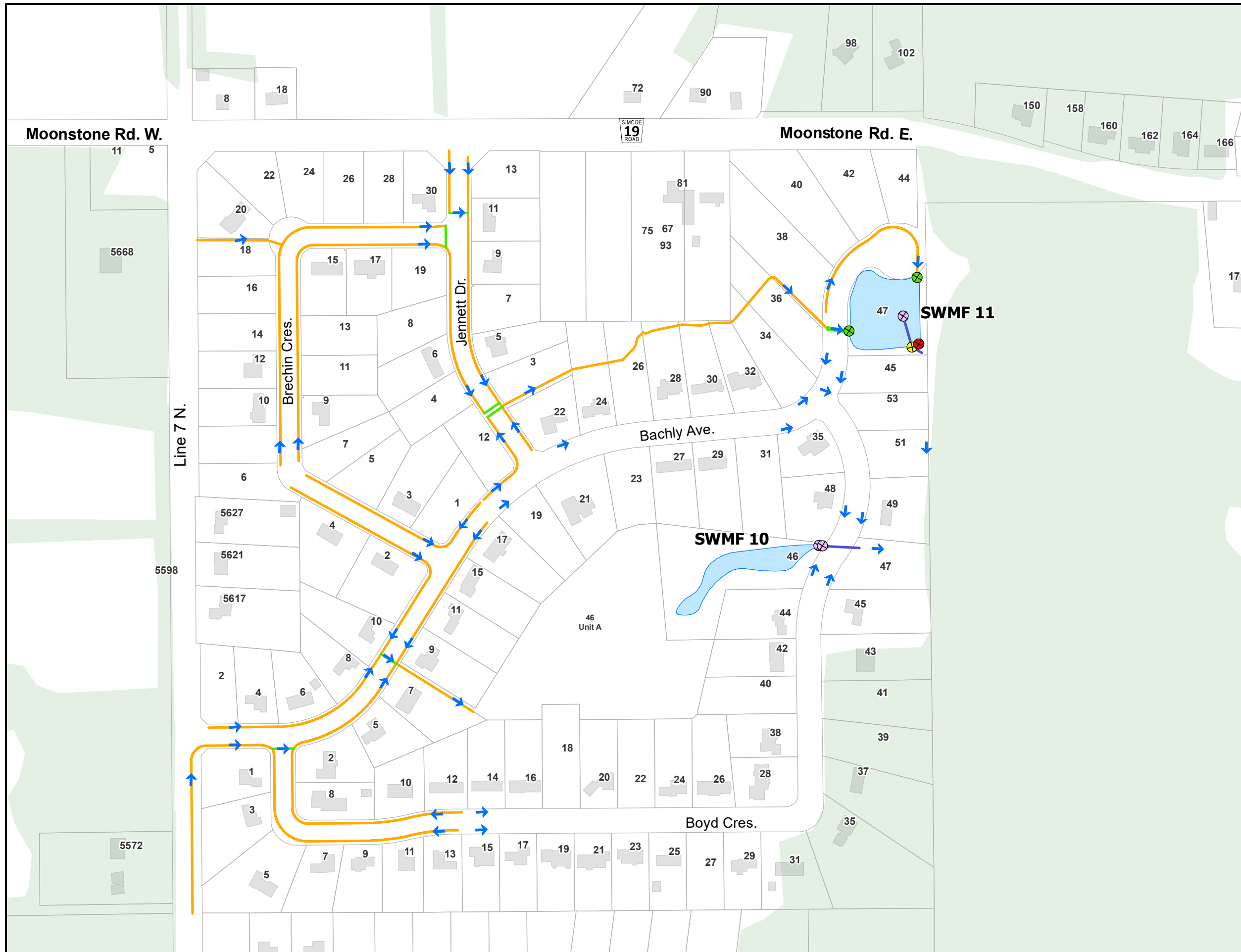
Subwatersheds: Willow Creek and Oro Creeks South

Urbanized Stormwater System Shanty Bay

December 2022

**Township of
Oro-Medonte**
Proud Heritage, Exciting Future

0 200 m



- Flow Direction
- Storm Pond Inlet
- Storm Pond Outlet
- Storm Control Structure
- Manhole
- Gravity Pipe
- Open Channel
- Culvert
- Storm Pond/LID

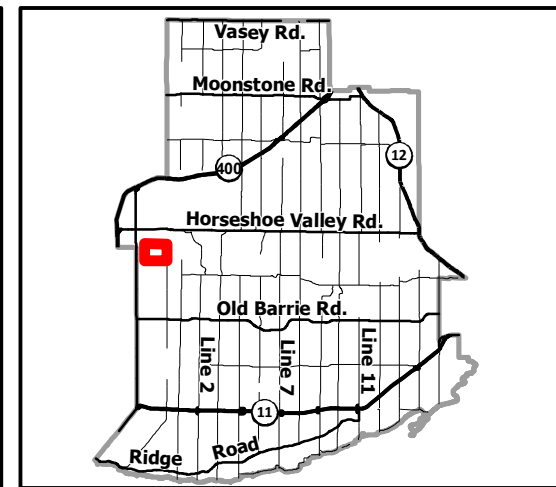
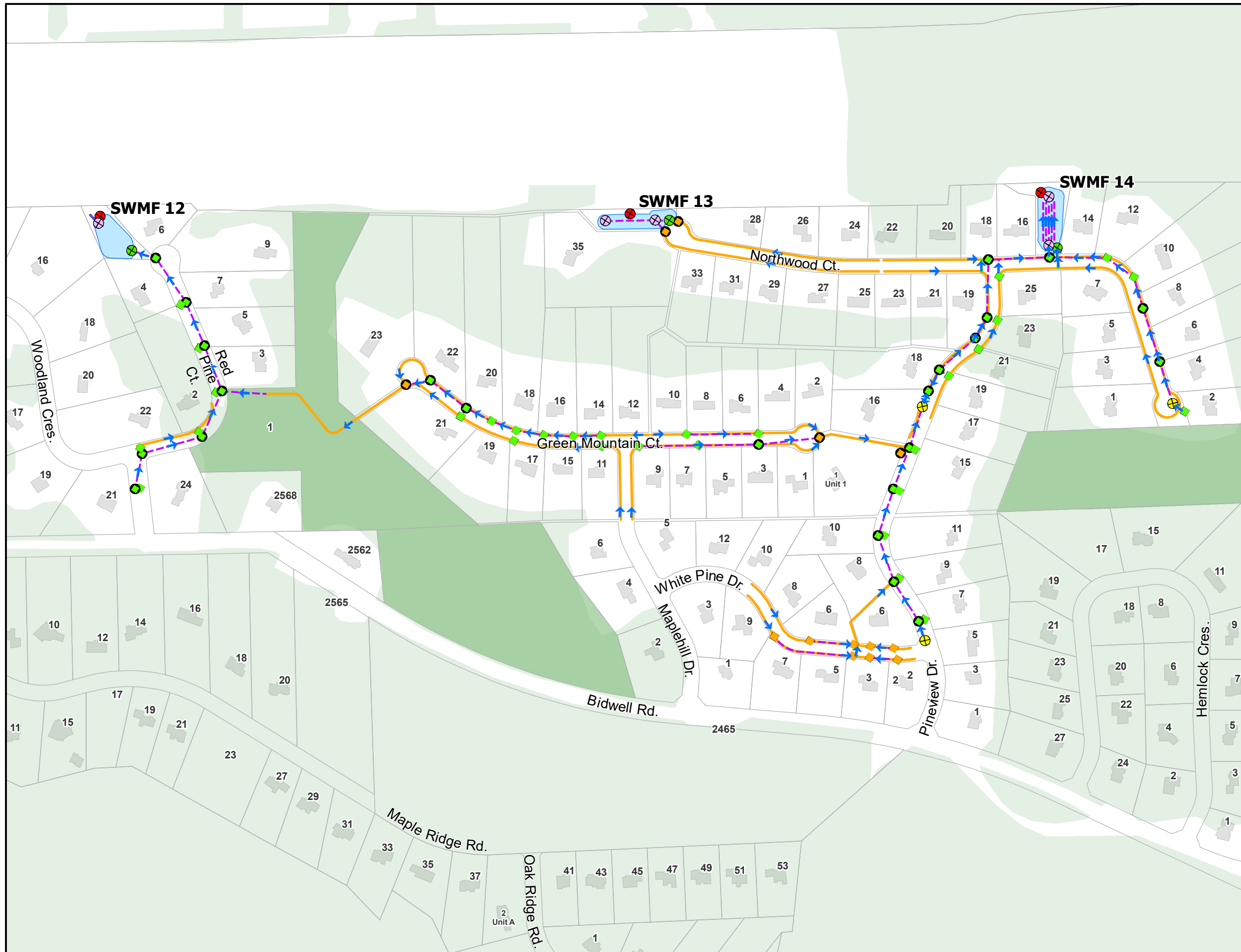
Subwatershed: Coldwater River

Urbanized Stormwater System

Heights of Moonstone

December 2022

Township of
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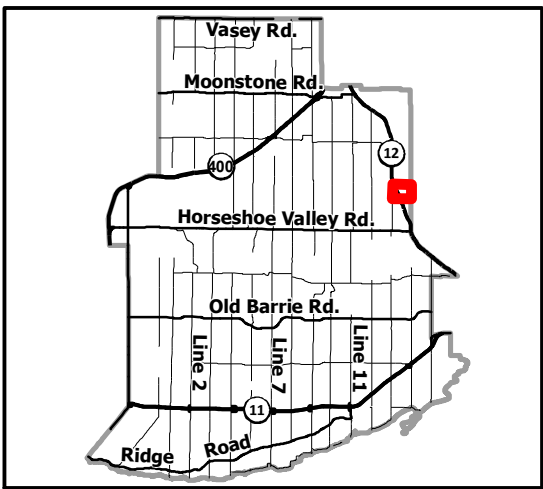
- Flow Direction
- Storm Pond Inlet
- Storm Pond Outlet
- Storm Control Structure
- Manhole
- Catch Basin
- Catch Basin Manhole
- Ditch Inlet Catch Basin
- Ditch Inlet Manhole
- Gravity Pipe
- Perforated Pipe
- Open Channel
- Culvert
- Storm Pond/LID

Subwatershed: Matheson Creek

Urbanized Stormwater System
Maplehill Estates

December 2022

Township of
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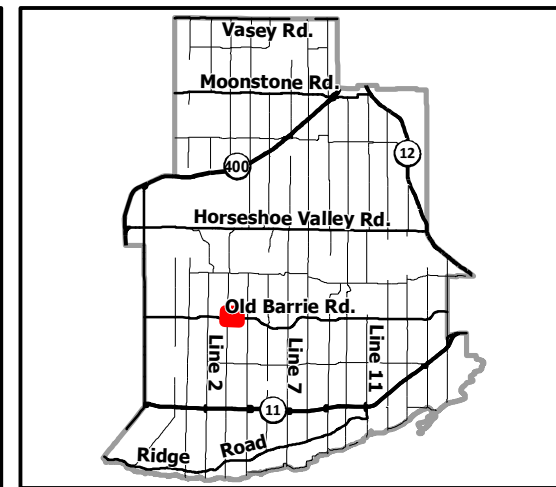
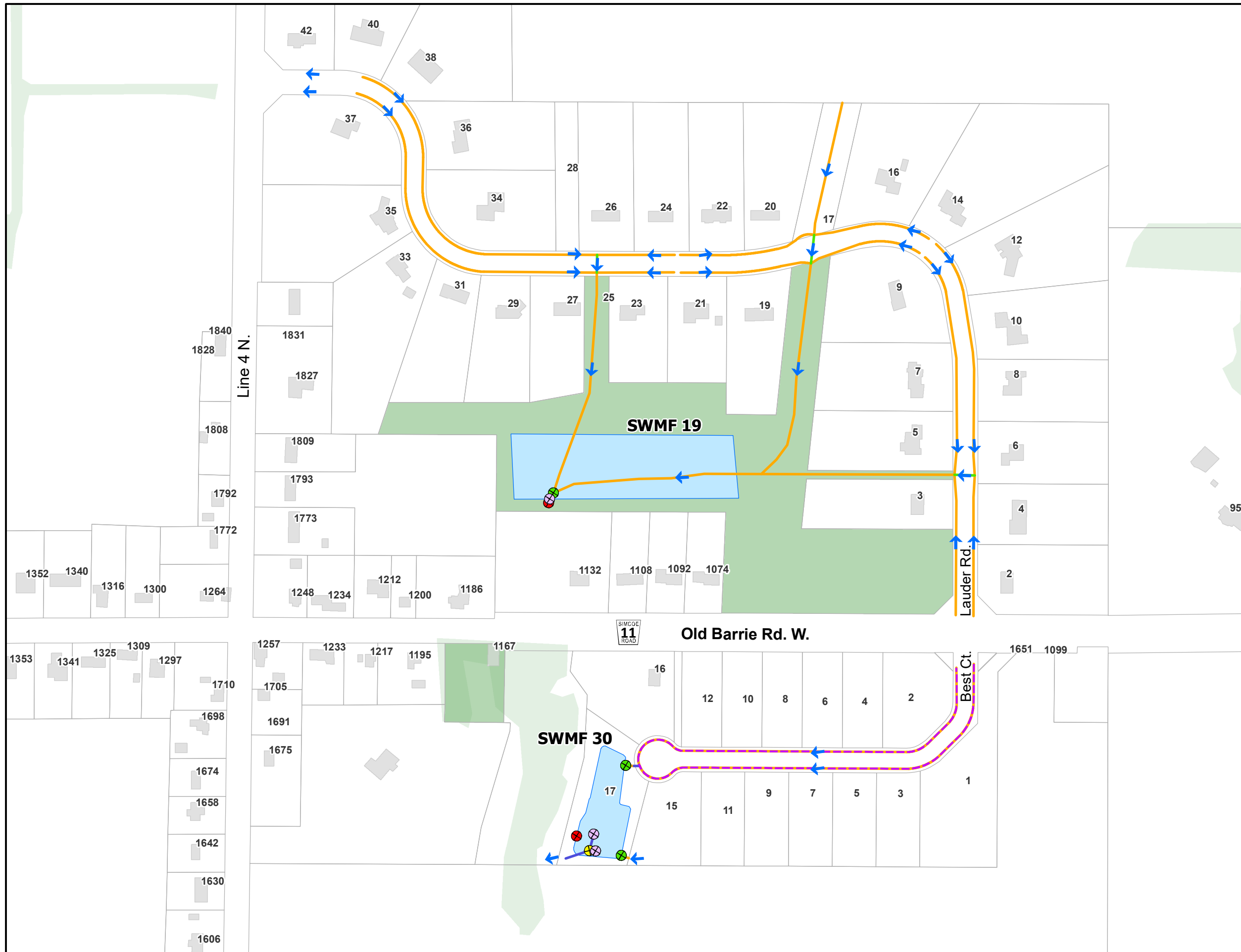
- Flow Direction
- Storm Pond Inlet
- Storm Pond Outlet
- Storm Control Structure
- Manhole
- Catch Basin
- Catch Basin Manhole
- Ditch Inlet Catch Basin
- Gravity Pipe
- Open Channel
- Culvert
- Storm Pond/LID

Subwatershed: North River

Urbanized Stormwater System **Warminster**

December 2022

Township of
Oro-Medonte
Proud Heritage, Exciting Future



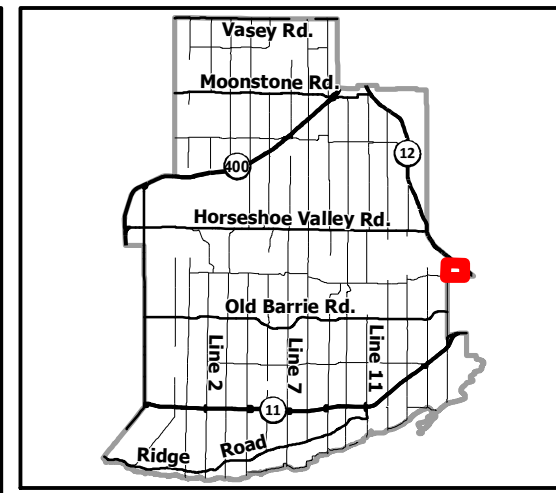
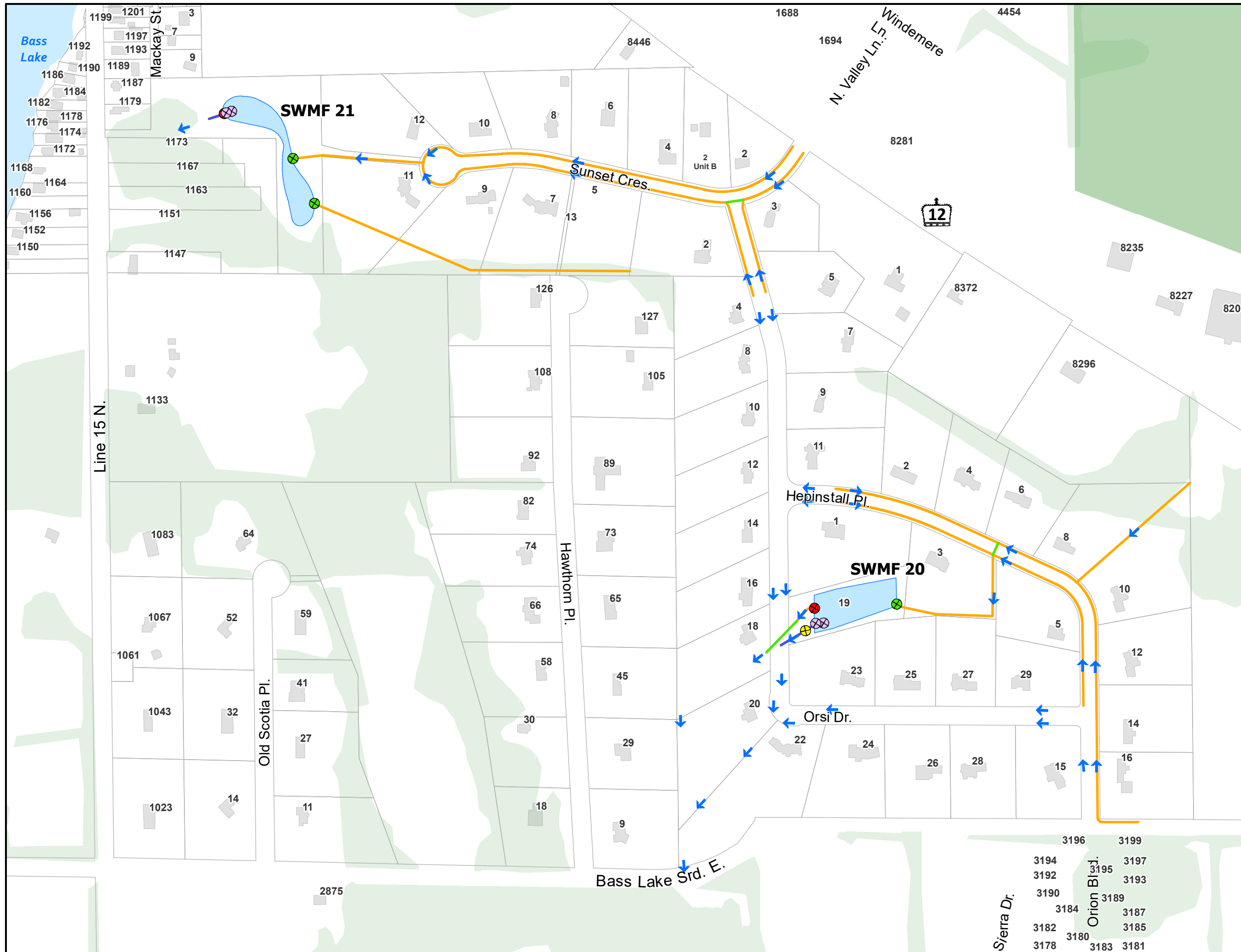
Subwatershed: Willow Creek

- Flow Direction
- Storm Pond Inlet
- Storm Pond Outlet
- Storm Control Structure
- Manhole
- Gravity Pipe
- Perforated Pipe
- Open Channel
- Culvert
- Storm Pond/LID

Urbanized Stormwater System
**Edgar Estates/
 Whispering Creek**

December 2022

Township of
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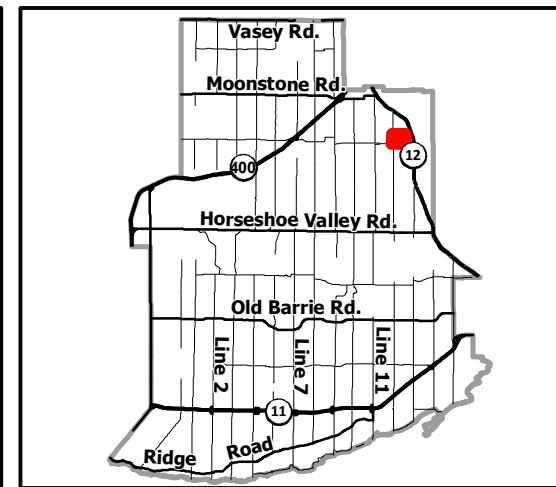
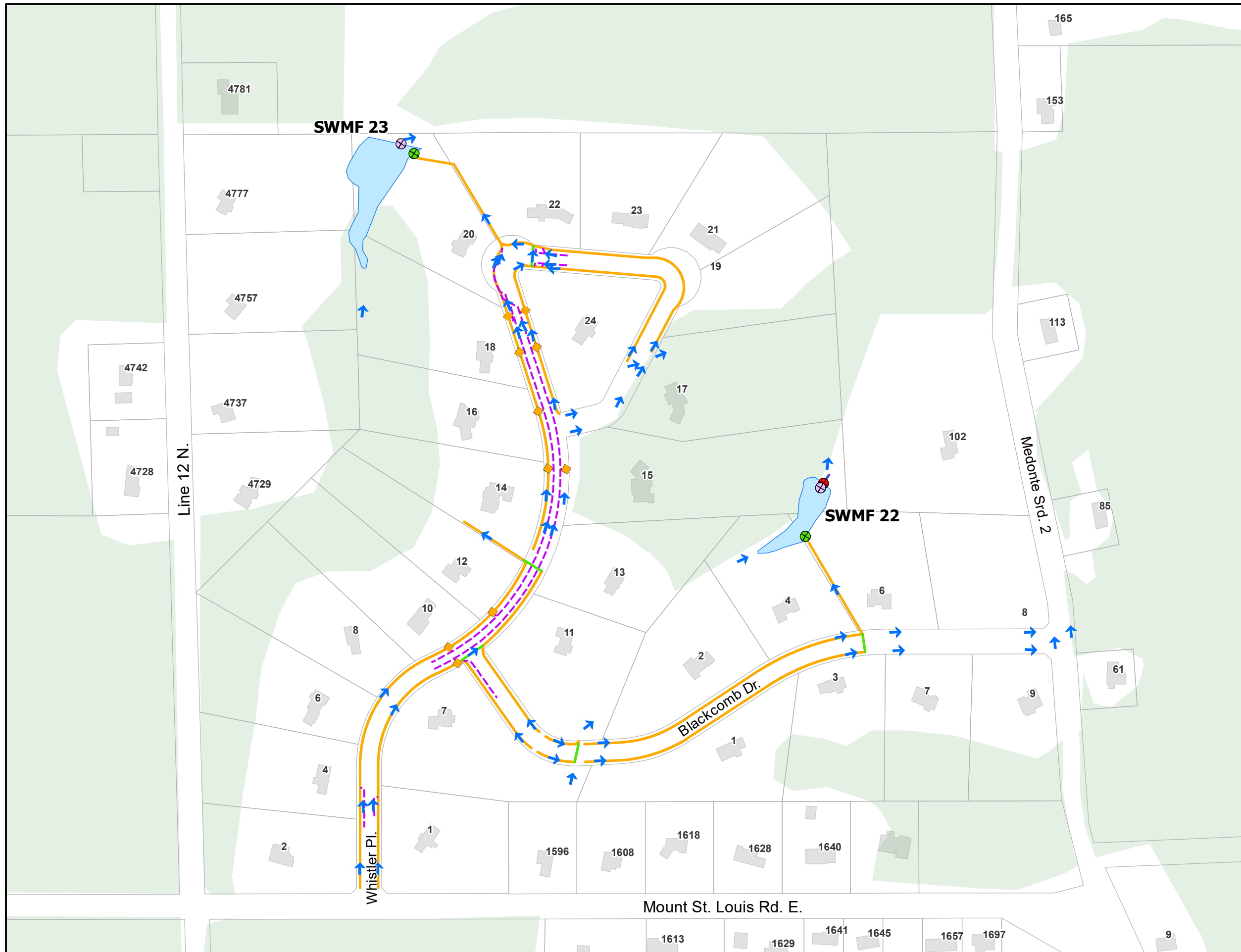
- Flow Direction
- Storm Pond Inlet
- Storm Pond Outlet
- Storm Control Structure
- Manhole
- Gravity Pipe
- Open Channel
- Culvert
- Storm Pond/LID

Subwatershed: North River

Urbanized Stormwater System
**Orsi Subdivision/
 Kade Meadows**

December 2022

Township of
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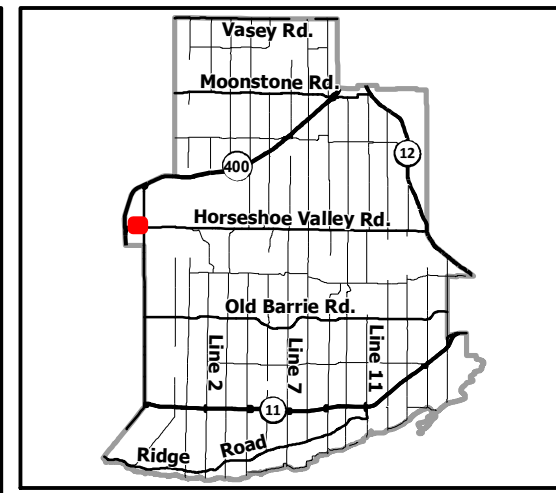
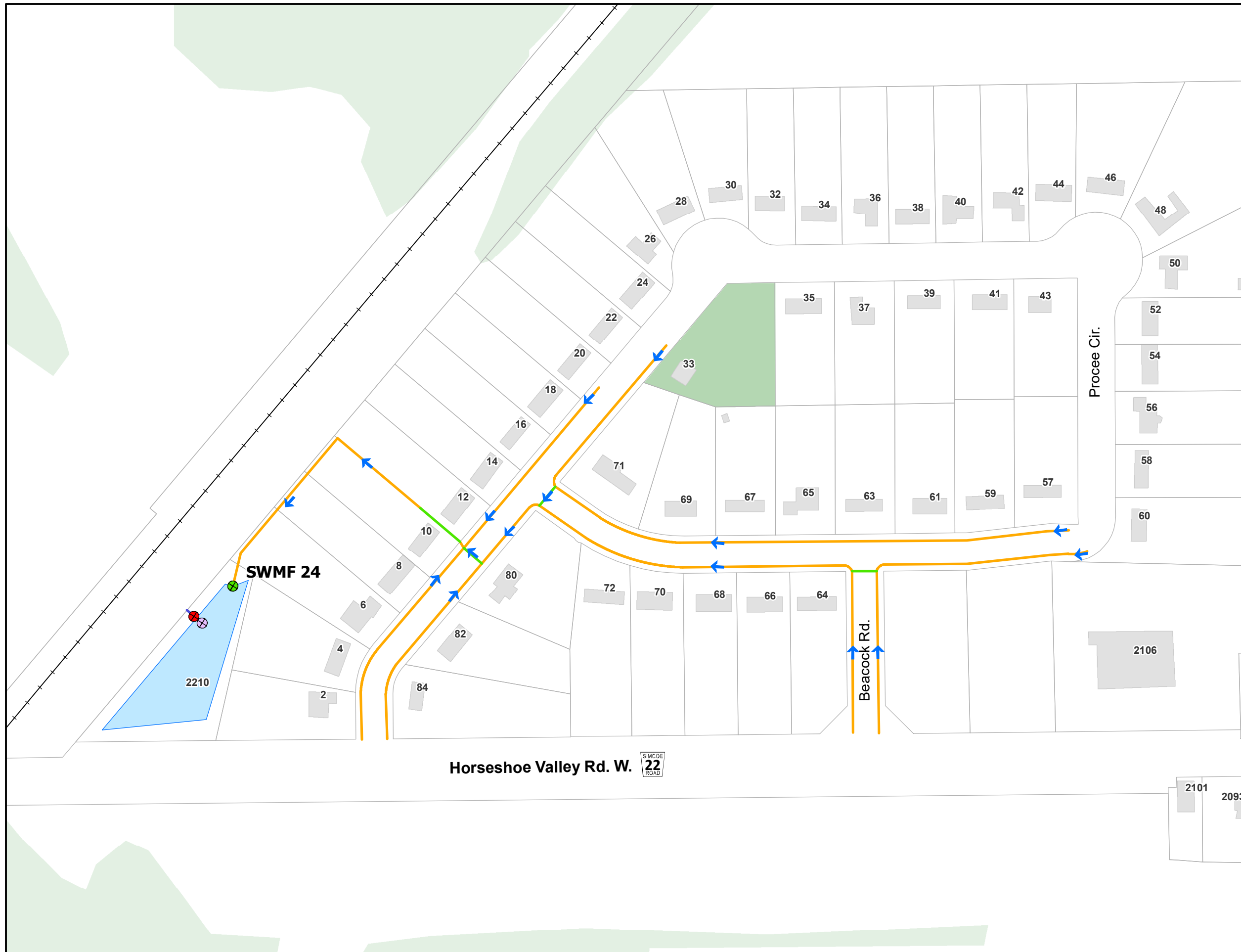
Subwatershed: North River

- Flow Direction
- Storm Pond Inlet
- Storm Pond Outlet
- Storm Control Structure
- Ditch Inlet Catch Basin
- Gravity Pipe
- Perforated Pipe
- Open Channel
- Culvert
- Storm Pond/LID

Urbanized Stormwater System
Medonte Estates

December 2022

Township of
Oro Medonte
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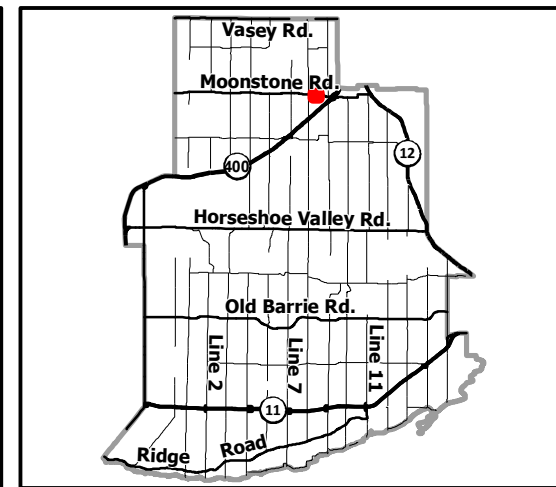
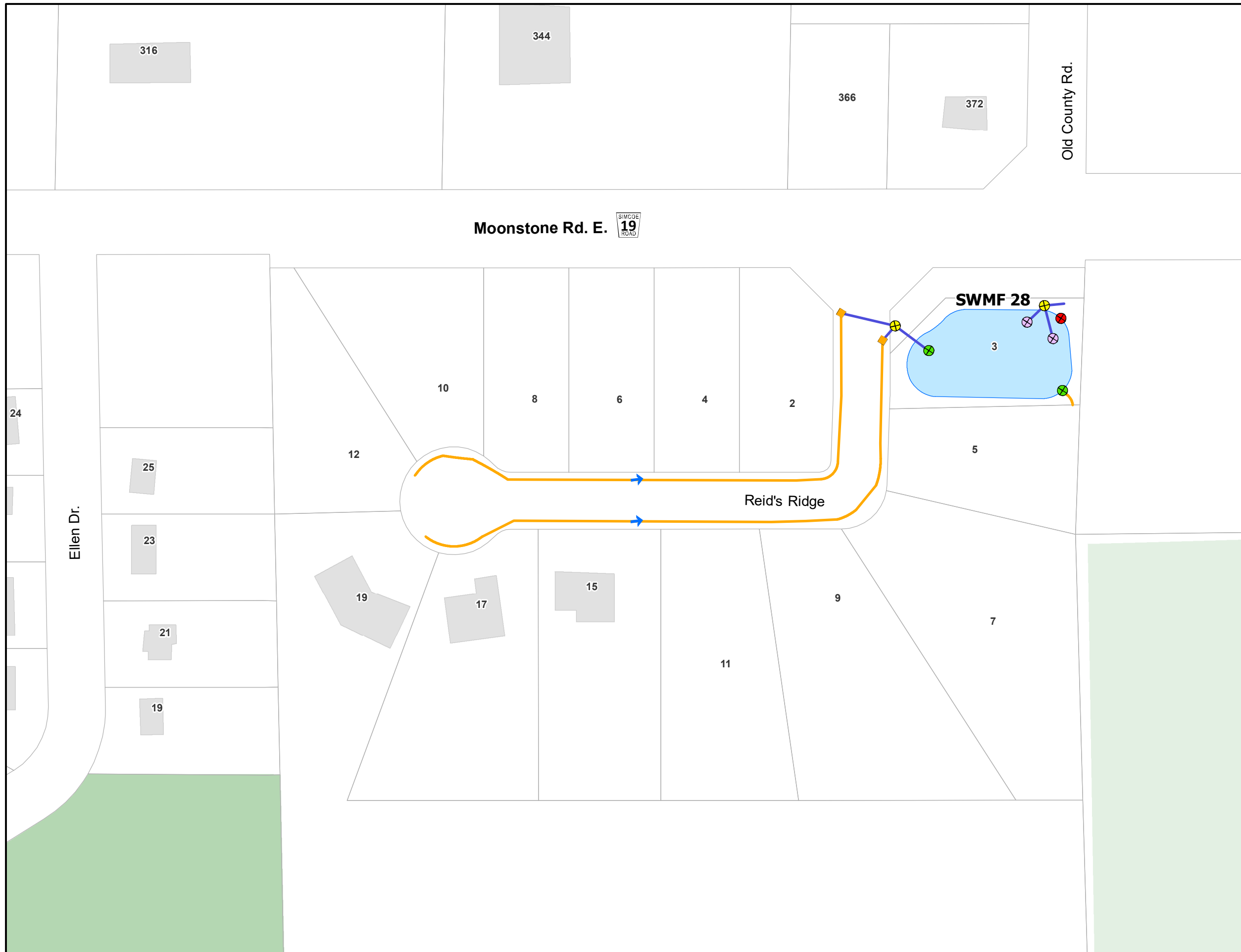
Subwatershed: Matheson Creek

- Flow Direction
- Storm Pond Inlet
- Storm Pond Outlet
- Storm Control Structure
- Gravity Pipe
- Open Channel
- Culvert
- Storm Pond/LID

Urbanized Stormwater System
Craighurst Estates

December 2022

Township of Oro-Medonte
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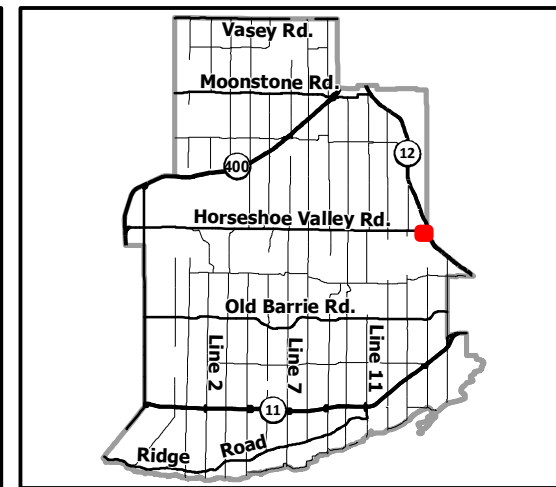
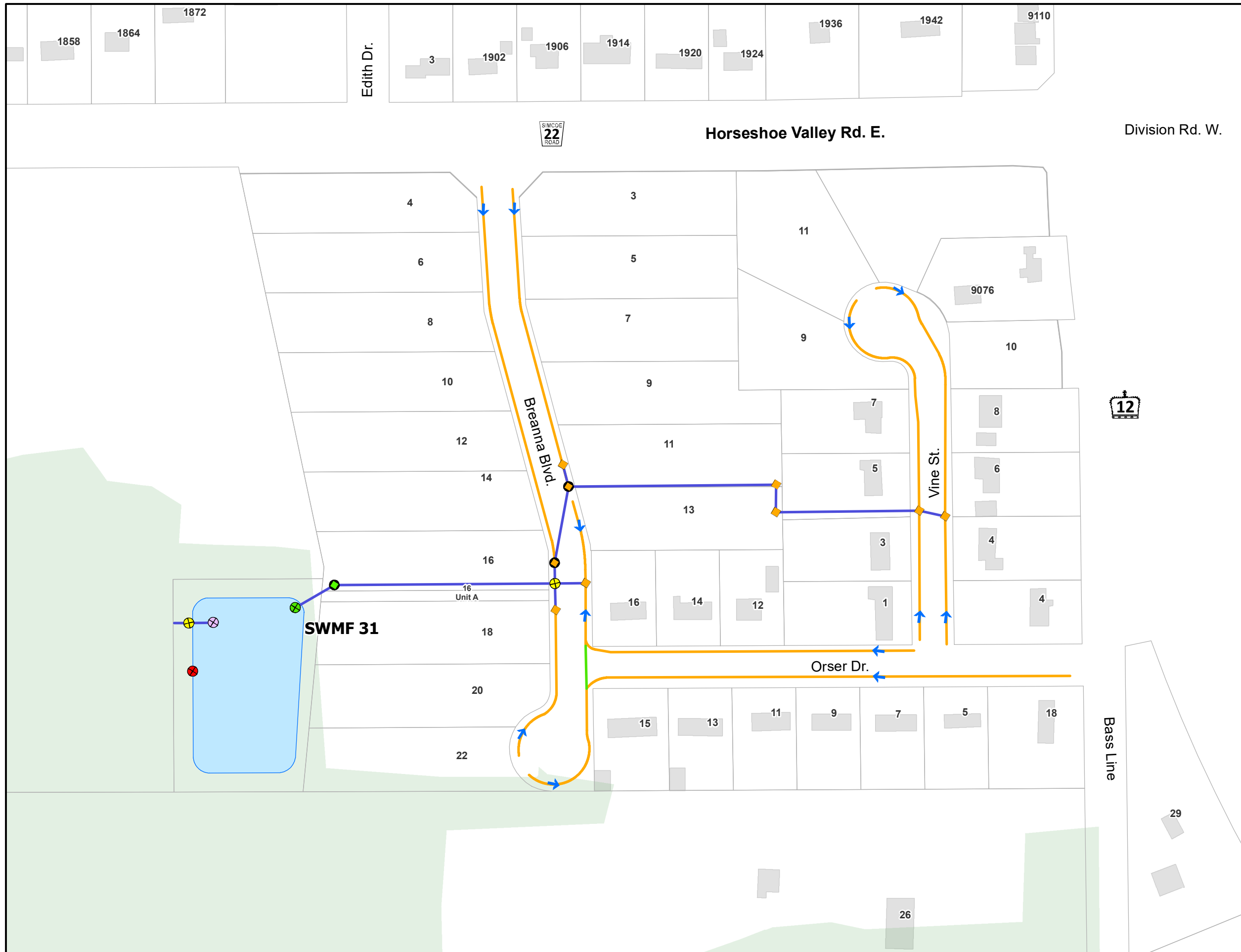
- Flow Direction
- Storm Pond Inlet
- Storm Pond Outlet
- Storm Control Structure
- Manhole
- Ditch Inlet Catch Basin
- Gravity Pipe
- Open Channel
- Storm Pond/LID

Subwatershed: Coldwater River

Urbanized Stormwater System
Reid's Ridge

December 2022

Township of
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Subwatershed: North River

- Flow Direction
- Storm Pond Inlet
- Storm Pond Outlet
- Storm Control Structure
- Manhole
- Catch Basin Manhole
- Ditch Inlet Catch Basin
- Ditch Inlet Manhole
- Gravity Pipe
- Open Channel
- Culvert
- Storm Pond/LID

Urbanized Stormwater System Turtle River

December 2022

Township of Oro-Medonte
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