

ENVIRONMENTAL COMPLIANCE APPROVAL For a Municipal Stormwater Management System

ECA Number: 318-S701

Issue Number: 2

Pursuant to the *Environmental Protection Act*, R.S.O 1990, c. E. 19 (EPA), and the regulations made thereunder and subject to the limitations thereof, this environmental compliance approval is issued under section 20.3 of Part II.1 of the EPA to:

Windsor, The Corporation Of The City Of

**350 City Hall Square West P.O. Box 1607
Windsor, ON N9A 6S1**

For the following Sewage Works:

Municipal Stormwater Management System

This Environmental Compliance Approval (ECA) includes the following:

Schedule	Description
Schedule A	System Information
Schedule B	Municipal Stormwater Management System Description
Schedule C	List of Notices of Amendment to this ECA: Additional Approved Works
Schedule D	General
Schedule E	Operating Conditions
Schedule F	Residue Management
Appendix A	Stormwater Management Criteria

Except where specified otherwise, all prior ECAs, or portions thereof, issued by the Director for Sewage Works described in section 1 of Schedule B are revoked and replaced by this Approval.

DATED at TORONTO this 16th day of February, 2024

Signature



Aziz Ahmed, P.Eng.
Director, Part II.1, *Environmental Protection Act*

Schedule A: System Information

System Owner	Windsor, The Corporation Of The City Of
ECA Number	318-S701
System Name	Municipal Stormwater Management System
ECA Issue Date	February 16th, 2024

1.0 ECA Information and Mandatory Review Date

ECA Issue Date	February 16, 2024
Application for ECA Review Due Date	December 15, 2026

1.1 Pursuant to section 20.12 of the EPA, the Owner shall submit an application for review of the Approval no later than the Application for ECA Review Date indicated above.

2.0 Related Documents

2.1 Other Documents

Document Title	Version
Design Criteria for Sanitary Sewers, Storm Sewers, and Force mains for future Alterations Authorized under ECA	v.2.0 (May 31, 2023)
Windsor/Essex Region Stormwater Management Standards Manual (WERSMSM)	(Dec. 6, 2018)
Stormwater Management Planning and Design Manual	(March 2003)

3.0 Stormwater Master Plan and Asset Management Plan

Document Title	Version
Sewer and Coastal Flood Protection Master Plan	v.1 (Nov. 2022)
City of Windsor – Corporate Asset Management Plan	v.1 (Jul. 16, 2019)

4.0 Operating Authority

System	Operating Authority
City of Windsor Municipal Stormwater Management System	The Corporation of the City of Windsor

Schedule B: Municipal Stormwater Management System Description

System Owner	Windsor, The Corporation Of The City Of
ECA Number	318-S701
System Name	Municipal Stormwater Management System
ECA Issue Date	February 16th, 2024

1.0 System Description

- 1.1 The following is a summary description of the Sewage Works comprising the Municipal Stormwater Management System:

Overview

The City of Windsor Municipal Stormwater Management System serving the City of Windsor’s drainage area, is a separate system for Stormwater (i.e. designed not to transmit sanitary Sewage and/or Combined Sewage) within the Detroit River watershed(s). The Municipal Stormwater Management System consists of Storm Sewers, culverts, ditches, Stormwater Management Facilities and outlets.

This Approval covers the entire Municipal Stormwater Management System owned and operated by the City of Windsor. This Approval does not cover municipally, or Privately Owned Stormwater Works on industrial, commercial, or institutional land.

This Municipal Stormwater Management System connects to the City of Windsor’s Municipal Stormwater Management System ECA # 318-S701.

Sewage Collection System

- 1.2 The Authorized System comprises:

- 1.2.1 The Sewage Works described and depicted in each document or file identified in column 1 of Table B1.

Table B1: Infrastructure Map	
Column 1 Document or File Name	Column 2 Date
Municipal Stormwater Management System – City of Windsor	v.1 (Feb. 2022)

- 1.2.2 Storm Sewers, Stormwater Management Facilities, stormwater pumping stations and Sewage Works associated with a Third Pipe

Collection System that have been added, modified, replaced, or extended through authorization provided in a Schedule C Notice respecting this Approval, where Completion occurs on or after the date identified in column 2 of Table B1 for each document or file identified in column 1.

1.2.3 Storm Sewers, Stormwater Management Facilities and Sewage Works associated with a Third Pipe Collection System that have been added, modified, replaced, or extended through authorization provided by Schedule D of this Approval, where Completion occurs on or after the date identified in column 2 of Table B1 for each document or file identified in column 1.

1.2.4 Any Sewage Works described in conditions 1.3 through 1.8 below.

Stormwater Collection System

1.3 Categorization of the Authorized System at the date of issue of this Approval is as follows:

System Type	Pipe Diameter (mm)	Length (km)	System Totals (km)
Storm Sewers	Up to 250	11.27	
Storm Sewers	> 250 - 500	345.83	
Storm Sewers	> 500 - 1050	297.78	
Storm Sewers	> 1050	159.04	
Total Storm Sewers			813.92
Ditches / Swales	NA		362.99
Total System Length (km)			1176.91

Facility Type	Basic Treatment for Suspended Solids*	Normal Treatment for Suspended Solids *	Enhanced Treatment for Suspended Solids *	Other Treatment Level for Suspended Solids**	Total Quality Control	Total Quantity Control	Total Number of Facilities
LID Facilities - Retention (infiltration, evapotranspiration, harvest)		16	1		17		17
LID Facilities - Filtration	N/A	-	-	-	-	-	-
Stormwater Management Ponds – Wet (includes		11	1		12	12	12

wetlands, hybrids)							
Stormwater Management Ponds - Dry	26					26	26
Super Pipe / Storage Facility	1	1	1		3	3	3
Filtration MTD - Filter Unit	N/A	-	-	-	-		0
Sedimentation MTD - OGS	2	2	8		12		12
Pumping Stations							
Other							
Total Number of Facilities	27	31	8		40	41	66

* Basic, normal, and enhanced treatment correspond to 60%, 70% and 80% suspended solids removal on an annual average long-term basis, respectively.

** Treatment levels below 60% suspended solids removal on an annual average long-term basis.

Table B4. Third Pipe Collection System

Description	Pipe Diameter (mm)	Length (km)	Quantity	System Totals
Third Pipe Sewer	Up to 250	0	N/A	0
Third Pipe Sewer	> 250 - 500	0	N/A	0
Third Pipe Sewer	> 500	0	N/A	0
Total	-	-	-	0 Km
Other Infrastructure Components (e.g., storage tank)	N/A	N/A		

Table B5. Sewage Works on Private Land that are part of the Municipal Stormwater Treatment Train*

Description	Location	ECA # (if applicable)

* Identifies privately owned Sewage Works that are not part of the Authorized System, but are part of a Stormwater Treatment Train

Stormwater Management Facilities

1.4 The following are Stormwater Management Facilities in the Authorized System:

1. Azar / Dominion Subdivision SWM Dry Pond

Location	Latitude 42.28280°N and longitude -83.04044°W
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm Sewers to Grand Marais Drain
Outlet location	Latitude 42.280382N; longitude -83.038906 W (UTM X: 331882.52; Y: 4682920.34)
Catchment Area	13.4 ha
Level of Treatment for	Linear dry pond - basic treatment

suspended solids	
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 5-yr storm; Quality: X-yr storm
Reference ECA(s)	6475-5RVRMP
Reference Works as part of treatment train	
Brief Description	A linear dry pond/swale with 2-250mm perforated subdrains outlet.
Receive Emergency Sanitary Overflows	No, stormwater only.
Notes / Additional Information	Built in 2013.

2. South Cameron / Alexandra Development SWM Dry Pond

Location	Latitude 42.28260°N and longitude 83.03019°W
Watershed/Subwatershed	Detroit River
Receiver of discharge	Janisse Drain to Northway Trunk Sewer to Grand Marais Drain
Outlet location	UTM X:332433.80625 Y:4683172.65156
Catchment Area	32.1 ha
Level of Treatment for suspended solids	Level 3 (80%) long-term suspended solids removal
Treatment for other contaminants, as required	No
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 13mm storm
Reference ECA(s)	6632-4XVMJV
Reference Works as part of treatment train	Manhole sumps, oil traps, final polishing of Janisse Drain vegetation
Brief Description	A dry pond with 1:5 yr storage = 3000m ³ and 1:100 yr storage = 8300m ³ with pumped outlet.
Receive Emergency Sanitary Overflows	No – System received storm water runoff from South Cameron/Alexandra Residential development only.
Notes / Additional Information	Built in 2002.

3. Howard Grade Separation SWM Wet Pond

Location	Latitude 42.292225°N and longitude -83.014089°W (UTM X: 333960.00; Y: 4684186.69)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewer to Grand Marais Drain
Outlet location	Latitude 42.292225°N and longitude -83.014089°W (UTM X: 333960.00; Y: 4684186.69)
Catchment Area	4.3 ha
Level of Treatment for suspended solids	Normal protection 70% for long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	5071-7XYTS2
Reference Works as part of treatment train	
Brief Description	A 2-cell system with a wet pond and dry pond separated with an overflow weir and a pumped outlet.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2009.

4. John Campbell Underground Storage SMW Underground

Location	Latitude 42.297990°N and longitude --83.005516°W (UTM X: 334681.86; Y: 4684810.15)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewers to Grand Marais Drain
Outlet location	Latitude 42.297990°N and longitude --83.005516°W (UTM X: 334681.86; Y: 4684810.15)
Catchment Area	1.56 ha
Level of Treatment for suspended solids	Underground pipe storage. No treatment.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 5-yr storm
Reference ECA(s)	
Reference Works as part of treatment train	
Brief Description	Use of underground storage pipes with a 600mm storm outlet to the municipal sewer system.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2009.

5. Kamgrun Subdivision SMW Dry Pond

Location	Latitude 42.283888°N and longitude --82.998849°W (UTM X: 335194.68; Y: 4683231.32)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewer to Grand Marais Drain
Outlet location	Latitude 42.283888°N and longitude --82.998849°W (UTM X: 335194.68; Y: 4683231.32)
Catchment Area	10.9 ha
Level of Treatment for suspended solids	No treatment
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm
Reference ECA(s)	3-1188-86-006
Reference Works as part of treatment train	
Brief Description	Dry pond with a 200mm orifice in a 750mm outlet pipe.
Receive Emergency Sanitary Overflows	No, stormwater only.
Notes / Additional Information	Built in 1982.

6. Grand Marais Village SWM Dry Pond

Location	Latitude 42.286238°N and longitude -82.993057°W (UTM X: 335678.36; Y: 4683481.07)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewer to Grand Marais Drain
Outlet location	Latitude 42.286238°N and longitude -82.993057°W (UTM X: 335678.36; Y: 4683481.07)
Catchment Area	12.3 ha
Level of Treatment for suspended solids	Temporary dry pond - No treatment
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm
Reference ECA(s)	3-0939-77-786
Reference Works as part of treatment train	
Brief Description	Dry pond with 250mm outlet pipe in outlet structure.
Receive Emergency Sanitary Overflows	No only stormwater
Notes / Additional Information	Built in 1977.

7. 308237 Ontario Ltd. SWM Dry Pond

Location	Latitude 42.287867°N; Longitude -82.990494°W
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewer to Grand Marais Drain
Outlet location	Latitude 42.287867°N longitude -82.990494°W (UTM X: 335890.65; Y: 4683655.27)
Catchment Area	4.3 ha
Level of Treatment for suspended solids	Dry pond – basic treatment
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: none
Reference ECA(s)	3-1234-89-006
Reference Works as part of treatment train	
Brief Description	Dry pond with 450mm restrictor pipe in 600mm outlet pipe.
Receive Emergency Sanitary Overflows	No, only stormwater
Notes / Additional Information	Built in 1992.

8. Wine River Subdivision SWM Dry Pond

Location	Latitude 42.283395°N and longitude -82.996564°W (UTM X: 335381.80; Y: 4683172.15)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewer outlet to Grand Marais Drain
Outlet location	Latitude 42.283395°N and longitude -82.996564°W (UTM X: 335381.80; Y: 4683172.15)
Catchment Area	5.0 ha
Level of Treatment for suspended solids	Dry pond - no treatment.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm
Reference ECA(s)	3-0640-81-006
Reference Works as part of treatment train	
Brief Description	Dry pond with 300mm outlet pipe in outlet structure.
Receive Emergency Sanitary Overflows	No, only stormwater
Notes / Additional Information	Built in 1991

9. Raymax Subdivision SWM Dry Pond

Location	Latitude 42.284276°N and longitude -82.994271°W (UTM X: 335573.16; Y: 4683265.55)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewer to Grand Marais Drain
Outlet location	Latitude 42.284276°N and longitude -82.994271°W (UTM X: 335573.16; Y: 4683265.55)
Catchment Area	2.7 ha
Level of Treatment for suspended solids	No quality treatment.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm.
Reference ECA(s)	3-0500-94-006
Reference Works as part of treatment train	
Brief Description	Dry pond with 115mm outlet pipe in outlet structure.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 1992.

10. Parkwood Corporate Centre SWM Dry Pond

Location	Latitude 42.288864°N and longitude -82.977213°W (UTM X: 336991.47; Y: 4683742.19)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Pump Station & Forcemain to Ditch to Grand Marais Drain
Outlet location	Latitude 42.288864°N and longitude -82.977213°W (UTM X: 336991.47; Y: 4683742.19)
Catchment Area	13.2 ha
Level of Treatment for suspended solids	No treatment.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm
Reference ECA(s)	3-2231-88-896
Reference Works as part of treatment train	
Brief Description	Linear dry pond with pumped outlet via 200mm forcemain and 675mm CSP overflow pipe.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 1988.

11. Central Ave SWM Wet Pond

Location	Latitude 42.29408°N and longitude 82.97263°W (UTM X: 337382.75; Y: 4684312.62)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Via culvert to Grand Marais Drain
Outlet location	Latitude 42.325703°N and longitude -82.898425°W (UTM X: 343578.54; Y: 4687684.94)
Catchment Area	149.6 ha
Level of Treatment for suspended solids	Wet Pond – Normal level of protection 70% long-term suspended solids removal
Treatment for other contaminants, as required	No
Level of Volume control	N/A
Design Storm	e.g. Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	
Reference Works as part of treatment train	
Brief Description	Wet pond with 150mm pumped discharge and 300 CSP overflow to culvert at Grand Marais Drain.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 1997.

12. WFCU SWM Wet Pond

Location	Latitude 42.32152°N and longitude -82.92669°W (UTM X: 341239.03; Y: 4687272.82)
Watershed/Subwatershed	Little River
Receiver of discharge	Outflow pipe to Little River
Outlet location	Latitude 42.32152°N; longitude -82.92669°W (UTM X: 341239.03; Y: 4687272.82)
Catchment Area	16.1 ha
Level of Treatment for suspended solids	Wet pond - normal protection 70% of long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	6290-753PX9
Reference Works as part of treatment train	All catchbasins contain a goss gully oil separator.
Brief Description	Wet pond with sediment forebay and permanent pool, with 367mm dia. orifice plate on 600mm outlet pipe and 300mm overflow pipe.
Receive Emergency Sanitary Overflows	No, only stormwater
Notes / Additional Information	Built in 2007.

13. Aspen Lake AMW Wet Pond

Location	Latitude 42.32170°N; longitude -82.92113°W
Watershed/Subwatershed	Little River
Receiver of discharge	Forcemain to Old Little River to Little River
Outlet location	Latitude 42.323408 N; longitude -82.922169 W (UTM X: 341697.64; Y: 4687282.44)
Catchment Area	90 ha
Level of Treatment for suspended solids	Normal level of protection 70% long-term suspended solids removal
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	7883-6JSPZ6
Reference Works as part of treatment train	
Brief Description	Wet pond with sediment forebay and permanent pool, with 450mm outlet to pump station and pumped to 300mm forcemain.
Receive Emergency Sanitary Overflows	No, only stormwater.
Notes / Additional Information	Built in 2003.

14. North Neighbourhood SWM Wet Pond

Location	Latitude 42.332014°N and longitude -82.921590°W (UTM X: 341685.61; Y: 4688428.58)
Watershed/Subwatershed	Little River
Receiver of discharge	Storm sewer
Outlet location	Latitude 42.332014°N and longitude -82.921590°W (UTM X: 341685.61; Y: 4688428.58)
Catchment Area	152 ha
Level of Treatment for suspended solids	Normal level 70% of long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	7573-5MSJF4
Reference Works as part of treatment train	
Brief Description	Wet pond with sediment forebay and permanent pool, discharge through 525mm outlet pipe.
Receive Emergency Sanitary Overflows	No, stormwater only.
Notes / Additional Information	Built in 2003 & expanded in 2009.

15. Blue Heron Lake SMW Wet Pond

Location	Latitude 42.325703°N and longitude -82.898425°W (UTM X: 343578.54; Y: 4687684.94)
Watershed/Subwatershed	Detroit River
Receiver of discharge	Storm sewer to Detroit River
Outlet location	Latitude 42.325703°N and longitude -82.898425°W (UTM X: 343578.54; Y: 4687684.94)
Catchment Area	257.6 ha
Level of Treatment for suspended solids	Normal level of protection 70% long-term suspended solids removal
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	3-1714-95-967
Reference Works as part of treatment train	
Brief Description	Wet pond with sediment forebay and permanent pool, discharge through 600mm outlet pipe.
Receive Emergency Sanitary Overflows	No, stormwater only
Notes / Additional Information	Built in 1996.

16. Palmetto Gardens East Banwell Development SWM Dry Pond

Location	Latitude 42.310152°N and longitude -82.899032°W (UTM X: 343489.97; Y: 4685959.26)
Watershed/Subwatershed	Little River
Receiver of discharge	Storm sewers to Parent Relief Drain to Little River
Outlet location	Latitude 42.310152°N and longitude -82.899032°W (UTM X: 343489.97; Y: 4685959.26)
Catchment Area	10.2 ha
Level of Treatment for suspended solids	Normal Level 70% long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	1607-666HUB
Reference Works as part of treatment train	
Brief Description	Dry pond with sedimentation forebay and outlet through 450mm orifice plate on 750mm outlet pipe.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2004.

17. Royal Timbers SWM Dry Pond

Location	Latitude 42.310023°N and longitude -82.902682°W (UTM X: 343188.83; Y: 4685951.65)
Watershed/Subwatershed	Little River
Receiver of discharge	Pumped outlet to storm sewers to Parent Relief Drain to Little River
Outlet location	Latitude 42.310023°N and longitude -82.902682°W (UTM X: 343188.83; Y: 4685951.65)
Catchment Area	16.8 ha
Level of Treatment for suspended solids	Normal level 70% of long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 5-yr storm; Quality: 5-yr storm
Reference ECA(s)	2246-6CAH5Q
Reference Works as part of treatment train	
Brief Description	Dry pond with hickenbottom outlet and 80mm orifice restrictor, pump station discharge via 150mm forcemain. Overflow provided by 300mm pipe.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2005.

18. Walker Industrial Park SWM Dry Pond

Location	Latitude 42.282929°N and longitude -82.968163°W (UTM X: 337722.38; Y: 4683065.88)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Pumped outlet to concrete overflow channel to ditch to Grand Marais Drain
Outlet location	Latitude 42.282929°N and longitude -82.968163°W (UTM X: 337722.38; Y: 4683065.88)
Catchment Area	63.5 ha
Level of Treatment for suspended solids	No treatment.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm
Reference ECA(s)	3-0845-79-006
Reference Works as part of treatment train	
Brief Description	Dry pond with pumped outlet via twin 300mm forcemains.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 1979.

19. Devonshire Heights SMW Dry Pond – Stage 2, Phase 2

Location	Latitude 42.278465°N and longitude -82.986444°W (UTM X: 336203.46; Y: 4682605.20)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewers to Grand Marais Drain
Outlet location	Latitude 42.278465°N and longitude -82.986444°W (UTM X: 336203.46; Y: 4682605.20)
Catchment Area	4.5 ha
Level of Treatment for suspended solids	No treatment.
Treatment for other contaminants, as required	No
Level of Volume control	N/A
Design Storm	Quantity: 5-yr storm; Quality: X-yr storm
Reference ECA(s)	3-0199-94-006
Reference Works as part of treatment train	N/A
Brief Description	Dry retention pond with surcharging through 300mm pipes.
Receive Emergency Sanitary Overflows	No only stormwater.
Notes / Additional Information	Built in 1995.

20. South Woods Estates SWM Dry Pond

Location	Latitude 42.269766°N and longitude -82.979657°W (UTM X: 336740.66; Y: 4681626.22)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewers to Dawson Drain to Sewers to 3 rd Concession Drain to Grand Marais Drain
Outlet location	Latitude 42.269766°N and longitude -82.979657°W (UTM X: 336740.66; Y: 4681626.22)
Catchment Area	11.0 ha
Level of Treatment for suspended solids	No treatment.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 5-yr storm.
Reference ECA(s)	3-0842-89-006
Reference Works as part of treatment train	
Brief Description	Dry pond in park, surcharging and draining through controlled outlets.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 1989. Use of parkland for overflows.

21. Devonshire Heights SMW Dry Pond - Stage 4, Phases 3

Location	Latitude 42.27918°N and longitude -82.98558°W
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewer to drainage ditch to 3 rd Concession Drain to Grand Marais Drain
Outlet location	Latitude 42.278465°N and longitude -82.986444°W (UTM X: 336203.46; Y: 4682605.20)
Catchment Area	18 ha
Level of Treatment for suspended solids	No treatment.
Treatment for other contaminants, as required	No
Level of Volume control	N/A
Design Storm	e.g. Quantity: 5-yr storm; Quality: X-yr storm
Reference ECA(s)	3-0758-99-006
Reference Works as part of treatment train	N/A
Brief Description	Dry retention area through surcharging of parkland and draining through 150mm perforated pipe.
Receive Emergency Sanitary Overflows	No only stormwater.
Notes / Additional Information	Built in 2001.

22. Cabana Estates Subdivision PH2 SWM Dry Pond

Location	Latitude 42.265920°N and longitude -82.995090°W
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewers to ditch along South Cameron to Grand Marais Drain
Outlet location	Latitude 42.265920°N and longitude -82.995090°W (UTM X: 335457.87; Y: 4681228.87)
Catchment Area	10.2 ha
Level of Treatment for suspended solids	Dry Pond basic level 60% treatment for long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	e.g. Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	3-0680-99-006
Reference Works as part of treatment train	
Brief Description	Dry pond with restricted outlet through 150mm outlet pipe.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 1999.

23. Wolfe Lake SWM Wet Pond

Location	Latitude 42.235517°N and longitude -82.989427°W (UTM X: 335846.09; Y: 4677841.98)
Watershed/Subwatershed	Wolfe Drain
Receiver of discharge	Storm sewer outlet to Wolfe Drain
Outlet location	Latitude 42.235517°N and longitude -82.989427°W (UTM X: 335846.09; Y: 4677841.98)
Catchment Area	23.5 ha
Level of Treatment for suspended solids	Normal protection 70% for long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	3-1789-90-916
Reference Works as part of treatment train	
Brief Description	Wet pond with 106mm orifice in 300mm outlet pipe discharging to Wolfe Drain.
Receive Emergency Sanitary Overflows	No only stormwater.
Notes / Additional Information	Built in 1996.

24. Lake Como SMW Wet Pond

Location	Latitude 42.242563°N and longitude --82.992068°W (UTM X: 335646.45; Y: 4678629.46)
Watershed/Subwatershed	Cahill Drain
Receiver of discharge	Storm sewer to open drain to storm sewer to Cahill Drain
Outlet location	Latitude 42.242563°N and longitude --82.992068°W (UTM X: 335646.45; Y: 4678629.46)
Catchment Area	154.6 ha
Level of Treatment for suspended solids	Normal protection 70% for long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	3-1789-90-916
Reference Works as part of treatment train	
Brief Description	Wet pond with restricted outlet through a 300mm outlet pipe.
Receive Emergency Sanitary Overflows	No only stormwater.
Notes / Additional Information	Built in 1993.

25. Lake Grande SWM Wet Pond

Location	Latitude 42.241316°N and longitude -82.987993°W (UTM X: 335979.44; Y: 4678483.14)
Watershed/Subwatershed	Cahill Drain
Receiver of discharge	Connected to Lake Como then sewers to open drain to storm sewer to Cahill Drain
Outlet location	Latitude 42.241316°N and longitude -82.987993°W (UTM X: 335979.44; Y: 4678483.14)
Catchment Area	97.9 ha
Level of Treatment for suspended solids	Normal protection 70% for long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	3-1789-90-916
Reference Works as part of treatment train	
Brief Description	Wet pond with 300mm inter-connection to Lake Como which provides restricted outlet through a 300mm outlet pipe.
Receive Emergency Sanitary Overflows	No only stormwater.
Notes / Additional Information	Built in 1992.

26. Lake Laguna SWM Wet Pond

Location	Latitude 42.239349°N and longitude -82.982195°W (UTM X: 336452.74; Y: 4678253.58)
Watershed/Subwatershed	Cahill Drain
Receiver of discharge	Connected to Lake Grande then sewers to open drain to storm sewer to Cahill Drain
Outlet location	Latitude 42.239349°N and longitude -82.982195°W (UTM X: 336452.74; Y: 4678253.58)
Catchment Area	45.0 ha
Level of Treatment for suspended solids	Normal protection 70% for long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	3-1789-90-916
Reference Works as part of treatment train	
Brief Description	Wet pond with 300mm inter-connection to Lake Grande which has a 300mm inter-connection to Lake Como which provides restricted outlet through a 300mm outlet pipe.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2000.

27. Roseland Gardens Subdivision SWM Dry Pond

Location	Latitude 42.259511°N and longitude -82.982561°W (UTM X: 336474.65; Y: 4680493.08)
Watershed/Subwatershed	Lennon Drain
Receiver of discharge	Storm sewers to Lennon Drain
Outlet location	Latitude 42.259511°N and longitude -82.982561°W (UTM X: 336474.65; Y: 4680493.08)
Catchment Area	9.3 ha
Level of Treatment for suspended solids	No quality treatment.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 5-yr storm
Reference ECA(s)	3-0560-94-006
Reference Works as part of treatment train	
Brief Description	Dry pond with surcharging from 900mm sewer via grated outlet chambers. Then drains through same outlet chambers.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 1994.

28. Provincial Square Commercial Development Underground

Location	Latitude 42.256110°N and longitude -82.970443°W (UTM X: 337465.47; Y: 4680092.23)
Watershed/Subwatershed	Little River
Receiver of discharge	Pump Station to 6 th Concession Drain to Little River
Outlet location	Latitude 42.256110°N and longitude -82.970443°W (UTM X: 337465.47; Y: 4680092.23)
Catchment Area	45.3 ha
Level of Treatment for suspended solids	Normal level 70% of long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	
Reference Works as part of treatment train	Treatment by three stormwater treatment manholes - Contech HS-72, Contech HS-60 and Vortechs Model 11000
Brief Description	Underground box culvert storage chambers with pumped outlet to 6 th Concession Drain.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2008.

29. North Roseland Planning Area – Phase 2 SWM Wet Pond

Location	Latitude 42.252593°N and longitude -82.970640°W (UTM X: 337440.18; Y: 4679702.08)
Watershed/Subwatershed	Little River
Receiver of discharge	Storm sewer to 6 th Concession Drain to Little River
Outlet location	Latitude 42.252593°N and longitude -82.970640°W (UTM X: 337440.18; Y: 4679702.08)
Catchment Area	97.1 ha
Level of Treatment for suspended solids	Normal level 70% of long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	6944-5J8TEN
Reference Works as part of treatment train	
Brief Description	Wet pond with pumped discharge through 300mm pipe, overflows through 600mm pipe.
Receive Emergency Sanitary Overflows	No, stormwater only.
Notes / Additional Information	Built in 2003.

30. 7th St. Drain Outlet Diversion SWM Dry Pond

Location	Latitude 42.253239°N; Longitude -82.955263°W
Watershed/Subwatershed	Little River
Receiver of discharge	Storm sewer to 7 th Street Drain Outlet Diversion to 6 th Concession Drain to Little River
Outlet location	UTM X: 338710.34 Y: 4679744.58
Catchment Area	19.6 ha
Level of Treatment for suspended solids	Dry pond - basic treatment
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: X-yr storm
Reference ECA(s)	
Reference Works as part of treatment train	
Brief Description	Use of linear dry pond with stormwater overflow area, drains by 200mm outlet pipe to 7 th Street Drain Outlet.
Receive Emergency Sanitary Overflows	No, only stormwater
Notes / Additional Information	Built in 2007.

31. Pillette Road SWM Dry Pond

Location	Latitude 42.283122°N and longitude -82.952872°W (UTM X: 338983.68; Y: 4683058.27)
Watershed/Subwatershed	Little River
Receiver of discharge	Pump Station & Forcemain to Russette Drain to Little River
Outlet location	Latitude 42.283122°N and longitude -82.952872°W (UTM X: 338983.68; Y: 4683058.27)
Catchment Area	45.3 ha
Level of Treatment for suspended solids	No treatment.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm
Reference ECA(s)	
Reference Works as part of treatment train	
Brief Description	Linear dry pond with pumped outlet via 2-300mm forcemains and 900mm overflow pipe to Russette Drain.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 1986. Phase 3.

33. Cierra Meadows SWM Underground Storage

Location	Latitude 42.31281°N and longitude -82.96748°W
Watershed/Subwatershed	Detroit River
Receiver of discharge	Existing Storm Sewer System on Norman Road MH 1R3480
Outlet location	UTM X: 332433.80625 Y: 4683172.65156
Catchment Area	3.16 ha
Level of Treatment for suspended solids	Enhanced level 80% of long-term suspended solids removal due to OGS.
Treatment for other contaminants, as required	As per OGS Manufacturer's Specifications
Level of Volume control	Local 5-year event contained underground, local-100year event below 300mm surface ponding.
Design Storm	Quantity: Chicago 5-year, 4 hour Windsor AES, and Chicago 100 year, 24 hour Windsor AES; Quality:1:2year
Reference ECA(s)	3961-B69HUQ [Storage Facility], 6930-B69NSF [Ethan Court Storm Sewer System]
Reference Works as part of treatment train	n/a
Brief Description	OGS Manufactured by ADS model number 6040WQA
Receive Emergency Sanitary Overflows	No – System received storm water runoff from Ethan Court Road and Homes only.
Notes / Additional Information	As noted there are separate ECA's for the SWM storage facility and sewers which drain into it. Built in 2018.

34. Lennon Drain Ph3 SWM Dry Pond

Location	Latitude 42.250394°N and longitude -83.024571°W (UTM X: 332985.38; Y: 4679562.24)
Watershed/Subwatershed	Lennon Drain
Receiver of discharge	Storm sewers to Lennon Drain
Outlet location	Latitude 42.253231°N and longitude -83.010511°W (UTM X: 334152.73; Y: 4679849.79)
Catchment Area	167.7 ha
Level of Treatment for suspended solids	Normal protection 70% for long-term suspended solids removal provided by Oil grit separator.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	0732-ARNMT4
Reference Works as part of treatment train	Contech Vortechs 16000 Oil grit separator
Brief Description	Enlarged linear dry pond within existing drain to provide 1:100 year storage capacity.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2018. Channel improvements to provide for 100 year design storm.

35. Lennon Drain Ph2 SWM Wet Pond

Location	Latitude 42.253231°N and longitude -83.010511°W (UTM X: 334152.73; Y: 4679849.79)
Watershed/Subwatershed	Lennon Drain
Receiver of discharge	Storm sewers to Lennon Drain
Outlet location	Latitude 42.253231°N and longitude -83.010511°W (UTM X: 334152.73; Y: 4679849.79)
Catchment Area	167.7 ha
Level of Treatment for suspended solids	Normal protection 70% for long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	0732-ARNMT4
Reference Works as part of treatment train	
Brief Description	Enlarged linear wet ponds within existing drain to provide 1:100 year storage capacity.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2017. Channel improvements to provide in line ponds for 100 year design storm.

36. Bethlehem/Lamont Development SMW Dry Pond

Location	Latitude 42.26629°N and longitude -83.04934°W
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Culvert flow to Basin Drain to Grand Marais Drain
Outlet location	Latitude 42.26629°N and longitude -83.04934°W (UTM X: 330971.96; Y: 4681404.29)
Catchment Area	6.7 ha
Level of Treatment for suspended solids	Linear dry pond - basic treatment
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 5-yr storm; Quality: X-yr storm
Reference ECA(s)	
Reference Works as part of treatment train	
Brief Description	Linear dry pond with 300mm CSP through spillway to restrict flows before discharge to Basin Drain.
Receive Emergency Sanitary Overflows	No, stormwater only
Notes / Additional Information	Built in 2000.

37. Holburn Park SMW Dry Pond

Location	Latitude 42.249386°N and longitude -82.986653°W (UTM X: 336110.90; Y: 4679376.66)
Watershed/Subwatershed	Lennon Drain
Receiver of discharge	Storm sewers to Lennon Drain
Outlet location	Latitude 42.249386°N and longitude -82.986653°W (UTM X: 336110.90; Y: 4679376.66)
Catchment Area	7.7 ha
Level of Treatment for suspended solids	Overflow to Park - no treatment
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 5-yr storm
Reference ECA(s)	3-0479-96-006
Reference Works as part of treatment train	
Brief Description	Dry pond in park for storm overflows. Outlet through catchbasin and 300mm pipe (Big 'O') to storm sewer system.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 1997.

38. Southwind Subdivision SWM Dry Pond

Location	Latitude 42.269454°N and longitude -82.989535°W (UTM X: 335925.19; Y: 4681610.57)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewers to ditch to 3 rd Concession Drain to Grand Marais Drain
Outlet location	Latitude 42.269454°N and longitude -82.989535°W (UTM X: 335925.19; Y: 4681610.57)
Catchment Area	4.3 ha
Level of Treatment for suspended solids	Use of oil grit separator (OGS) unit for treatment. Normal level of treatment.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm.
Reference ECA(s)	
Reference Works as part of treatment train	OGS Unit: ADS 4220WQA by Hancour
Brief Description	Dry pond with storm water overflows and discharge through 250mm orifice on 450mm outlet pipe.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2018. Use of surcharge overflow ponds.

39. South Roseland Estates SWM Dry Pond

Location	Latitude 42.239881°N and longitude -83.002320°W (UTM X: 334793.59; Y: 4678351.48)
Watershed/Subwatershed	Cahill Drain
Receiver of discharge	Storm sewers to Cahill Drain
Outlet location	Latitude 42.239881°N and longitude -83.002320°W (UTM X: 334793.59; Y: 4678351.48)
Catchment Area	31.4 ha
Level of Treatment for suspended solids	No treatment.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 5-yr storm.
Reference ECA(s)	3-0095-96-006
Reference Works as part of treatment train	
Brief Description	Linear dry pond with storm overflows and discharge to catchbasin with 300mm outlet pipe.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 1996. Use of parkland for overflows.

40. Orchards Development SWM Dry Pond

Location	Latitude 42.262906°N and longitude -82.996649°W (UTM X: 335321.44; Y: 4680897.21)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewers to Grand Marais Drain
Outlet location	Latitude 42.262906°N and longitude -82.996649°W (UTM X: 335321.44; Y: 4680897.21)
Catchment Area	18.3 ha
Level of Treatment for suspended solids	Enhanced level 80% of long-term suspended solids removal due to OGS.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	e.g. Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	7497-C6WR37
Reference Works as part of treatment train	
Brief Description	Dry pond with pumped outlet and quality provided by First Defence Model FD-6HC by Hydro International in MH7R8214.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2021.

41. Farhi Developments SMW Wet Pond

Location	Latitude 42.320810°N and longitude -82.930216°W (UTM X: 340946.68; Y: 4687200.57)
Watershed/Subwatershed	Little River
Receiver of discharge	Forcemain to storm sewer to Little River
Outlet location	Latitude 42.320810°N and longitude -82.930216°W (UTM X: 340946.68; Y: 4687200.57)
Catchment Area	17.8 ha
Level of Treatment for suspended solids	Enhanced level 80% of long-term suspended solids removal.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	5575-BSGMJX
Reference Works as part of treatment train	
Brief Description	Wet pond with pumped outlet through 200mm forcemain to 1200mm storm sewer to Little River.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2020.

42. Meighen Subdivision Dry Pond

Location	Latitude 42.307248°N and longitude -82.986238°W (UTM X: 336295.04; Y: 4685800.90)
Watershed/Subwatershed	Little River
Receiver of discharge	Pump Station to 6 th Concession Drain to Little River
Outlet location	Latitude 42.307248°N and longitude -82.986238°W (UTM X: 336295.04; Y: 4685800.90)
Catchment Area	1.5 ha
Level of Treatment for suspended solids	Enhanced level 80% of long-term suspended solids removal due to OGS.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	5162-C9BRY6
Reference Works as part of treatment train	Treatment by stormwater treatment manhole - StormPal SP-7000 in MH1R4078.
Brief Description	Dry pond with storm water overflows to dry pond, inlet and outlet via a 525mm storm sewer.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	To be built in 2022

TREATMENT TRAINS

OGS-7R3259 Maintenance Hole along Storm Sewer on Nova Drive

Location	Latitude 42.251708°N and longitude -82.987415°W (UTM X: 336054.05; Y: 4679635.96)
Watershed/Subwatershed	Lennon Drain
Receiver of discharge	Storm sewers to Lennon Drain
Outlet location	Latitude 42.251708°N and longitude -82.987415°W (UTM X: 336054.05; Y: 4679635.96)
Catchment Area	6.1 ha
Level of Treatment for suspended solids	Basic Level of treatment.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quality: 5-yr storm
Reference ECA(s)	3-1463-95-006
Reference Works as part of treatment train	
Brief Description of each component of treatment train: OGS	Stormceptor STC 2000 oil grit separator (OGS) MH7R3259, receives runoff generated from storm sewers on Nova Drive and eventually discharges to Lennon Drain.
Brief Description of each component of treatment train: SWM Wet Pond	N/A
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 1997.

OGS-7R3965 Maintenance Hole along Storm Sewer on Allyson Avenue

Location	Latitude 42.297127°N and longitude -82.970717°W (UTM X: 337548.29; Y: 4684647.30)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewers to Grand Marais Drain
Outlet location	Latitude 42.297127°N and longitude -82.970717°W (UTM X: 337548.29; Y: 4684647.30)
Catchment Area	8.8 ha
Level of Treatment for suspended solids	Basic Level of treatment.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quality: 5-yr storm
Reference ECA(s)	
Reference Works as part of treatment train	
Brief Description of each component of treatment train: OGS	Stormceptor STC 2000 oil grit separator (OGS) MH7R3965, receives runoff generated from storm sewers on Allyson Avenue eventually discharges to the Grand Marais Drain.
Brief Description of each component of treatment train: SWM Wet Pond	N/A
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 1995.

OGS-1R3882 Maintenance Hole along Storm Sewer on Guy Street

Location	Latitude 42.311346°N and longitude -82.968111°W (UTM X: 337799.64; Y: 4686221.23)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewers to Grand Marais Drain
Outlet location	Latitude 42.311346°N and longitude -82.968111°W (UTM X: 337799.64; Y: 4686221.23)
Catchment Area	2.4 ha
Level of Treatment for suspended solids	Enhanced level 80% of long-term suspended solids removal due to OGS.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quality: 5-yr storm
Reference ECA(s)	3961-B69HUQ
Reference Works as part of treatment train	
Brief Description of each component of treatment train: OGS	OGS Manufactured by ADS model number 6040WQA MH1R3882, receives runoff generated from storm sewers on Guy Street from Cierra Meadows Subdivision eventually discharges to the Grand Marais Drain.
Brief Description of each component of treatment train: SWM Wet Pond	N/A
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2018.

OGS-8R5260 Maintenance Hole in Storm Sewer in Lennon Drain

Location	Latitude 42.250394°N and longitude -83.024571°W (UTM X: 332985.38; Y: 4679562.24)
Watershed/Subwatershed	Lennon Drain
Receiver of discharge	Storm sewers to Lennon Drain
Outlet location	Latitude 42.253231°N and longitude -83.010511°W (UTM X: 334152.73; Y: 4679849.79)
Catchment Area	167.7 ha
Level of Treatment for suspended solids	Enhanced level 80% of long-term suspended solids removal due to OGS.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	0732-ARNMT4
Reference Works as part of treatment train	
Brief Description of each component of treatment train: OGS	Contech Vortechs 16000 Oil grit separator (OGS) 8R5260, receives flows from Lennon Drain as part of treatment train from Lennon Drain Improvements.
Brief Description of each component of treatment train: SWM Wet Pond	Lennon Drain channel improvements to provide for 100 year design storm.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2018. Channel improvements to provide for 100 year design storm.

OGS-7R8157 Maintenance Hole in Lowe's Parking Lot Adjacent to 6th Concession Drain off Provincial Road

Location	Latitude 42.256110°N and longitude -82.970443°W (UTM X: 337465.47; Y: 4680092.23)
Watershed/Subwatershed	Little River
Receiver of discharge	Pump Station to 6 th Concession Drain to Little River
Outlet location	Latitude 42.256110°N and longitude -82.970443°W (UTM X: 337465.47; Y: 4680092.23)
Catchment Area	45.3 ha
Level of Treatment for suspended solids	Normal level 70% of long-term suspended solids removal
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	0915-BSSSN3
Reference Works as part of treatment train	
Brief Description of each component of treatment train: OGS	Treatment by stormwater treatment manhole - Contech HS-72 in MH7R8157.
Brief Description of each component of treatment train: SWM Wet Pond	1:100 year storage provided by underground storage box culverts. Pumped outlet to 6 th Concession Drain.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2008.

OGS-7R8156 Maintenance Hole in Lowe's Parking Lot Adjacent to 6th Concession Drain off Provincial Road

Location	Latitude 42.256110°N and longitude -82.970443°W (UTM X: 337465.47; Y: 4680092.23)
Watershed/Subwatershed	Little River
Receiver of discharge	Pump Station to 6 th Concession Drain to Little River
Outlet location	Latitude 42.256110°N and longitude -82.970443°W (UTM X: 337465.47; Y: 4680092.23)
Catchment Area	45.3 ha
Level of Treatment for suspended solids	Normal level 70% of long-term suspended solids removal
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	0915-BSSSN3
Reference Works as part of treatment train	
Brief Description of each component of treatment train: OGS	Treatment by stormwater treatment manhole - Contech HS-60 in MH7R8156.
Brief Description of each component of treatment train: SWM Wet Pond	1:100 year storage provided by underground storage box culverts. Pumped outlet to 6 th Concession Drain.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2008.

OGS-7R8214 Maintenance Hole in Road for Orchards Subdivision

Location	Latitude 42.262906°N and longitude -82.996649°W (UTM X: 335321.44; Y: 4680897.21)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewers to roadside drain to Grand Marais Drain
Outlet location	Latitude 42.262906°N and longitude -82.996649°W (UTM X: 335321.44; Y: 4680897.21)
Catchment Area	18.3 ha
Level of Treatment for suspended solids	Enhanced level 80% of long-term suspended solids removal due to OGS.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	7497-C6WR37
Reference Works as part of treatment train	
Brief Description of each component of treatment train: OGS	Quality provided by First Defence Model FD-6HC by Hydro International in MH7R8214.
Brief Description of each component of treatment train: SWM Wet Pond	Dry pond provides 1:100 year storage with pumped outlet and quality provided by First Defence Model FD-6HC by Hydro International in MH7R8214.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2021.

OGS-1R4078 Maintenance Hole in Meighen Subdivision

Location	Latitude 42.307248°N and longitude -82.986238°W (UTM X: 336295.04; Y: 4685800.90)
Watershed/Subwatershed	Little River
Receiver of discharge	Pump Station to 6 th Concession Drain to Little River
Outlet location	Latitude 42.307248°N and longitude -82.986238°W (UTM X: 336295.04; Y: 4685800.90)
Catchment Area	1.5 ha
Level of Treatment for suspended solids	Enhanced level 80% of long-term suspended solids removal due to OGS.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 100-yr storm; Quality: 5-yr storm
Reference ECA(s)	5162-C9BRY6
Reference Works as part of treatment train	
Brief Description of each component of treatment train: OGS	Treatment by stormwater treatment manhole - StormPal SP-7000 in MH1R4078.
Brief Description of each component of treatment train: SWM Wet Pond	Dry pond with storm water overflows to dry pond, inlet and outlet via a 525mm storm sewer. 1:100 year storage provided by dry ponds.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	To be built in 2022

OGS-6R4672 Maintenance Hole in Tranby Park

Location	Latitude 42.320811 °N and longitude -82.948131 °W (UTM X: 339470.40; Y: 4687234.33)
Watershed/Subwatershed	Little River
Receiver of discharge	Sewers to Little River
Outlet location	Latitude 42.320811 °N and longitude -82.948131 °W (UTM X: 339470.40; Y: 4687234.33)
Catchment Area	0.91 ha
Level of Treatment for suspended solids	Enhanced level 80% of long-term suspended solids removal due to OGS.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quantity: 5-yr storm; Quality: 5-yr storm
Reference ECA(s)	2121-BLHR9V
Reference Works as part of treatment train	
Brief Description of each component of treatment train: OGS	Treatment by stormwater treatment manhole – ADS Unit (ADS FD-2HC) in MH6R4672.
Brief Description of each component of treatment train:	Storage for site provided by permeable paver parking lot, dry pond, swales and Triton Model SC-740 stormwater chamber.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2019.

OGS-7R8117 Maintenance Hole – North Roseland Subdivision (Provincial Corridor Improvements)

Location	Latitude 42.252935°N and longitude -82.971014°W (UTM X: 337410.18; Y: 4679740.85)
Watershed/Subwatershed	Little River
Receiver of discharge	Sewers to 6 th Concession Drain to Little River
Outlet location	Latitude 42.252935°N and longitude -82.971014°W (UTM X: 337410.18; Y: 4679740.85)
Catchment Area	0.91 ha
Level of Treatment for suspended solids	Enhanced level 80% of long-term suspended solids removal due to OGS.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quality: 5-yr storm
Reference ECA(s)	0915-BSSSN3
Reference Works as part of treatment train	
Brief Description of each component of treatment train: OGS	Treatment by stormwater treatment manhole – Contech V16000 (MH6R4672). Services park and wet pond.
Brief Description of each component of treatment train: Wet Pond	Wet Pond for North Roseland Subdivision provides 1:100 year design for quantity and 1:5 year design for quality. Pumped discharge through 300mm pipe and overflows through 600mm pipe.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2020.

OGS-6R4469 / OGS-6R4474 Maintenance Hole – Mountbatten Subdivision

Location	Latitude 42.338852°N and longitude -82.926735°W (UTM X: 341278.86; Y: 4689197.56)
Watershed/Subwatershed	Detroit River
Receiver of discharge	Sewers to Detroit River
Outlet location	Latitude 42.338852°N and longitude -82.926735°W (UTM X: 341278.86; Y: 4689197.56)
Catchment Area	5.6 ha
Level of Treatment for suspended solids	Enhanced level 80% of long-term suspended solids removal due to OGS.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quality: 5-yr storm
Reference ECA(s)	1078-AW6T8D
Reference Works as part of treatment train	
Brief Description of each component of treatment train: OGS	Treatment by stormwater treatment manhole – ADS 3620WQA30 by Hancour (MH6R44469 / 6R4474).
Brief Description of each component of treatment train:	N/A
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2018.

OGS-7R7825 Maintenance Hole – Southwind Subdivision

Location	Latitude 42.269454°N and longitude -82.989535°W (UTM X: 335925.19; Y: 4681610.57)
Watershed/Subwatershed	Grand Marais Drain
Receiver of discharge	Storm sewers to ditch to 3 rd Concession Drain to Grand Marais Drain
Outlet location	Latitude 42.269454°N and longitude -82.989535°W (UTM X: 335925.19; Y: 4681610.57)
Catchment Area	4.3 ha
Level of Treatment for suspended solids	Use of oil grit separator (OGS) unit for treatment. Normal level of treatment.
Treatment for other contaminants, as required	None
Level of Volume control	N/A
Design Storm	Quality: 5-yr storm
Reference ECA(s)	
Reference Works as part of treatment train	
Brief Description of each component of treatment train: OGS	Treatment by stormwater treatment manhole – ADS 4220WQA by Hancour (MH7R7825).
Brief Description of each component of treatment train: Pond	Dry pond with storm water overflows and discharge through 250mm orifice on 450mm outlet pipe.
Receive Emergency Sanitary Overflows	No stormwater only.
Notes / Additional Information	Built in 2018. Use of surcharge overflow ponds.

Stormwater Pumping Stations

- 1.5 The following are identified Stormwater pumping stations in the Authorized System:

Aspen Lake Pumping Station

Asset ID and Name	7RPS5794, Aspen Lake Pumping Station
Site Location	1418 Florence Avenue
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°19'30.7N -82°55'13.6"W
Coordinates (optional)	42.32571997960704, -82.920442431976
Description	Stormwater Management Facility
Pumping Station Capacity	With n-1 pumps there is no flow as the SWM Facility

	only has one pump.
Equipment	1 pump (1 duty, 0 standby) with 13.824 m ³ /d and 8m total head, 0 grinders, 0 screens, 1 wet well of 23.21 m ³ capacity. The station is connected to one 300mm diameter forcemains, discharging to Little River.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry, seasonal adjustment gate, retention pond
Emergency Storage	Not applicable discharges to Little River
Overflow	Overflow discharge location and pathway to final receiver (waterbody/creek/river) N/A
Standby Power	There is no standby power.
Reference ECAs	Number 7883-6JSPZ6
Notes	Discharging to Little River.

Central Avenue Pumping Station

Asset ID and Name	7RPS6441, Central Avenue Pumping Station
Site Location	3601 Plymouth Drive
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°17'46.4N -82°57'54.7W
Coordinates (optional)	42.29621146831326, -82.96520503076556
Description	Stormwater Management Facility
Pumping Station Capacity	With (n-1) pumps there is no flow as the SEM Facility only has one pump. The pumping Station will overflow to the Grand Marais drain.
Equipment	1 pumps (1 duty, 0 standby) with 1961 m ³ /d and 8.0 ft. total head, 0 grinders, 0 screens, 1 wet well of 69.83 m ³ capacity. The station is connected to one 300mm diameter forcemains, discharging to Grand Marais Drain.
Emergency Storage	Not applicable since overflow drains to the Grand Marais drain.
Equipment: Associated controls and appurtenances	Retention pond, multi-ranger level control
Overflow	Overflow discharge location inside of pump well discharging to the Grand Marais Drain.
Standby Power	There are no standby power.
Reference ECAs	unknown
Notes	Discharging to Grand Marais Drain.

Devonwood Pumping Station

Asset ID and Name	7RPS3577, Devonwood Pumping Station
Site Location	3863 Acorn Court (Cabana & Sixth Concession)
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°10'27.4"N -82°58'41.3W
Coordinates (optional)	42.26142731537104, -82.97814008867402
Description	Stormwater Pumping Station
Pumping Station Capacity	With (n-1) pumps there is no flow as the SWM Facility only has one pump. The Pumping Station will overflow to the Sixth Concession drain.
Equipment	1 pumps (1 duty, 0 standby) with 1814 m ³ /d and 6.5m total head, 0 grinders, 0 screens, 1 wet well of 12.49 m ³ capacity. The station is connected to a 75mm diameter forcemain, discharging into a 900 mm CSP to Sixth Concession Drain.
Emergency Storage	There are no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Telemetry, multi-ranger level control
Overflow	The overflow is a 550mm overflow inside of wet well to the Sixth Concession Drain.
Standby Power	There are no standby power.
Reference ECAs	Number 3-0819-96-006
Notes	Discharging to the Sixth Concession Drain.

Drouillard Pumping Station

Asset ID and Name	1RPS10, Drouillard Pumping Station
Site Location	290 Drouillard Road
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°19'29.9N -83°00'5.9"W
Coordinates (optional)	42.32496182245278, -83.00165142915532
Description	Stormwater Pumping Station
Pumping Station Capacity	The Pumping station capacity running against a head with the wet well full is 16,330m ³ /day.
Equipment	2 pumps (2 duty, 0 standby) with pump one, 16,330 m ³ /d at 25' head pump two, 9,812 m ³ /day at 51' of head, 0 grinders, 0 screens, one wet well of 110 m ³ capacity. The pumping station is connected to one 450mm diameter forcemain, discharging to MH1R10.
Emergency Storage	There are no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Telemetry, multi-ranger level control
Overflow	Overflow discharge location and pathway to final receiver (waterbody/creek/river) N/A
Standby Power	There are no standby power.
Reference ECAs	unknown
Notes	Discharging to stormwater management facility (Asset ID), if applicable - N/A

East Banwell Pumping Station

Asset ID and Name	9RPS1007, East Banwell Pumping Station
Site Location	11518 Palmetto Street
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°18'34.6"N -82°53'56.6W
Coordinates (optional)	42.30959753507242, -82.89905254449657
Description	Stormwater Management Facility
Pumping Station Capacity	With (n-1) pumps there is no flow as the SWM Facility only has one pump. The pumping station is gravity overflow.
Equipment	1 pump (1 duty, 0 standby) with 1902 m ³ /d and 20' total head, 0 grinders, 0 screens, 1 wet well of 11 m ³ capacity. The station is connected to one 750mm diameter forcemain, discharging to MH 9R1006.
Emergency Storage	Existing spill way captures additional volume and eventually land floods.
Equipment: Associated controls and appurtenances	Multi-ranger level control, 36 hour detention dry pond, telemetry
Overflow	Overflow discharge location and pathway to final receiver (waterbody/creek/river) From spillway to MH 9R1006
Standby Power	There is no standby power.
Reference ECAs	Number 1607-666HUB
Notes	Discharging to stormwater management facility (Asset ID), if applicable – N/A.

East Marsh Pumping Station

Asset ID and Name	6RPS1051, East Marsh Pumping Station
Site Location	10864 Riverside Drive East
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°20'12.1"N -82°54'47.1"W
Coordinates (optional)	42.33666874462255, -82.91308021750679
Description	Stormwater Pumping Station
Pumping Station Capacity	The capacity of the pumping station is 130,820 m ³ /day.
Equipment	2 pumps (2 duty, 0 standby) with pump one capacity is 130,820 m ³ /d at a 10' head, pump two is 17,310 m ³ /day at a 13' of head, 0 grinders, 1 screens, 1 wet well of 48.8 m ³ capacity. The station is discharges to an 1800 mm storm sewer to Detroit River.
Emergency Storage	There are no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry
Overflow	There are no overflow discharge location and pathway to final receiver (waterbody/creek/river).
Standby Power	The standby power is 119 kW diesel and a 200 gal size fuel tank.
Reference ECAs	unknown
Notes	Discharging to stormwater management facility (Asset ID), if applicable – N/A

Florence Pumping Station

Asset ID and Name	6RPS3153, Florence Pumping Station
Site Location	Across from 547 Florence Avenue
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°20'6.1"N -82°55'07.5"W
Coordinates (optional)	42.335035164157894, -82.91874371566054
Description	Stormwater Pumping Station
Pumping Station Capacity	The capacity of pumping station is 3,456 m ³ /day.
Equipment	2 pumps (2 duty, 0 standby) with 6,912 m ³ /d and 4m total head, there are zero grinders, zero screens and a wet well with the capacity of 4.93 m ³ . The station is connected to a 150 mm diameter forcemain, discharging to MH CB-6R4116.
Emergency storage	There are no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry
Overflow	There are no overflow discharge location and pathway to final receiver water.
Standby Power	There are no standby power.
Reference ECAs	unknown
Notes	Discharging to stormwater management facility (Asset ID), if applicable-N/A

Ford/Buckingham Pumping Station

Asset ID and Name	6RPS3905, Ford/Buckingham Pumping Station
Site Location	5270 Riverside Drive East (east end of Coventry Gardens)
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°19'52.3"N -82°58'28.4"W
Coordinates (optional)	42.33118971676513, -82.97455868682552
Description	Stormwater pumping Station
Pumping Station Capacity	The capacity of the pumping station is 12,157 m ³ /day.
Equipment	2 pumps (2 duty, 0 standby) with 24,313 m ³ /d and 4.7m total head, there are zero grinders, zero screens and a wet well capacity of 67.5 m ³ capacity. The station discharges directly to Detroit River.
Emergency Storage	There are no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry
Overflow	Overflow discharges directly to the Detroit River.
Standby Power	The pumping station has no standby power.
Reference ECAs	unknown
Notes	Discharging to stormwater management facility (Asset ID), if applicable – N/A

Foster Pumping Station

Asset ID and Name	7RPS7212, Foster Pumping Station
Site Location	750 Foster Avenue
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°16'36.8"N -82°58'35.3"W
Coordinates (optional)	42.27687752937642, -82.97647590216798
Description	Stormwater Pumping Station
Pumping Station Capacity	With (n-1) pumps there is no flow as the SWM Facility only has one pump. The Pumping Station has a gravity overflow.
Equipment	1 pumps (1 duty, 0 standby) with 3,240 m ³ /d and 5.7m total head, there are zero grinders, zero screens and a wet well capacity of 36.1 m ³ . The station is connected to a 150 mm diameter forcemain which discharges into the 3 rd Concession Drain.
Emergency Storage	There are no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry
Overflow	The overflow discharge location and pathway to final receiver (waterbody/creek/river) 150 mm overflow discharge to 3 rd Concession drain.
Standby Power	The pumping station has no standby power.
Reference ECAs	unknown
Notes	Discharging to the 3 rd Concession drain.

Ganatchio Pumping Station

Asset ID and Name	6RPS3877, Ganatchio Pumping Station
Site Location	9855 Wyandotte Street East
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°20'0.6"N -82°55'48.7"W
Coordinates (optional)	42.33348872729269, -82.9301897307647
Description	Stormwater Pumping Station
Pumping Station Capacity	The pumping station capacity is 3,542.5 m ³ /day.
Equipment	2 pumps (2 duty, 0 standby) with 7,085 m ³ /d and 4.0 m total head, zero grinders, zero screens and one wet well with an 18.1 m ³ capacity. The station is connected to 100 mm diameter forcemain and discharges to MH 6R3879.
Emergency Storage	The pumping station has no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry
Overflow	There are no overflow discharge location and pathway to final receiver waters.
Standby Power	The pumping station has no standby power.
Reference ECAs	Number 8012-6RZHGS
Notes	Discharging to the North Neighbourhood Retention Pond.

Grand Marais Pumping Station

Asset ID and Name	7RPS9805, Grand Marais Pumping Station
Site Location	3005 Grand Marais Road East
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°17'31.4"N -82°58'45.9"W
Coordinates (optional)	42.29204791165039, -82.97942767517864
Description	Storm water Pumping Station
Pumping Station Capacity	The pumping station capacity is 196,230 m ³ /day.
Equipment	3 pumps (3 duty, 0 standby), pumps one and two each 98,115 m ³ /d each at a 14' head pump and pump three, 3,456 m ³ /day at a 15' total head, zero grinders, zero screens and a wet well capacity of 100 m ³ . The pumping station is connected to an 825 mm forcemain which discharges to manhole 7R6859.
Emergency Storage	There are no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry
Overflow	The pumping station has no overflow discharge location and pathway to final receiving waters.
Standby Power	The standby power is a 134 kW diesel and a 192 gal fuel tank.
Reference ECAs	unknown
Notes	Discharging to the Grand Marais Drain.

Howard Underpass Pumping Station

Asset ID and Name	3RPS3362, Howard Underpass Pumping Station
Site Location	2479 Howard Avenue
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°17'29.4"N -83°0.8'50"W
Coordinates (optional)	42.29149949431452, -83.01388647333226
Description	Stormwater Management Facility
Pumping Station Capacity	The pumping station capacity is 440,122 m ³ /day
Equipment	6 pumps (5 duty, 1 standby) the combined capacity of pumps one, two and three is 424,570 m ³ /day and a 13.6m total head, the combined capacity of pumps five and six is 15,552 m ³ /day and 15.8 m total head, zero grinder, one screen and a wet well of 1,522 m ³ capacity. The station is connected to a 1050 mm diameter forcemain that discharges into cell #1 and flows down stream to a 625 mm sewer. Cell #2 serves as an overflow and storage.
Emergency Storage	The combined storage of cell #1 and cell #2 is 21,000m ³ .
Equipment: Associated controls and appurtenances	OGS, multi-ranger level control, telemetry, inlet screen
Overflow	Overflow discharge location and pathway to final receiver (waterbody/creek/river) overflow to cell #2 holding. Response time (buffer volume in m ³ available in storage prior to overflow at peak flow) is 8 hours in 100 year storm. Once cell #1 is drained cell #2 discharge valve will open and gravity feed into the wet well. Emergency storage volume is 21,000 m ³ .
Standby Power	1400 kW diesel and fuel tank size of 3960 gal.
Reference ECAs	Number 2395-7TRPEA 5604-7REGQR (air)
Notes	Discharging to stormwater management facility (Asset ID), if applicable – N/A

Lakeview Pumping Station

Asset ID and Name	6RPS3312, Lakeview Pumping Station
Site Location	11999 Riverside Drive East (at City boundary)
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°19'58.5"N -82°53'45.6"W
Coordinates (optional)	42.332912238394584, -82.8960044868254
Description	Stormwater Management Facility
Pumping Station Capacity	The pumping station capacity is 16,848 m ³ /day.
Equipment	2 pumps (2 duty, 0 standby) with 33,696 m ³ /d at 7.5 m total head, zero grinders, one screen and a wet well capacity of 53 m ³ . The pumping station is connected to a 350 mm force main and discharges into the Detroit River.
Emergency Storage	The pumping station has no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry, Stormwater Management Pond
Overflow	The pumping station has no overflow discharge location and pathway to the final receiver waters.
Standby Power	The pumping station has no standby power.
Reference ECAs	Number 3-714-95-967
Notes	Discharging to stormwater management facility (Asset ID), if applicable – N/A

Mountbatten Pumping Station

Asset ID and Name	6RPS4476, Mountbatten Pumping Station
Site Location	10557 Riverside Drive East
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°20'13.8"N -82°54'58.4"W
Coordinates (optional)	42.3371570743894, -82.91621355799012
Description	Stormwater Pumping Station
Pumping Station Capacity	The pumping station capacity is 3283 m ³ .
Equipment	2 pumps (1 duty, 1 standby) with 3,283 m ³ /d and 6.4 total head, zero grinders, zero screens and a wet well with a 146 m ³ capacity. The pumping station is connected to a 300mm forcemain which discharges to MH6R4484.
Emergency Storage	The pumping station has no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry.
Overflow	The pumping station has no overflow discharge location.
Standby Power	The pumping station standby power is a 52 kW diesel and a fuel tank size of 142 gal.
Reference ECAs	Number 1078-AW6T8D
Notes	Discharging to stormwater management facility (Asset ID), if applicable – N/A

Multimodal Cargo Hub

Asset ID and Name	7RPS7117, Multimodal Cargo Hub
Site Location	3485 Wheelton Drive
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°16'44.5"N -82°57'53.1"W
Coordinates (optional)	42.279020323033066, -82.96475843100305
Description	Stormwater Management Facility
Pumping Station Capacity	The pumping station capacity is 5,184 m ³ /day.
Equipment	2 pumps (2 duty, 0 standby) with a capacity of 10,368 m ³ /d and a 6.9 total head, zero grinders, zero screens and a wet well with a 29.7 m ³ capacity. The pumping station is connected to a 250 mm diameter forcemain, which discharges into MH7R1438.
Emergency Storage	The pumping station has no emergency storage tank/pipe however the dry pond is used as emergency storage.
Equipment: Associated controls and appurtenances	Dry pond, multi-ranger level control, telemetry
Overflow	The pumping station has no overflow discharge location.
Standby Power	The pumping station has no standby power.
Reference ECAs	unknown
Notes	Discharging to stormwater management facility (Asset ID), if applicable – N/A

North Roseland Pumping Station

Asset ID and Name	7RPS8237, North Roseland Pumping Station
Site Location	1850 Rockport Street
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°15'7.8"N -82°58'12.9"W
Coordinates (optional)	42.252169585362665, -82.97025433100391
Description	Stormwater Management Facility
Pumping Station Capacity	The pumping station has an 82,080 m ³ /day capacity.
Equipment	3 pumps (2 duty, 1 standby) with a total capacity of 82,080 m ³ /day and 5.35 m total head, zero grinders, one screen and a wet well with a 160 m ³ capacity. The station is connected to three 500 mm diameter forcemain which discharges to the 6 th concession drain.
Emergency Storage	The pumping station does have underground emergency storage.
Equipment: Associated controls and appurtenances	Basket screen, PLC, telemetry, multi-ranger level control.
Overflow	The stormwater management pond overflow overland to the 6 th concession drain and underground storage.
Standby Power	The pumping station standby power is a 102 kW diesel and a 215 gal fuel tank.
Reference ECAs	Number 6944-5J8TEN
Notes	Discharging to 6 th Concession drain.

Peter Pumping Station

Asset ID and Name	5RPS3362, Peter Pumping Station
Site Location	3766 Peter Street
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°17'24.6"N -83°04'53.6"W
Coordinates (optional)	42.29017354653195, -83.08155753100273
Description	Stormwater Pumping Station
Pumping Station Capacity	The pumping station has a capacity of 1652 m ³ /day with n-1 pumps running.
Equipment	2 pumps (2 duty, 0 standby) with a total capacity of 3,305 m ³ /day at a 1.67 m total head, zero grinders, zero screens and a wet well capacity of 89.3 m ³ . The station is connected to a 400 mm forcemain that discharges to 5C566.
Emergency Storage	The pumping station has no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry
Overflow	The overflow discharge location and pathway to final receiver (waterbody/creek/river) is through a 2400 mm collection sewer
Standby Power	The pumping station has not standby power.
Reference ECAs	Number 0671-639LF6
Notes	Discharging to stormwater management facility (Asset ID), if applicable – N/A

Pillette Pumping Station

Asset ID and Name	7RPS6241, Pillette Pumping Station
Site Location	3499 Pillette Road (off North Service Road)
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°17'17.6"N -82°57'20.9"W
Coordinates (optional)	42.28822064824791, -82.95581035799162
Description	With (n-1) pumps there is no flow as the SEM Facility only has one pump. The Pumping Station will overflow to the Russette drain.
Pumping Station Capacity	The total capacity is 11,232 m ³ /day and a gravity overflow.
Equipment	1 pump (1 duty, 0 standby) with 11232 m ³ /d and at a 5m total head, zero grinders, zero screens and a wet well capacity of 40.6 m ³ . The station is connected to a 300 mm diameter forcemains which discharges to the Russette drain.
Emergency Storage	The pumping station has no storage tank/pipe however a dry pond is available.
Equipment: Associated controls and appurtenances	Multi-ranger level control, retention pond, telemetry
Overflow	The pumping station will overflow to the Russette drain.
Standby Power	The pumping station has no standby power.
Reference ECAs	unknown
Notes	Discharging to the Russette Drain.

Primord Pumping Station

Asset ID and Name	6RPS907, Primord Pumping Station
Site Location	9395 Little River Road (east of Riverdale)
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42°19'38"N -82°55'39.8"W
Coordinates (optional)	42.32723215236161, -82.92771795983673
Description	Stormwater Pumping Station
Pumping Station Capacity	The pumping station has a capacity of 343,596 m ³ /day.
Equipment	4 pumps (3 duty, 1 standby) with 343,596 m ³ /day at a 22.7' total head, no grinders, one screen and a wet well with a capacity of 780 m ³ . The station is connected to a 760mm forcemain discharges to Little River.
Emergency Storage	The pumping station has no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry
Overflow	The pumping station has no overflow discharge location.
Standby Power	The pumping station has a 660 kW diesel and fuel tank size of 200 gal.
Reference ECAs	unknown
Notes	Discharging to Little River

Provincial Square

Asset ID and Name	7RPS6481, Provincial Square
Site Location	1840 Provincial Road (Lowes Parking Lot)
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42° 15' 19.6"N -82° 58' 20.1"W
Coordinates (optional)	42.25544329281555, -82.9722553175094
Description	Stormwater Pumping Station
Pumping Station Capacity	The pumping station capacity is 41,472 m ³ /day.
Equipment	3 pumps, (2 duty, 1 standby) with 41,372 m ³ /day at a 22.7' total head, no grinders, no screen and a wet well capacity of 79m ³ . The pumping station is connected to three 400 mm force mains which discharges to a 6 th Concession drain.
Emergency Storage	The pumping station has no storage tank/pipe.
Equipment: Associated controls and appurtenances	OGS, multi-ranger level control, telemetry.
Overflow	The has an overflow in the pumping station at 185.5 m elevation through a 525 mm pipe to the 6 th Concession drain.
Standby Power	The Pumping Station has no Standby Power.
Reference ECAs	unknown
Notes	Discharge to Little River

Provincial/6th Pumping Station

Asset ID and Name	7RPS6861, Provincial/6 th Pumping Station
Site Location	1450 Provincial Road
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42° 15' 35.2"N -82° 58' 45.7"W
Coordinates (optional)	42.25978363716719, -82.97935847333332
Description	Temporary Stormwater Pumping Station
Pumping Station Capacity	The pumping station has a capacity of 3,024 m ³ /day.
Equipment	1 pump (1 duty, 0 standby) with 3024 m ³ /d at a 5.7 m total head, no grinders, no screens and a wet well capacity of 8.2 m ³ . The pumping station is connected to a 100 mm forcemain which discharges to the 6 th Concession drain.
Emergency Storage	The pumping station has no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Flygt Ball level control
Overflow	The pumping station has no overflow discharge location.
Standby Power	The pumping station has no standby power.
Reference ECAs	Number 2405-8Y5JXC
Notes	Discharging to 6 th Concession Drain

Rendezvous Pumping Station

Asset ID and Name	6RPS3282, Rendezvous Pumping Station
Site Location	405 Shoreview Circle
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42° 20' 04"N -82° 53' 51.9"W
Coordinates (optional)	42.33444060357833, -82.89774403100132
Description	Stormwater Pumping Station
Pumping Station Capacity	With (n-1) pumps there is no flow as the SWM Facility only has one pump. The Pumping Station will overflow to an elevation of 579.0' to Lake St. Clair.
Equipment	1 pump (1 duty, 0 standby) with 3,024 m ³ /day at a 5.7m total head, no grinders, no screens and a wet well capacity of 8.2m ³ . The pumping station is connected to a 300mm forcemain which discharges into lake St. Clair.
Emergency Storage	The pumping station has no storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry
Overflow	The pumping station has an emergency overflow at 579.0' to Lake St. Clair. The pumping station has no emergency storage volume.
Standby Power	The pumping station has not standby power.
Reference ECAs	unknown
Notes	Discharging to Lake St. Clair

South Cameron Pumping Station

Asset ID and Name	8RPS4164, South Cameron Pumping Station
Site Location	2255 Alexandra Ave
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42° 16' 53.4"N -82° 01' 54.1"W
Coordinates (optional)	42.281512689271, -83.03168773100302
Description	Stormwater Pumping Station
Pumping Station Capacity	The pumping station capacity is 3,456 m ³ /day with n-1 pumps.
Equipment	2 pumps (2 duty, 0 standby) with 6912 m ³ /day at a 5.09m total head, no grinders, no screens and a wet well capacity of 24.8m ³ . The pumping station is connected to a 150mm forcemain discharging to MH 8R4136.
Emergency Storage	The pumping station has no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry.
Overflow	The pumping station has a 1200mm overflow from the pumping station to MH 8R4136.
Standby Power	The pumping station has no standby power.
Reference ECAs	unknown
Notes	Discharging to stormwater management facility (Asset ID), if applicable – N/A

Southwood Lakes Pumping Station

Asset ID and Name	7RPS5236, Southwood Lakes Pumping Station
Site Location	551 Christina Court
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42° 14' 32.6"N -82° 59' 37.1"W
Coordinates (optional)	42.24238743144432, -82.99364160216902
Description	Stormwater Management Facility
Pumping Station Capacity	With (n-1) pumps there is no flow as the SWM Facility only has one pump.
Equipment	1 pump (1 duty, 0 standby) with 5,443.2 m ³ /day at a 10' total head, no grinders, no screens and a wet well capacity of 8.9 m ³ . The pumping station is connected to a 150mm forcemain which discharges into the Cahill drain.
Emergency Storage	The pumping station has no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Three stormwater management ponds, telemetry, multi-ranger level control
Overflow	The pumping station has no overflow discharge.
Standby Power	The pumping station has no standby power.
Reference ECAs	Number 3-1789-90-916 & two amendments
Notes	Discharging to Cahill Drain.

St. Paul Pumping Station

Asset ID and Name	6RPS2254, St. Paul Pumping Station
Site Location	7730 Riverside Drive East
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42° 20' 20.8"N -82° 56' 59.2"W
Coordinates (optional)	42.33912098406392, -82.94978510216599
Description	Stormwater Pumping Station
Pumping Station Capacity	The pumping station has a capacity of 803,520 m ³ /day.
Equipment	7 pumps (6 duty, 1 standby) with 1,080,000 m ³ /day at a 23' total head, no grinders, two screens and a wet well capacity of 1,950 m ³ . The pumping station is connected to three 1,100mm forcemains, two 900 mm forcemains and one 400 mm forcemain, which all discharges into the Detroit River.
Emergency Storage	The pumping station has no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Bubbler level control, telemetry.
Overflow	The pumping station has no overflow.
Standby Power	The pumping station has a 2000 kW diesel standby power and a 8850 gal fuel tank.
Reference ECAs	unknown
Notes	Discharging to stormwater management facility (Asset ID), if applicable – N/A

Walker Industrial Pumping Station

Asset ID and Name	7RPS2001, Walker Industrial Pumping Station
Site Location	3400 Rhodes Drive (south of Expressway)
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42° 16' 57"N -82° 58' 05.8"W
Coordinates (optional)	42.28249624949952, -82.96827948867336
Description	Stormwater Pumping Station
Pumping Station Capacity	The pumping station capacity is 22,900 m ³ /day
Equipment	2 pumps (2 duty, 0 standby) with 45,800 m ³ /day at a 15' total head, no grinders, no screen and a wet well capacity of 83.74 m ³ . The pumping station is connected to two 300mm forcemains which discharges to the Russette Drain.
Emergency Storage	The pumping station has no emergency storage tank/pipe however it does have overland spillway.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry.
Overflow	The pumping station has no overflow.
Standby Power	The pumping station has no standby power.
Reference ECAs	Number 3-0845-79-006
Notes	Discharging to Russette Drain

Walker Underpass Pumping Station

Asset ID and Name	2RPS3195, Walker Underpass Pumping Station
Site Location	2691 Walker Road
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42° 17' 27.1"N -82° 59' 13.4"W
Coordinates (optional)	42.290864624520516, -82.98704201566193
Description	Stormwater Pumping Station
Pumping Station Capacity	The pumping station capacity is 59,000 m ³ /day
Equipment	3 pumps, (3 duty, 0 standby) with 88,500 m ³ /day at a 10.35 m total head, no grinders, no screens and a wet well capacity of 209 m ³ . The pumping station is connected to a 400mm forcemain which discharges to the Grand Marais drain.
Emergency Storage	The pumping station has no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, OGS, telemetry
Overflow	The pumping station has no overflow.
Standby Power	The pumping station has 125 kW diesel as standby power with a fuel tank capacity of 239 gal.
Reference ECAs	Number 5920-6YPL78, 8405-6ZAS3U (air)
Notes	Discharging to the Grand Marais Drain

WFCU Centre Pumping Station

Asset ID and Name	7RPS6986, WFCU Centre Pumping Station
Site Location	8787 McHugh Street (west side of arena)
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42° 19' 08"N -82° 55' 40"W
Coordinates (optional)	42.31888267575008, -82.92779157333145
Description	Stormwater Pumping Station
Pumping Station Capacity	The pumping station capacity is 101,400 m ³ /day.
Equipment	3 pumps (3 duty, 0 standby) with 29,100 m ³ /d at a 28' total head, no grinders, no screens and a wet well capacity of 63.82 m ³ . The pumping station is connected to a 250 mm diameter forcemain which discharges to MH 7R6987.
Emergency Storage	The pumping station has no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multi-ranger level control, telemetry
Overflow	There is no overflow at the Pumping Station.
Standby Power	The pumping station is connected to the WFCU Arena backup power.
Reference ECAs	Number 6290-753PX9
Notes	Discharging to Little River

Royal Timbers Pumping Station

Asset ID and Name	7RPS6018, Royal Timbers Pumping Station
Site Location	3017 Troup Crescent
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42° 18' 35.6"N -82° 54' 10.3"W
Coordinates (optional)	42.309885795005975, -82.90286557148539
Description	Stormwater Management Facility
Pumping Station Capacity	With (n-1) pumps there is no flow as the Pumping Station only has one pump. The Retention Pond will overflow.
Equipment	1 pump (1 duty, 0 standby) with 1,123 m ³ /day at a 4.3m total head, no grinder, one screen and a wet well capacity of 8.3 m ³ . The pumping station is connected to a 150mm forcemain which discharges to MH 7R6016.
Emergency Storage	The pumping station has no emergency storage tank/pipe however does have access to a dry pond.
Equipment: Associated controls and appurtenances	Dry pond, multi-ranger level control, telemetry
Overflow	The 300 and 200 mm overflows from the dry pond discharges to the MH7R6017.
Standby Power	The pumping station has no standby power.
Reference ECAs	unknown
Notes	Discharging to the Parent Relief Drain.

Wellington Pumping Station

Asset ID and Name	4RPS3127, Wellington Pumping Station
Site Location	1385 Wellington
Watershed/Subwatershed	Essex Region Watershed
Latitude and Longitude	42° 17' 53.2"N -83° 02' 34"W
Coordinates (optional)	42.298102188328116, -83.04276483100246
Description	Stormwater Pumping Station
Pumping Station Capacity	Note: Capacity of pump station should be the peak flow with n-1 pumps running against a head with the wet well full. 29, 500m3/day
Equipment	3 pumps (3 duty, 0 standby) with 44,300 m3/d and 9.68m total head, 0 grinders, 0 screens, 1 wet well of 85.2 m3 capacity. The station is connected to three 300 mm diameter forcemains, discharging to MH 4R3030.
Emergency Storage	The pumping station does not have emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Multiranger level control, Telemetry
Overflow	No Overflow discharge location and pathway to final receiver.
Standby Power	The pumping station has 100kW diesel as standby power with a fuel tank capacity of 290 gal.
Reference ECAs	unknown
Notes	Discharging to stormwater management facility (Asset ID), if applicable. N/A

Jefferson Pumping Station

Asset ID and Name	7RPS72, Jefferson Pumping Station
Site Location	6540 Tecumseh Road East
Watershed/Subwatershed	Little River Watershed
Latitude and Longitude	42°19'7.030" -82°57'12.52"
Coordinates (optional)	42.318695, -82.953477
Description	Storm Sewage Pumping Station
Pumping Station Capacity	Capacity of pump station should be the peak flow with n-1 pumps running against a head with the wet well full. 87264 m ³
Equipment	2 pumps (2 duty, 0 standby), with 174528 m ³ /d and 16' total head, 0 grinders, 0 screens, 1 wet well of 105 m ³ capacity. The station is connected to one 900 mm diameter forcemain, discharging to Hawkins Drain.
Emergency Storage	The pumping stations has no emergency storage tank/pipe.
Equipment: Associated controls and appurtenances	Telemetry, Multiranger level control, Flygt Balls
Overflow	n/a
Standby Power	120 kW diesel or ATS for portable generator or battery, and fuel tank size 200 gallon
Reference ECA(s)	unknown
Notes	Discharging to Sewage Treatment Plant (for final pumping station only) no Chemical addition (e.g., coagulants, flocculants, disinfection, pH adjustment that pre-condition sewage for further treatment downstream) – no treatment discharge

Third Pipe Collection System

1.6 The following are identified third pipe systems in the Authorized System.

[*Asset ID* (e.g., Third Pipe 10)]

Asset ID and Name	
Location	
Watershed/Subwatershed	
Receiver of discharge	
Outlet location	
Catchment Area	
Treatment, if applicable	
Reference ECA(s), if applicable	
Brief Description	
Notes	

Other Works:

1.7 The following works are part of Authorized System:

Table B6: Other Works			
Column 1 Asset ID / Name	Column 2 Site Location (Latitude & Longitude)	Column 3 Component	Column 4 Description

Developer-Operated Facilities:

1.8 The following facilities are part of the Authorized System, have been constructed, and are being operated by the developer under the authority of an agreement entered into with the Owner of the system.

Table B7: Developer-Operated Facilities			
Asset ID	Type of Facility	Location	Developer Name

1.9 The Owner shall notify the Director, using the Director Notification Form, within thirty (30) days where the operation of any Facility identified in Table B7 has been:

1.9.1 Incorporated into the overall Stormwater Management System and assumed by an Operating Authority identified in Schedule B of this Approval.

1.9.2 Has been transferred from the developer identified in Table B7 to another party.

Transitional – Facilities with Individual ECAs

1.10 The following Facilities are connected to the Authorized System, but ownership has not been assumed by the Owner. These Sewage Works are not part of the Authorized System and will continue to have separate ECAs until the Facilities are assumed by the Owner.

Asset ID	Type of Facility	Location	ECA Number	Developer Name
7RPS8021	Pump Station	Latitude 42.320810°N and longitude -82.930216°W (UTM X: 340946.68; Y: 4687200.57)	5575-BSGMJX	Farhi Holding Corporation
7RPS8212	Pump Station	Latitude 42.262906°N and longitude -82.996649°W (UTM X: 335321.44; Y: 4680897.21)	7497-C6WR37	Orchards Subdivision

1.11 The Owner shall notify the Director, using the Director Notification Form, within thirty (30) days where the ownership of any Facility identified in Table B8 has been assumed by the Owner.

1.12 The Director Notification required in condition 1.11 shall include:

1.12.1 A request from the developer to revoke the ECA identified in Table B8; or

1.12.2 A copy of an agreement or other documentation that demonstrates that the municipality has assumed ownership of the Facility and that the ECA identified in Table B8 should be revoked.

**Schedule C: List of Notices of Amendment to this ECA:
Additional Approved Sewage Works**

System Owner	Windsor, The Corporation Of The City Of
ECA Number	318-S701
System Name	Municipal Stormwater Management System
ECA Issue Date	February 16th, 2024

1.0 General

1.1 Table C1 provides a list of all notices of amendment to this Approval that have been issued pursuant to clause 20.3(1) of the EPA that impose terms and conditions in respect of the Authorized System after consideration of an application by the Director (Schedule C Notices).

Table C1: Schedule C Notices				
Column 1 Issue #	Column 2 Issue Date	Column 3 Description	Column 4 Status	Column 5 DN#
N/A	N/A	N/A	N/A	N/A

Schedule D: General

System Owner	Windsor, The Corporation Of The City Of
ECA Number	318-S701
System Name	Municipal Stormwater Management System
ECA Issue Date	February 16th, 2024

1.0 Definitions

1.1 For the purpose of this Approval, the following definitions apply:

“Adverse Effect(s)” has the same meaning as defined in section 1 of the EPA.

“Alteration(s)” includes the following, in respect of the Authorized System, but does not include repairs to the system:

- a) An extension of the system,
- b) A replacement or retirement of part of the system, or
- c) A modification of, addition to, or enlargement of the system.

“Appendix A” means Appendix A of this Approval.

“Approval” means this Environmental Compliance Approval including any Schedules attached to it.

“Appurtenance(s)” has the same meaning as defined in O. Reg. 525/98 (Approval Exemptions) made under the OWRA.

“Authorized System” means the Sewage Works comprising the Municipal Stormwater Management System authorized under this Approval”.

“Class Environmental Assessment Project” means an Undertaking that does not require any further approval under the EAA if the proponent complies with the process set out in the Municipal Engineers Association Class Environmental Assessment document, (Municipal Class Environmental Assessment approved by the Lieutenant Governor in Council on October 4, 2000 under Order in Council 1923/2000), as amended from time to time.

“Combined Sewer(s)” means pipes that collect and transmit both sanitary Sewage and other Sewage from residential, commercial, institutional, and

industrial buildings and facilities and Stormwater through a single-pipe system, but does not include Nominally Separate Sewers.

“Completion” means substantial performance as described in s.2 (1) of the *Construction Act*, R.S.O. 1990, c. C.30.

“Compound of Concern” means a Contaminant that is discharged from the Facility in an amount that is not negligible.

“Contaminant” has the same meaning as defined in section 1 of the EPA.

“CSO” means a combined sewer overflow which is a discharge to the environment at designated location(s) from a Combined Sewer or Partially Separated Sewer that usually occurs as a result of precipitation when the capacity of the Sewer is exceeded. An intervening time of twelve hours or greater separating a CSO from the last prior CSO at the same location is considered to separate one overflow Event from another.

“CWA” means the *Clean Water Act*, R.S.O. 2006, c.22.

“Design Criteria” means 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 from time to time).

“Design Guidelines for Sewage Works” means the Ministry document titled “Design Guidelines for Sewage Works”, 2008 (as amended from time to time).

“Director” means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of EPA (Environmental Compliance Approvals).

“Director Notification Form” means the most recent version of the Ministry form titled Director Notification – Alterations to a Municipal Stormwater Management System, as obtained directly from the Ministry or from the Ministry’s website.

“District Manager” means the district manager or a designated representative of the Local Ministry Office.

“EAA” means the *Environmental Assessment Act*, R.S.O. 1990, c. E.18.

“EPA” means the *Environmental Protection Act*, R.S.O. 1990, c.E.19.

“ERCA” means the Essex Region Conservation Authority.

“ESC” means erosion and sediment control.

“**Facility**” means the entire operation located on the property where the Sewage Works or Equipment is located.

“**Form SW1**” means the most recent version of the Ministry form titled Record of Future Alteration Authorized for Storm Sewers/Ditches/Culverts as obtained directly from the Ministry or from the Ministry’s website.

“**Form SW2**” means the most recent version of the Ministry form titled Record of Future Alteration Authorized for Stormwater Management Facilities as obtained directly from the Ministry or from the Ministry’s website.

“**Form SW3**” means the most recent version of the Ministry form titled Record of Future Alteration Authorized for Third Pipe Collection Systems as obtained directly from the Ministry or from the Ministry’s website.

“**Licensed Engineering Practitioner**” means a person who holds a licence, limited licence, or temporary licence under the *Ontario Professional Engineers Act* R.S.O. 1990, c. P.28.

“**LID**” means “low impact development” a Stormwater management strategy that seeks to mitigate the impacts of increased runoff and Stormwater pollution by managing runoff as close to its source as possible. LID comprises a set of site design strategies that minimize runoff and distributed, small scale structural practices that mimic natural or predevelopment hydrology through the processes of infiltration, evapotranspiration, harvesting, filtration, and detention of Stormwater.

“**Local Ministry Office**” means the local office of the Ministry responsible for the geographic area where the Authorized System is located.

“**Minister**” means the Minister of the Ministry or such other member of the Executive Council as may be assigned the administration of the EPA and OWRA under the *Executive Council Act*, R.S.O. 1990, c. E.25.

“**Ministry**” means the Ministry of the Minister and includes all employees or other persons acting on its behalf.

“**Monitoring Plan**” means the monitoring plan prepared and maintained by the Owner under condition 4.1 in Schedule E of this Approval.

“**MTD**” means manufactured treatment device.

“**Municipal Drain**” has the same meaning as drainage works as defined in section 1 of the *Drainage Act* R.S.O. 1990, c. D.17.

“Municipal Drainage Engineer’s Report” means a report signed by a drainage engineer employed or contracted by a municipality and approved in writing by municipal council or equivalent.

“Municipal Sewage Collection System” means all Sewage Works, located in the geographical area of a municipality, that collect and transmit sanitary Sewage and are owned, or may be owned pursuant to an agreement with a municipality entered into under the *Planning Act* or *Development Charges Act*, 1997, by:

- a) A municipality, a municipal service board established under the *Municipal Act*, 2001 or a city board established under the *City of Toronto Act*, 2006; or
- b) A corporation established under sections 9, 10, and 11 of the *Municipal Act*, 2001 in accordance with section 203 of that Act or under sections 7 and 8 of the *City of Toronto Act*, 2006 in accordance with sections 148 and 154 of that Act.

“Municipal Stormwater Management System” means all Sewage Works, located in the geographical area of a municipality, that collect, transmit, or treat Stormwater and are owned, or may be owned pursuant to an agreement entered into under the *Planning Act* or *Development Charges Act*, 1997, by:

- a) A municipality, a municipal service board established under the *Municipal Act*, 2001 or a city board established under the *City of Toronto Act*, 2006; or
- b) A corporation established under sections 9, 10, and 11 of the *Municipal Act*, 2001 in accordance with section 203 of that Act or under sections 7 and 8 of the *City of Toronto Act*, 2006 in accordance with sections 148 and 154 of that Act.

“Natural Environment” has the same meaning as defined in section 1 of the EPA.

“Nominally Separate Sewer(s)” mean Separate Sewers that also have connections from roof leaders and foundation drains, and are not considered to be Combined Sewers.

“OGS” means Oil and Grit Separators;

“Operating Authority” means, in respect of the Authorized System, the person, entity, or assignee that is given responsibility by the Owner for the operation, management, maintenance, or Alteration of the Authorized System, or a portion of the Authorized System.

"Owner" for the purposes of this Approval means The Corporation of the City of Windsor, and includes its successors and assigns.

"OWRA" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40.

"O&M Manual" means the operation and maintenance manual prepared and maintained by the Owner under condition 3.2 in Schedule E of this Approval.

"Partially Separated Sewer(s)" means Combined Sewers that have been retrofitted to transmit sanitary Sewage but in which roof leaders or foundation drains still contribute Stormwater inflow to the Partially Separated Sewer.

"Pre-development" means the more stringent of a site's:

- a) Existing condition prior to proposed development or construction activities; or
- b) Condition as defined by the local municipality.

"Prescribed Person" means a person prescribed in O. Reg. 208/19 (Environmental Compliance Approval in Respect of Sewage Works) for the purpose of ss. 20.6 (1) of the EPA, and where the alteration, extension, enlargement, or replacement is carried out under an agreement with the Owner.

"Privately Owned Stormwater Works" means Stormwater Sewage Works on private land that are privately owned and, while not part of the Authorized System, are considered part of a Stormwater Treatment Train.

"Pumping Station Capacity" means the design Peak Hourly Flow of Sewage which the Sewage pumping station is designed to handle.

"Qualified Person (QP)" means persons who have obtained the relevant education and training and have demonstrated experience and expertise in the areas relating to the work required to be carried out by this Approval.

"Schedule C Notice(s)" means a notices of amendment to this Approval issued pursuant to clause 20.3(1) of the EPA that imposes terms and conditions in respect of the Authorized System after consideration of an application by the Director.

"Separate Sewer(s)" means pipes that collect and transmit sanitary Sewage and other Sewage from residential, commercial, institutional, and industrial buildings.

"Sewage" has the same meaning as defined in section 1 of the OWRA.

“**Sewage Works**” has the same meaning as defined in section 1 of the OWRA.

“**Sewer**” has the same meaning as defined in section 1 of O. Reg. 525/98 under the OWRA.

“**Significant Drinking Water Threat**” has the same meaning as defined in section 2 of the CWA.

“**Significant Snowmelt Event(s)**” means the melting of snow at a rate which adversely affects the performance and function of the Authorized System and/or the Sewage Treatment Plant(s) identified in Schedule A of this Approval.

“**Significant Storm Event(s)**” means a minimum of 25 mm of rain in any 24 hours period.

“**Source Protection Authority**” has the same meaning as defined in section 2 of the CWA.

“**Source Protection Plan**” means a drinking water source protection plan prepared under the CWA.

“**Spill(s)**” has the same meaning as defined in subsection 91(1) of the EPA.

“**SSO**” means a sanitary sewer overflow which is a discharge of Sewage from a Separate Sewer or Nominally Separate Sewer to the environment from designated location(s) in the Authorized System.

“**Standard Operating Policy for Sewage Works**” means the standard operating policy developed by the Ministry to assist in the implementation of Source Protection Plan policies related to Sewage Works and providing minimum design and operational standards and considerations to mitigate risks to sources of drinking water, as amended from time to time.

“**Storm Sewer**” means Sewers that collect and transmit, but not exfiltrate or lose by design, Stormwater resulting from precipitation and snowmelt.

“**Stormwater**” means rainwater runoff, water runoff from roofs, snowmelt, and surface runoff.

“**Stormwater Management Facility(ies)**” means a Facility for the treatment, retention, infiltration, or control of Stormwater.

“**Stormwater Management Planning and Design Manual**” means the Ministry document titled “Stormwater Management Planning and Design Manual”, 2003 (as amended from time to time).

“Stormwater Treatment Train” means a series of Stormwater Management Facilities designed to meet Stormwater management objectives (e.g., Appendix A) for a given area, and can consist of a combination of MTDs, LIDs and end-of-pipe controls.

“TRCA” means the Toronto Region Conservation Authority.

“Third Pipe Collection System” means Sewage Works designed to collect and transmit foundation drainage and/or groundwater to a receiving surface water or dry well.

“Uncommitted Reserve Hydraulic Capacity” means uncommitted reserve capacity as described in the Ministry document titled “D-5-1 Calculating and Reporting Uncommitted Reserve Capacity at Sewage and Water Treatment Plants” (as amended from time to time).

“Undertaking” has the same meaning as in the EAA.

“Vulnerable Area(s)” has the same meaning as in the CWA.

2.0 General Conditions

- 2.1 The works comprising the Authorized System shall be constructed, installed, used, operated, maintained, replaced, or retired in accordance with the conditions of this Approval, which includes the following Schedules:

Schedule A – System Information

Schedule B – Municipal Stormwater Management System Description

Schedule C – List of Notices of Amendment to this ECA

Schedule D – General

Schedule E – Operating Conditions

Schedule F – Residue Management

Appendix A – Stormwater Management Criteria

- 2.2 The issuance of this Approval does not negate the requirements of other regulatory bodies, which includes but is not limited to, the Ministry of Northern Development, Mines, Natural Resources and Forestry and the local Conservation Authority.
- 2.3 Where there is a conflict between a provision of any document referred to in this Approval and the conditions of this Approval, the conditions in this Approval shall take precedence. Where there is a conflict between the information in a Schedule C Notice and another section of this Approval, the document bearing the most recent date shall prevail.

- 2.4 The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Authorized System is provided with a print or electronic copy of this Approval and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- 2.5 The conditions of this Approval are severable. If any condition of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.

3.0 Alterations to the Municipal Stormwater Management System

- 3.1 For greater certainty, the Alterations authorized under this Approval are limited to Sewage Works comprising the Authorized System which does not include municipally or Privately Owned Stormwater Works:
 - 3.1.1 On industrial, commercial, or institutional land;
 - 3.1.2 Serving a single parcel of land, unless the stormwater management facility is located on a municipally owned park or community center;
 - 3.1.3 That are operated as waste disposal sites defined under the EPA or snow dump / melt facilities; or,
 - 3.1.4 That propose to collect, store, treat, or discharge stormwater containing substances or pollutants (other than Total Suspended Solids, or oil and grease) detrimental to the environment or human health.
- 3.2 Any Schedule C Notice shall provide authority to alter the Authorized System in accordance with the conditions of this Approval.
- 3.3 All Schedule C Notices issued by the Director for the Municipal Stormwater Management System shall form part of this Approval.
- 3.4 The Owner and a Prescribed Person shall ensure that the documentation required through conditions in this Approval and the documentation required in the Design Criteria are prepared for any Alteration of the Authorized System.
- 3.5 The Owner shall notify the Director within thirty (30) calendar days of placing into service or Completion of any Alteration of the Authorized System which had been authorized:

- 3.5.1 Under Schedule D to this Approval where the Alteration results in a change to Sewage Works specifically described in Schedule B of this Approval;
 - 3.5.2 Through a Schedule C Notice respecting Sewage Works other than Storm Sewers; or
 - 3.5.3 Through another approval that was issued under the EPA prior to the issue date of this Approval.
- 3.6 The notification requirements set out in condition 3.5 do not apply to any Alteration in respect of the Authorized System which:
- 3.6.1 Is exempt under section 53(6) of the OWRA or by O. Reg. 525/98;
 - 3.6.2 Constitutes maintenance or repair of the Authorized System; or
 - 3.6.3 Is a Storm Sewer, ditch, or culvert authorized by condition 4.1 of Schedule D of this Approval.
- 3.7 The Owner shall notify the Director within ninety (90) calendar days of:
- 3.7.1 The discovery of existing Sewage Works not described or depicted in Schedule B, or
 - 3.7.2 Additional or revised information becoming available for any Sewage Works described in Schedule B of this Approval.
- 3.8 The notifications required in condition 3.5 and 3.7 shall be submitted to the Director using the Director Notification Form.
- 3.9 The Owner shall ensure that any chemicals, coagulants, or polymers used in the stormwater management system have obtained written approval from the Director prior to use, unless required for spill control or spill clean-up.
- 3.10 The Owner shall ensure that an ESC plan is prepared, and temporary ESC measures are installed in advance of and maintained during any construction activity on the Authorized System, subject to the following conditions:
- 3.10.1 Inspections of ESC measures are to be conducted at a frequency specified per the ESC plan, for dry weather periods (active and inactive construction phases), after Significant Storm Events and Significant Snowmelt Events, and after any extreme weather events.
 - 3.10.2 Any deficiencies shall be addressed, and any required maintenance actions(s) shall be undertaken as soon as practicable once they have been identified.

- 3.10.3 Inspections and maintenance of the temporary ESC measures shall continue until they are no longer required.
- 3.11 The Owner shall ensure that records of inspections required by this Approval during any construction activity, including those required under condition 3.10:
- 3.11.1 Include the name of the inspector, date of inspection, visual observations, and the remedial measures, if any, undertaken to maintain the temporary ESC measures.
- 3.11.2 Be retained with records relating to the Alteration that the construction relates to, such as the form required in conditions 4.4.1, 5.5.1, and 6.2.1 of Schedule D, or the Schedule C Notice.
- 3.11.3 Be retrievable and made available to the Ministry upon request.
- 3.12 The document(s) or file(s) referenced in Table B1 of Schedule B of this Approval shall:
- 3.12.1 Be retained by the Owner;
- 3.12.2 Include at a minimum:
- a) Identification of Storm Sewers, which shall include the following information:
 - i Location relative to street names or easements; and
 - ii Sewer diameters.
 - b) Identification of existing municipally owned Stormwater Sewage Works, including but not limited to ditches, swales, culverts, outlets, Stormwater Management Facilities, sedimentation MTD (for example oil grit separators), filtration MTD, LID, end of pipe controls, Third Pipe Collection Systems, and pumping stations, including any applicable Asset IDs.
 - c) Identification of the main tributaries and receiving water bodies to that the Sewage Works discharge to.
 - d) Delineation of municipal, watershed, and subwatershed boundaries, as available.
 - e) Identification of the storm sewersheds for each outlet.
 - f) Identification of any source protection Vulnerable Areas.

- g) Identification of any Sewage Works that receive SSOs or CSOs.

3.12.3 Be updated to include:

- a) Alterations authorized under Schedule D of this Approval or through a Schedule C Notice within twelve (12) months of the Alteration being placed into service.
- b) Updates to information contained in the document(s) or files(s) not associated with an Alteration within twelve (12) months of becoming aware of the updated information.

3.13 An Alteration is not authorized under Schedule D of this ECA for projects that impact Indigenous treaty rights or asserted rights where:

3.13.1 The project is on Crown land or would alter access to Crown land;

3.13.2 The project is in an open or forested area where hunting, trapping or plant gathering occur;

3.13.3 The project involves the clearing of forested land unless the clearing has been authorized by relevant municipal, provincial, or federal authorities, where applicable;

3.13.4 The project alters access to a water body;

3.13.5 The proponent is aware of any concerns from Indigenous communities about the proposed project and these concerns have not been resolved; or,

3.13.6 Conditions respecting Indigenous consultation in relation to the project were placed in another permit or approval and have not been met.

3.14 No less than 60 days prior to construction associated with an Alteration the Director may notify the Owner in writing that a project is not authorized through Schedule D of this ECA where:

3.14.1 Concerns regarding treaty rights or asserted rights have been raised by one or more Indigenous communities that may be impacted by the Alteration; or

3.14.2 The Director believes that it is in the public interest due to site specific, system specific, or project specific considerations.

3.15 Where an Alteration is not authorized under condition 3.13 or 3.14 above:

3.15.1 An application respecting the Alteration shall be submitted to the Ministry; and,

3.15.2 The Alteration shall not proceed unless:

- a) Approval for the Alteration is granted by the Ministry (i.e., a Schedule C Notice); or,
- b) The Director provides written notice that the Alteration may proceed in accordance with conditions in Schedule D of this ECA.

4.0 Authorizations of Future Alterations to Storm Sewers, Ditches, or Culverts - Additions, Modifications, Replacements and Extensions

4.1 The Owner or a Prescribed Person may alter the Authorized System by adding, modifying, replacing, or extending a Storm Sewer, ditch, or culvert within the Authorized System subject to the following conditions and conditions 4.2 and 4.3 below:

4.1.1 The design of the addition, modification, replacement, or extension:

- a) Has been prepared by a Licensed Engineering Practitioner;
- b) Has been designed only to collect and transmit Stormwater;
- c) Has not been designed to collect or treat any sanitary Sewage;
- d) Has not been designed to collect, store, treat, control, or manage groundwater, unless for the purpose of foundation drains, road subdrains, or LIDs;
- e) Satisfies the Design Criteria or any municipal criteria that have been established that exceed the minimum requirements set out in the Design Criteria;
- f) Satisfies the standards set out in Ontario Provincial Standard Specifications (OPSS) and Ontario Provincial Standard Drawings (OPSD), as applicable to ditches and culverts;
- g) Is consistent with or otherwise addresses the design objectives contained within the Design Guidelines for Sewage Works;

- h) Is planned, designed, and built to be consistent with the Stormwater Management Planning and Design Guidance Manual. If there is a conflict Appendix A of this Approval, then Appendix A shall prevail; and
 - i) Includes design considerations to protect sources of drinking water, including those set out in the Standard Operating Policy for Sewage Works, and any applicable local Source Protection Plan policies.
- 4.1.2 The addition, modification, replacement, or extension shall be designed so that it will:
- a) Not adversely affect the ability to maintain a gravity flow in the Authorized System without overflowing or increase surcharging any maintenance holes as per design; and
 - b) Provide smooth flow transition to existing gravity Storm Sewers;
- 4.1.3 The Alteration shall not result in:
- a) Adverse Effects; or
 - b) A deterioration of the approved effluent quality or quantity of downstream Stormwater Management Facilities which results in not being able to achieve the overall Stormwater performance criteria per Appendix A.
- 4.1.4 The Storm Sewer, ditch or culvert addition, modification, replacement, or extension is wholly located within the municipal boundary over which the Owner has jurisdiction or there is a written agreement in place with the adjacent property owner respecting the Alteration and resulting Sewage Works.
- 4.1.5 The Owner consents in writing to the addition, modification, replacement, or extension.
- 4.1.6 A Licensed Engineering Practitioner has verified in writing that the addition, modification, replacement, or extension meets the requirements of conditions 4.1.1 a) to h), 4.3.9, and 4.3.10.
- 4.1.7 The Owner has verified in writing that the addition, modification, replacement, or extension has complied with inspection and testing requirements in the Design Criteria.
- 4.1.8 The Owner has verified in writing that the addition, modification, replacement, or extension meets the requirements of conditions 4.1.1 i), 4.1.2 to 4.1.6, 4.3.7, and 7.2.

- 4.2 The addition of Storm Sewers or ditches can be constructed but not operated until the Stormwater Management Facilities required to service the new Storm Sewers or ditches are in operation.
- 4.3 The Owner or a Prescribed Person is not authorized to undertake an Alteration described above in condition 4.1 where the Alteration relates to the addition, modification, replacement, or extension of a Storm Sewer that:
- 4.3.1 Passes under or through a body of surface water, unless trenchless construction methods are used or the local Conservation Authority has authorized an alternative construction method.
 - 4.3.2 Has a nominal diameter greater than 3,200 mm, or equivalent sizing.
 - 4.3.3 Is a Combined Sewer.
 - 4.3.4 Is a concrete channel.
 - 4.3.5 Is designed to, at any time, transmit, store, or control sanitary Sewage.
 - 4.3.6 Converts rural road cross section ditches to curb, gutter, and Storm Sewers if the Stormwater volume and/or peak flow is increased and no water quality treatment is planned or demonstrated to be achieved, in accordance with this Approval and Appendix A, to offset the increase in Stormwater.
 - 4.3.7 Results in new discharges or increased discharges to a Municipal Drain without written approval by the Owner and a signed Municipal Drainage Engineer's Report in accordance with the *Drainage Act* R.S.O. 1990, c. D.17.
 - 4.3.8 Establishes a new outlet with direct discharge into the Natural Environment without monitoring in accordance with this Approval and without achieving the requirements set in Appendix A.
 - 4.3.9 Increases Stormwater flow of an existing Storm Sewer or ditch without achieving water quality criteria set in Appendix A in accordance with this Approval unless the existing downstream Municipal Stormwater Management System has sufficient residual transmission and treatment capacity to accommodate the additional Stormwater.
 - 4.3.10 Increases local hydraulic capacity of an existing Storm Sewer or ditch to accommodate new Stormwater flows unless the existing downstream Municipal Stormwater Management System has sufficient residual hydraulic capacity to accommodate the additional Stormwater.

4.3.11 Connects to another Municipal Stormwater Management System, unless:

- a) Prior to construction, the Owner of the Authorized System obtains written consent from the Owner or Owner's delegate of the Municipal Stormwater System being connected to; and
- b) The Owner of the Authorized System retains a copy of the written consent from the Owner or Owner's delegate of the Municipal Stormwater Management System being connected to as part of the record that is recorded and retained under condition 4.4.

4.3.12 Is part of an Undertaking in respect of which:

- a) A request under s.16(6) of the EAA has been made, namely a request that the Minister make an order under s.16;
- b) The Minister has made an order under s.16; or
- c) The Director under that EAA has given notice under s.16.1 (2) that the Minister is considering making an order under s.16.

4.4 The consents and verifications required in conditions 4.1 and 4.3, if applicable, shall be:

4.4.1 Recorded on SW1, prior to the Storm Sewer, ditch, or culvert addition, modification, replacement, or extension being placed into service; and

4.4.2 Retained for a period of at least ten (10) years by the Owner.

4.5 For greater certainty, the verification requirements set out in condition 4.4 do not apply to any Alteration in respect of the Authorized System which:

4.5.1 Is exempt under section 53(6) of the OWRA or by O. Reg. 525/98; or

4.5.2 Constitutes maintenance or repair of the Authorized System.

5.0 Authorizations of Future Alterations to Stormwater Management Facilities - Additions, Modifications, Replacement, and Extensions

5.1 Subject to conditions 5.2 and 5.3, the Owner or a Prescribed Person, may alter the Stormwater Management Facilities in the Authorized System by adding, modifying, replacing, or extending the following components:

5.1.1 Rooftop storage or adjustment of controls

- 5.1.2 Parking lot storage
- 5.1.3 Superpipe or underground storage
- 5.1.4 Reduced lot grading
- 5.1.5 Roof leader to ponding area
- 5.1.6 Roof leader to soakaway pit
- 5.1.7 Infiltration trench
- 5.1.8 Engineered grassed swales / bioswale
- 5.1.9 Pervious pipes
- 5.1.10 Pervious catchbasins
- 5.1.11 Vegetated filter strips
- 5.1.12 Natural buffer strips
- 5.1.13 Green roofs/Rooftop gardens
- 5.1.14 Wet pond
- 5.1.15 Engineered wetland
- 5.1.16 Dry pond
- 5.1.17 Hybrid Facility
- 5.1.18 Infiltration basin
- 5.1.19 Filtration MTD
- 5.1.20 Sedimentation MTD - OGS
- 5.1.21 LID that relies on one or more of the following mechanisms to achieve treatment and control:
 - a) Evapotranspiration;
 - b) Infiltration into the ground; or
 - c) Filtration.
- 5.1.22 Any other Stormwater Management Facilities where the Director has provided authorization in writing to proceed with the Alteration.

5.2 Any Alteration to the Authorized System authorized under condition 5.1 is subject to the following conditions:

5.2.1 The design of the Alteration shall:

- a) Be prepared by a Licensed Engineering Practitioner;
- b) Be designed only to collect, receive, treat, or control only Stormwater and has not been designed to collect, receive, treat, or control sanitary Sewage;
- c) Is planned, designed, and built to be consistent with the Stormwater Management Planning and Design Guidance Manual. If there is a conflict Appendix A of this Approval, then Appendix A shall prevail;
- d) Satisfy the Design Criteria or any municipal criteria that have been established that exceed the minimum requirements set out in the Design Criteria;
- e) Be part of a Stormwater Treatment Train approach that satisfies the requirements outlined in Appendix A, or transmits Stormwater to a Stormwater Management Facility that satisfies the requirements outlined in Appendix A;
- f) Includes an outlet or an emergency overflow for the Sewage Works, with the verification of the location, route, and capacity of the receiving major system to accommodate overflows; and
- g) Include design considerations to protect sources of drinking water, including those set out in the Standard Operating Policy for Sewage Works and any applicable local Source Protection Plan policies.

5.2.2 The Alteration shall not result in:

- a) Adverse Effects; or
- b) A deterioration on the approved effluent quality or quantity of downstream Stormwater Management Facilities which results in not being able to achieve the overall Stormwater performance criteria per Appendix A.

5.2.3 The Alteration may incorporate co-benefits, but in doing so shall not diminish functionality or efficiency of any Stormwater Management Facility(ies) that may be impacted by the Alteration.

5.2.4 Any new sedimentation MTD that is part of the Alteration shall meet the following requirements:

- a) Tested in accordance with the TRCA protocol Procedure for Laboratory Testing of OGSs and testing data verified in accordance with the ISO 14034 Environmental Technology Verification (ETV) protocol. The suspended solids removal claimed for the sedimentation MTD in achieving the water quality criteria in Appendix A, and the sizing methodology used to determine the appropriate sedimentation MTD dimensions for the particular site, shall be based on the verified removal efficiency for all particle size fractions comprising the particle size distribution specified within the testing protocol or a particle size distribution approved by the Director.
- b) Using the verified sediment removal efficiencies for the respective surface loading rates specified in the testing protocol, the sedimentation MTD sizing methodology shall use linear interpolation to calculate sediment removal efficiencies for surface loading rates that lie between the specified surface loading rates. For surface loading rates less than the lowest specified and tested surface loading rate, the sediment removal efficiency shall be assumed to be identical to the verified removal efficiency for the lowest specified and tested surface loading rate. Where available, 15 min rainfall stations shall be used for sizing the sedimentation MTD.
- c) When two or more sedimentation MTD are installed in series, no additional sediment removal credit shall be applied beyond the sediment removal credit of the largest device in the series.
- d) The sediment removal rate at the specified surface loading rates determined for the tested full scale, commercially available MTD may be applied to similar MTDs of smaller or larger size by proper scaling. Scaling the performance results of the tested MTD to other model sizes without completing additional testing is acceptable provided that:
 - i) The claimed sediment removal efficiencies for the similar MTD are the same or lower than the tested MTD at identical surface loading rates; and
 - ii) The similar MTD is scaled geometrically proportional to the tested unit in all inside dimensions of length and width and a minimum of 85% proportional in depth.

- e) The units must be installed in an off-line configuration if the unit had an effluent concentration greater than 25 mg/L at any of the surface loading rates conducted during the sediment scour and resuspension test as part of the ISO 14034 verification.
- f) The sedimentation MTD should be sized for the highest suspended solids percent removal physically and economically practicable, and used as a pre-treatment device in a treatment train designed to achieve the water quality criteria in Appendix A.

5.2.5 Any new filtration MTD that is part of the Alteration shall meet the following requirements:

- a) Field tested and verified in accordance with a minimum of one of the following protocols:
 - i Washington State Technology Assessment Protocol - Ecology (TAPE) General Use Level Designation (GULD); and
 - 1. Has ISO 14034 ETV verification to satisfy ETV Canada requirements;
 - 2. The field monitoring data set used to obtain GULD certification should include a minimum of three (3) events that exceed 75th percentile rainfall event with at least one hour with an intensity of 6 mm/h or greater.
 - ii Another testing and verification method, where the Director has communicated acceptability in writing.
- b) Where available, 15 min rainfall stations shall be used for sizing the filtration MTD using the rainfall intensity corresponding to 90% of annual runoff volume;
- c) The SS removal rate determined for the tested full scale, commercially available filtration MTD, or single full-scale commercially available cartridge or filtration module, may be applied to other model sizes of that filtration MTD provided that appropriate scaling principles are applied. Scaling the tested filtration MTD or single full-scale commercially available cartridge or filtration module, to determine other model sizes and performance without completing additional testing is acceptable provided that:

- i Depth of media, composition of media, and gradation of media remain constant.
- ii The ratio of the maximum treatment flow rate to effective filtration treatment area (filter surface area) is the same or less than the tested filtration MTD;
- iii The ratio of effective sedimentation treatment area to effective filtration treatment area is the same or greater than the tested filtration MTD; and
- iv The ratio of wet volume to effective filtration treatment area is the same or greater than the tested filtration MTD.

5.2.6 When it is necessary to use Privately Owned Stormwater Works in the Stormwater Treatment Train to achieve Appendix A criteria as part of or as a result of an Alteration, the following conditions apply:

- a) The Owner shall, through legal instruments or binding agreements, obtain the right to access, operate, and maintain the Privately Owned Sewage Works;
- b) The Owner shall ensure that the right to access, operate and maintain the Privately Owned Sewage Works described in condition 5.2.6 a) above is maintained at all times that the works are in service and used to achieve Appendix A criteria.
- c) The Owner shall ensure on-going operation and maintenance of the Privately Owned Stormwater Works;
- d) The Owner ensures on-going operation and maintenance of the Privately Owned Stormwater Works; and
- e) The Owner shall ensure that the Privately Owned Stormwater Works have obtained separate approval(s) under the EPA, as required.

5.2.7 The Alteration is wholly located within the municipal boundary over which the Owner has jurisdiction or there is a written agreement in place with the adjacent municipality respecting the Alteration and resulting Sewage Works.

5.2.8 The Owner consents in writing to the Alteration authorized under condition 5.1.

5.2.9 A Licensed Engineering Practitioner has verified in writing that the Alteration authorized under condition 5.1 meets the design requirements of conditions 5.2.1 a) to f), 5.2.4 and 5.2.5.

- 5.2.10 The Owner has verified in writing that the Alteration authorized under condition 5.1 meets the requirements of conditions 5.2.1 g), 5.2.2, 5.2.6 to 5.2.9, 5.3, 5.4, and 7.2.
- 5.3 The authorization in condition 5.1 does not apply:
- 5.3.1 To the establishment of a regional Stormwater management end-of-pipe flood control Facility;
- 5.3.2 Where the Alteration will result in new or increased discharges to a Municipal Drain without written approval by the Owner and a signed Municipal Drainage Engineer's Report in accordance with the *Drainage Act* R.S.O. 1990, c. D.17;
- 5.3.3 To the establishment of a new outlet with direct discharge into the Natural Environment without treatment and monitoring in accordance with this Approval;
- 5.3.4 Where the Alteration will service a drainage area greater than 65 ha;
- 5.3.5 Where the Alteration will result in conversion of an existing Stormwater Management Facility into another type of Stormwater Management Facility;
- 5.4 Any Alteration to LID or end-of-pipe Stormwater Management Facilities shall be inspected before operation of the Alteration to confirm construction as per specifications (including depth, as applicable).
- 5.5 The consents and verifications required in conditions 5.2.8 to 5.2.10 if applicable, shall be:
- 5.5.1 Recorded on Form SW2, prior to undertaking the Alteration; and
- 5.5.2 Retained for a period of at least ten (10) years by the Owner.
- 5.6 For greater certainty, the verification requirements set out in condition 5.5 do not apply to any Alteration in respect of the Authorized System which:
- 5.6.1 Is exempt under section 53(6) of the OWRA or by O. Reg. 525/98; or
- 5.6.2 Constitutes maintenance or repair of the Authorized System.

6.0 Authorizations of Future Alterations for Third Pipe Collection System Additions, Modifications, Replacements and Extensions

- 6.1 The Owner or a Prescribed Person may alter the Authorized System by adding, modifying, replacing, or extending, and operating works comprising a municipal Third Pipe Collection System to collect foundation drainage and groundwater where:

- 6.1.1 The design of the Alteration:
- a) Has been prepared by a Licensed Engineering Practitioner;
 - b) Is limited to collection, transmission, reuse and/or treatment of only foundation drainage and groundwater, and is not designed to collect or treat sanitary Sewage;
 - c) Satisfies the Design Criteria or any municipal criteria that have been established that exceed the minimum requirements set out in the Design Criteria; and
 - d) Is scoped so that the resulting Sewage Works are intended to:
 - i Primarily function for the non-potable reuse, as deemed acceptable by the Owner and the local health unit, of foundation drainage and/or groundwater, and no discharge to a Storm Sewer or Separate Sewer if there is excess volume that cannot be reused; and/or
 - ii Provide wetland recharge, in which case, collection of rooftop runoff will also be acceptable.
- 6.1.2 The Alteration is not located on a contaminated site, or where natural occurring conditions result in contaminated discharge, or where the site receives contaminated groundwater or foundation drainage from another site, unless the discharge being received has been remediated or treated prior to acceptance by the Third Pipe Collection System.
- 6.1.3 The Owner has undertaken a site assessment for water quantity, water quality, and hydrogeological site conditions regarding the Alteration.
- 6.1.4 The Alteration will not result in Adverse Effects.
- 6.1.5 The Alteration is wholly located within the municipal boundary over which the Owner has jurisdiction or there is a written agreement in place with the adjacent property owner respecting the Alteration and resulting Sewage Works.
- 6.1.6 The Owner consents in writing to the Alteration.
- 6.1.7 A Licensed Engineering Practitioner has verified in writing that the Alteration meets the requirements of condition 6.1.1.

- 6.1.8 The Owner has verified in writing that the Alteration meets the requirements of conditions 6.1.2 to 6.1.7.
- 6.2 The consents, verifications and documentation required in conditions 6.1.7 and 6.1.8 shall be:
- 6.2.1 Recorded on Form SW3 prior to undertaking the Alteration; and
- 6.2.2 Retained for a period of at least ten (10) years by the Owner.
- 6.3 For greater certainty, the verification requirements set out in condition 6.2 do not apply to any Alteration in respect of the Authorized System which:
- 6.3.1 Is exempt under section 53(6) of the OWRA or by O. Reg. 525/98; or
- 6.3.2 Constitutes maintenance or repair of the Authorized System, including changes to software for an existing SCADA system resulting from Alterations authorized in condition 6.1.
- 6.4 The Owner shall update, within twelve (12) months of the Alteration of the Sewage Works being placed into service, any drawings maintained for the Municipal Stormwater Management System to reflect the Alterations of the Sewage Works, where applicable.

7.0 Outlets

- 7.1 Any outlet established or altered as part of an Alteration authorized through conditions 4, 5, or 6 of Schedule D in this Approval shall have regard to the 2018 Windsor Essex Region Stormwater Management Standards Manual, for outlets.
- 7.2 Any outlet established as part of an Alteration authorized through conditions 4, 5, or 6 of Schedule D in this Approval shall not:
- 7.2.1 Increase discharge or create a new point source discharge to privately owned land unless there is express written consent of the owner(s) of such private land(s).
- 7.2.2 Result in Adverse Effects.

8.0 Previously Approved Sewage Works

- 8.1 If approval for an Alteration to the Authorized System was issued under the EPA and is revoked by this Approval, the Owner may make the Alteration in accordance with:
- 8.1.1 The terms of this Approval; or

- 8.1.2 The terms and conditions of the revoked approval as of the date this approval was issued, provided that the Alteration is commenced within five (5) years of the date that the revoked approval was issued.

9.0 Transition

- 9.1 An Alteration of the Authorized System is exempt from the requirements in clause (e) of condition 4.1.1, clause (d) of condition 5.2.1, and clause (c) of condition 6.1.1 where:
- 9.1.1 Effort to undertake the Alteration, such as tendering or commencement of construction of the Sewage Works associated with the Alteration, begins on or before March 3, 2024.
- 9.1.2 The design of the Alteration conforms to the Stormwater Management Planning and Design Manual, and where applicable, Design Guidelines for Sewage Works;
- 9.1.3 The design of the Alteration was completed on or before the issue date of this Approval or a Class Environmental Assessment was completed for the Alteration and changes to the design result in significant cost increase or significant project delays; and
- 9.1.4 The Alteration would be otherwise authorized under this Approval.

10.0 System-Specific Conditions

10.1 Stormwater Pumping Stations

- 10.1.1 The Owner or a Prescribed Person may alter the Authorized System by modifying existing stormwater pumping stations and odour control units / Facilities, including adding, replacing, or modifying the following components:
- a) Pumps, including replacement parts, in an existing pumping system;
 - b) Grinders and screens;
 - c) Aeration and/or mixing equipment;
 - d) Chemicals and associated equipment and tanks (including secondary containment);
 - e) Odour and corrosion control structures;
 - f) Instrumentation and controls, including electrical;

- g) Discharge and process piping;
- h) Valves;
- i) Wet-wells,
- j) Fat, oil, and grease separators (FOGs), and
- k) Chemical storage tanks (including fuel storage tanks) with Spill containment and associated equipment.

10.1.2 The Owner or a Prescribed Person may alter the Authorized System by adding a new stormwater pumping station which meets the following criteria:

- a) Are designed to transmit a Peak Hourly Flow of no greater than 30,000 L/s;
- b) Includes emergency stand-by power, Spill containment, and emergency alarms (SCADA, if applicable);
- c) Includes emergency storage designed to provide at minimum two (2) hours of response time at peak design flow
- d) Includes odour and corrosion control, as applicable
- e) Would serve an existing mixed land use or a new residential development or a new mixed land use development (or new phased residential or mixed land use development), which may include existing mixed land use or residential development that has no Combined or Partially Separated Sewers;
- f) Is designed to only collect stormwater

10.1.3 The design of the Alteration shall:

- a) Be prepared by a Licensed Engineering Practitioner, where the Alteration falls within the practice of professional engineering as defined in the Professional Engineers Act, R.S.O. 1990;
- b) Be consistent with or otherwise address the design objectives contained within the Design Guidelines for Sewage Works; and
- c) Include design considerations to protect sources of drinking water, such as those included in the Standard Operating

Policy for Sewage Works, and any applicable local Source Protection Plan policies.

10.1.4 The Alteration shall:

- a) Not cause overflows or backups nor increase surcharging at any maintenance holes or privately owned infrastructure (e.g., service connections to basements) connected to the Authorized System or any Municipal Sewage Collection System connected to it;
- b) Provide smooth flow transition to existing gravity Sewers;
- c) Not increase the generation of sulfides and other odorous compounds in the Authorized System; and
- d) Be wholly located within the municipal boundary over which the Owner has jurisdiction or there is a written agreement in place with the adjacent municipality respecting the Alteration and resulting Sewage Works.

10.1.5 Any Alteration of the Authorized System made under conditions 10.1.1 and 10.1.2 shall not result in:

- a) Exceedance of hydraulic capacity (including Uncommitted Reserve Hydraulic Capacity, as applicable) of the downstream:
 - i Municipal Stormwater Collection System; or
 - ii Receiving Stormwater Management Facility.
- b) Exceedance of any downstream Pumping Station Capacity as specified in Schedule B of this Approval;
- c) An increase in the capacity of an existing Pumping Station Capacity of greater than 50%.
- d) Any increase in Collection System Overflows that is not offset by measures taken elsewhere in the Authorized System.
- e) Any increase in the frequency and/or volume of Stormwater Management Facility bypasses or Overflows that is not offset by measures.
- f) Deterioration of the normal operation of municipal Stormwater Management Facility(ies) and/or the Authorized System.

- g) A negative impact on the ability to undertake monitoring necessary for the operation of the Authorized System.
- h) Adverse Effects.

10.1.6 The Alteration is subject to the following conditions:

- a) The Owner consents in writing to the Alteration.
- b) The person responsible for the design has verified in writing that the Alterations meets the requirements of conditions 10.1.3 a) and b), as applicable.
- c) The Owner has verified in writing that the Alteration meets the requirements of conditions 10.1.3 c), and 10.1.6 a) and b).

10.1.7 The Owner shall verify in writing that any Alteration of the Authorized System in accordance with conditions 10.1.1 and 10.1.2 has met the requirements of the conditions listed in conditions 10.1.4 and 10.1.5.

10.1.8 The consents, verifications and documentation required in conditions 10.1.6 and 10.1.7 shall be:

- a) Recorded on Form SW2 prior to undertaking the Alteration;
and
- b) Retained for a period of at least ten (10) years by the Owner.

10.1.9 For greater certainty, the verification requirements set out in condition 10.1.8 do not apply to any Alteration in respect of the Authorized System which:

- a) Is exempt under section 53(6) of the OWRA or by O. Reg. 525/98; or
- b) Constitutes maintenance or repair of the Authorized System, including changes to software for an existing SCADA system resulting from Alterations authorized in condition 10.1.1 and 10.1.2.

10.1.10 The Owner shall update, within twelve (12) months of the Alteration of the Sewage Works being placed into service, any drawings maintained for the Municipal Stormwater Collection System to reflect the Alterations of the Sewage Works, where applicable.

10.2 Authorizations of Future Alterations to Equipment with Emissions to the Air

10.2.1 The Owner and a Prescribed Person may alter the Authorized System by adding, modifying, or replacing the following Equipment in the Municipal Stormwater Management System:

- a) Venting for odour control using solid scavenging or carbon adsorption units;
- b) Venting for odour control by replacing existing biofiltration or wet air scrubbing systems, including any components, with Equipment of the same or better performance characteristics; and
- c) Emergency generators that fire No. 2 fuel oil (diesel fuel) with a sulphur content of 0.5 per cent or less measured by weight, natural gas, propane, gasoline, or biofuel, and that are used for emergency duty only with periodic testing.

10.2.2 Any Alteration of the Municipal Stormwater Management System made under condition 10.2.1 that may discharge or alter the rate or manner of a discharge of a Compound of Concern to the atmosphere is subject to the following conditions:

- a) The Owner shall, at all times, take all reasonable measures to minimize odorous emissions and odour impacts from all potential sources at the Facility.
- b) The Owner shall ensure that the noise emissions from the Facility comply with the limits set out in Publication NPC-300.
- c) The Owner shall ensure that the vibration emissions from the Facility comply with the limits set out in Publication NPC-207.

10.2.3 The Owner shall not add, modify, or replace Equipment in the Municipal Sewage Collection System as set out in condition 10.2.1 unless the Equipment performs an activity that is directly related to municipal Sewage collection and transmission.

10.2.4 The emergency generators identified in condition 10.2.1 c) shall not be used for non-emergency purposes (excluding generator testing) including the generation of electricity for sale or for peak shaving purposes.

10.2.5 The Owner shall verify in writing that any addition, modification, or replacement of Equipment in accordance with condition 10.2.1 has met the requirements of the conditions listed in conditions 10.2.2, 10.2.3, and 10.2.4.

10.2.6 The verifications and documentation required in condition 10.2.5 shall be:

- a) Recorded on Form A1 prior to the additional, modified or replacement Equipment being placed into service; and
- b) Retained for a period of at least ten (10) years by the Owner.

10.2.7 For greater certainty, the verification and documentation requirements set out in condition 10.2.5 and 10.2.6 do not apply to any addition, modification, or replacement in respect of the Authorized System which:

- a) Is exempt from the requirements of the EPA, or for Equipment that is exempt from s.9 of the EPA under O. Reg. 524/98; or
- b) Constitutes maintenance or repair of the Authorized System.

Schedule E: Operating Conditions

System Owner	Windsor, The Corporation Of The City Of
ECA Number	318-S701
System Name	Municipal Stormwater Management System
ECA Issue Date	February 16th, 2024

1.0 General Operations

- 1.1 The Owner shall ensure that, at all times, the Sewage Works comprising the Authorized System and the related equipment and Appurtenances used to achieve compliance with this Approval are properly operated and maintained.
- 1.2 Prescribed Persons and Operating Authorities shall ensure that, at all times, the Sewage Works under their care and control and the related equipment and Appurtenances used to achieve compliance with this Approval are properly operated and maintained.
- 1.3 In conditions 1.1 and 1.2 “properly operated and maintained” includes effective performance, adequate funding, adequate operator staffing and training, including training in applicable procedures and other requirements of this Approval and the EPA, OWRA, CWA, and regulations, adequate laboratory services, process controls and alarms and the use of process chemicals and other substances used in the Authorized System.
- 1.4 The Owner ensure that Sewage Works are operated with the objective that the effluent from the Sewage Works is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film, sheen, foam, or discoloration on the receiving waters, and shall evaluate the need for maintenance if the objective is not being met.
- 1.5 The Owner shall ensure that any Storm Sewers or ditches authorized under Schedule D of this approval are not placed into operation until the associated Stormwater Management Facilities to provide treatment are constructed and operated.

2.0 Duties of Owners and Operating Authorities

- 2.1 The Owner, Prescribed Persons, and any Operating Authority shall ensure the following:
 - 2.1.1 At all times that the Sewage Works within the Authorized System are in service the Sewage Works are:

- a) Operated in accordance with the requirements under the EPA and OWRA, and
 - b) Maintained in a state of good repair.
- 2.1.2 The Authorized System is operated by persons that are familiar with the requirements of this Approval.
- 2.1.3 All sampling, testing, monitoring, and reporting requirements under the EPA and this Approval that relate to the Authorized System are complied with.
- 2.1.4 All necessary steps are taken to ensure that operations of the Sewage Works and any associated physical structures do not constitute a safety or health hazard to the general public.
- 2.1.5 Where a Stormwater Management Facility ceases to function as a Stormwater Management Facility, whether by intent, accident, or otherwise (e.g., a CSO or an SSO), a workplan shall be developed that includes local community notification, plans for rehabilitating the Stormwater Management Facility to proper function in a reasonable time, identification of actions that will be taken to prevent reoccurrences, and timelines for implementing the workplan.
- 2.1.6 That operations and maintenance activities are undertaken at the frequency and in conformance with the procedures set out in the O&M Manual.
- a) A Prescribed Person or Operating Authority shall only undertake operations and maintenance activities where they have been delegated the authority to undertake such activities by the Owner or the Owner has expressly approved the activity(ies).
- 2.2 For clarity, the requirements outlined in the above conditions 2.1 for Prescribed Persons and any Operating Authority only apply to Sewage Works within the Authorized System where they are responsible for the operation.
- 2.3 The Owner, Prescribed Persons, and Operating Authority shall take all reasonable steps to minimize and ameliorate any Adverse Effect on the Natural Environment or impairment of the quality of water of any waters resulting from the operation of the Authorized System, including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.

3.0 Operations and Maintenance

3.1 Inspection

3.1.1 The Owner shall ensure that all Sewage Works within the Authorized System are inspected at the frequency and in accordance with procedures set out in their O&M Manual.

3.1.2 The owner shall ensure that:

a) Any Stormwater Management Facilities, pumping stations, and any outlets that discharge to a receiver, are inspected at least once before December 31, 2026, if these have not been inspected since January 1, 2018 and thereafter as required by the O&M Manual; and

b) Any Stormwater Management Facilities, pumping stations, and any outlets that discharge to a receiver, established, or replaced within the Authorized System after the date of issuance of this Approval, are inspected within one year of being placed into service and thereafter as required by the O&M Manual.

3.1.3 The Owner shall clean and maintain Sewage Works within the Authorized System to ensure the Sewage Works perform as designed.

3.1.4 The Owner shall inspect the Stormwater Management Facilities in the Authorized System after significant flooding events as defined in, and in accordance with procedures documented in, the O&M Manual.

3.1.5 The Owner shall maintain records of the results of the inspections required in condition 3.1.1, 3.1.2 and 3.1.4 and any cleaning and maintenance operations undertaken, and shall make available the records for inspection by the Ministry upon request. The records shall include the following:

a) Asset ID and name of the Sewage Works;

b) Date and results of each inspection, maintenance, or cleaning;

c) Name of person who conducted the inspection, maintenance, or the name of the inspecting official, where applicable, and

- d) As applicable to the type of works, observations resulting from the inspection including, at a minimum:
 - i Hydraulic operation of the works (e.g., length of occurrence since the last rainfall event, evidence or occurrence of overflows).
 - ii Condition of vegetation in and around the works.
 - iii Occurrence of obstructions at the inlet and outlet of the works.
 - iv Evidence of spills and/or oil/grease contamination.
 - v Presence of trash build-up, and
 - vi Measurements of other parameters as required in the Monitoring Plan.

3.2 Operations & Maintenance (O&M) Manual

3.2.1 The Owner shall prepare and implement an operations and maintenance manual for Sewage Works within the Authorized System on or before March 3, 2025, that includes or references, but is not necessarily limited to, the following information:

- a) Procedures for the routine operation of the Sewage Works;
- b) Inspection programs, including the frequency of inspection, and the methods or tests employed to detect when maintenance is necessary, including:
 - i Presence of algae and/or invasive species impairing the Works (e.g., phragmites, goldfish);
 - ii Measurements of sediment depth, manual water levels (staff gauge) and/or visual observations, as appropriate to the Stormwater Management Facilities.
- c) Maintenance and repair programs, including:
 - i The frequency of maintenance and repair for the Sewage Works;
 - ii Stormwater pond sediment cleanout, dewatering, and management;

- iii Excavation, modification, replacement of LID soil/media/aggregate/geotextile, such as bioretention cells, green roof, permeable pavement; and
 - iv The frequency of maintenance for any other Stormwater Management Facilities identified in Schedule B that collect sediment.
- d) Operational and maintenance requirements to protect sources of drinking water, such as those included in the Standard Operating Policy for Sewage Works, and any applicable local Source Protection Plan policies;
 - e) Procedures for routine physical inspection and calibration of monitoring equipment or components in accordance with the Monitoring Plan;
 - f) Emergency Response, Spill Reporting and Contingency Plans and Procedures for dealing with Equipment breakdowns, potential Spills, and any other abnormal situations, including notification to the SAC, the Medical Officer of Health, and the District Manager, as applicable;
 - g) Procedures for receiving, responding, and recording public complaints, including recording any follow-up actions taken; and
 - h) As-built drawings or record drawings of the Sewage Works.
- 3.2.2 The Owner shall review and update the O&M Manual and ensure that access to a copy is available at each Stormwater Management Facility for the operational life of the works.
- 3.2.3 The Owner shall provide a copy of the O&M Manual to Ministry staff, upon request.
- 3.2.4 The Owner shall revise the O&M Manual to include procedures necessary for the operation and maintenance of any Sewage Works within the Authorized System that are established, altered, extended, replaced, or enlarged after the date of issuance of this approval prior to placing into service those Sewage Works.
- 3.2.5 For greater certainty, the O&M Manual may be a single document or a collection of documents that, when considered together, apply to all parts of the Authorized System.
- 3.3 On or before March 3, 2026, the Owner shall establish signage to notify the public at any Stormwater Management Facility identified in Schedule B that

is a wet pond, dry pond, hybrid Facility, or engineered wetland. The signage shall include the following minimum information:

- 3.3.1 Identification that the site contains a Stormwater Management Facility;
 - 3.3.2 Identification of potential hazards and limitations of water use, as applicable;
 - 3.3.3 Identification of the purpose of the Facility;
 - 3.3.4 ECA approval number and/or asset ID; and
 - 3.3.5 Owner's contact information.
- 3.4 Prior to any maintenance of Sewage Works comprising the Authorized System, the Owner shall ensure that all applicable permits or authorizations have been obtained from Federal or Provincial agencies having legislative mandates relating to species at risk or water resources.

4.0 Monitoring Plan

- 4.1 On or before March 3, 2025 or within twenty-four (24) months of the date of the publication of the Ministry's monitoring guidance, whichever is later, the Owner shall develop and implement a monitoring plan for the Authorized System. The monitoring plan shall be:
- 4.1.1 Signed and approved by management with the authority delegated by the Owner to do so;
 - 4.1.2 Peer-reviewed by a third-party Qualified Person (QP), external to the development of the Monitoring Plan, to verify the adequacy of the Monitoring Plan in complying with conditions 4.4 and 4.5 of Schedule E. The results of the peer review shall include:
 - a) Written confirmation from the QP that they have the experience and qualifications to carry out the work; and
 - b) Written confirmation from the QP of the adequacy of the Monitoring Plan.
- 4.2 The Owner, or a QP designated by the Owner, may jointly develop the Monitoring Plan in partnership with Owner(s) of other Municipal Stormwater Management Systems as long as the Municipal Stormwater Management Systems are within the same watershed.
- 4.3 The Owner shall ensure the Monitoring Plan is implemented and any resulting monitoring data is recorded in an electronic database.

- 4.4 The Monitoring Plan shall include:
- 4.4.1 Procedures to verify that the operational performance of the Authorized System is as designed/planned;
 - 4.4.2 Procedures to assess the environmental impact of the Municipal Stormwater Management System; and
 - 4.4.3 Procedures for any corrective action that may be required to address any performance deficiencies or environmental impacts identified from above conditions 4.4.1 or 4.4.2.
- 4.5 The Monitoring Plan shall also include, but not be limited to:
- 4.5.1 Identification of the Sewage Works to be monitored, including outlets and any works that provide quality and/or quantity control;
 - 4.5.2 Identification of the key receivers to be monitored within the Owner's municipal boundaries and the monitoring locations;
 - 4.5.3 Consideration of relevant municipal land use and environmental planning documents (e.g., Stormwater Management Master Plan, Class Environmental Assessment Project, asset management plan, subwatershed studies, and planned development);
 - 4.5.4 Characterization of water quality and quantity conditions and identification of water users to be protected, based on conditions 4.5.2 and 4.5.3;
 - 4.5.5 Identification of water quality and quantity goals, as it relates to Stormwater management, using the information collected in condition 4.5.4;
 - 4.5.6 Identification of locations of rainfall gauges to be used;
 - 4.5.7 Identification of inspections, measurements, sampling, analysis and/or other monitoring activities that were used as the basis for or will inform future updates to the procedures identified in condition 4.4.
 - 4.5.8 Details respecting a monitoring program for the works and the receivers, that includes, at a minimum:
 - a) Hydrological, chemical, physical, and biological parameters, as appropriate, in alignment with the goals;
 - b) Ensures water level of the Stormwater Measurement Facilities, excluding MTDs, are measured at regular intervals with a water level gauge;

- c) Monitoring methodology, including the frequency and protocols for sampling, analysis, and recording, with consideration of dry and wet weather events and timing of sampling during wet weather events.
 - d) Ensures that the time of all samples or measurements are recorded.
- 4.5.9 An implementation plan for the monitoring program that identifies timelines and, if the monitoring occurs on a rotational basis, provides a description of the rotational schedule and associated works.
- 4.5.10 Includes a summary of all monitoring data along with an interpretation of the data and any conclusion drawn from the data evaluation about the need for future modifications to the Authorized System or system operations, and
- 4.5.11 Consideration of adaptive management practices (e.g., evidence-based decision making).
- 4.6 The Owner shall ensure that the Monitoring Plan is updated where necessary within twelve (12) months of any Alteration to the Authorized System, or more frequently as required by the Monitoring Plan.
- 4.7 The Owner shall, on request and without charge, provide a copy of the Monitoring Plan and any resulting monitoring data to members of the public.

5.0 Reporting

- 5.1 The Owner shall, upon request, make all available manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.
- 5.2 The Owner shall prepare an annual performance report for the Authorized System that:
- 5.2.1 Is submitted to the Director on or before April 30th of each year and covers the period from January 1st to December 31st of the preceding calendar year.
 - a) For clarity, the first report shall cover the period of July 1, 2023 to December 31st, 2023 and be submitted to the Director on or before April 30th, 2024.
 - 5.2.2 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;

- 5.2.3 Includes a summary and interpretation of environmental trends based on all monitoring information and data for the previous five (5) years, if available;
 - 5.2.4 Includes a summary of any operating problems encountered and corrective actions taken;
 - 5.2.5 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;
 - 5.2.6 Includes a summary of the calibration and maintenance carried out on all monitoring equipment;
 - 5.2.7 Includes a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints;
 - 5.2.8 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;
 - 5.2.9 Includes a summary of all Spills or abnormal discharge events;
 - 5.2.10 Includes a summary of actions taken, including timelines, to improve or correct performance of any aspect of the Authorized System; and
 - 5.2.11 Includes a summary of the status of actions for the previous reporting year.
- 5.3 The report described in condition 5.2 shall be:
- 5.3.1 Made available, on request and without charge, to members of the public who are served by the Authorized System; and
 - 5.3.2 Made available, by June 1st of the same reporting year, to members of the public without charge by publishing the report on the Internet, if the Owner maintains a website on the Internet.

6.0 Record Keeping

- 6.1 The Owner shall retain for a minimum of ten (10) years from the date of their creation:
 - 6.1.1 All records, reports and information required by this Approval and related to or resulting Alterations to the Authorized System, and

- 6.1.2 All records, report and information related to the operation, maintenance and monitoring activities required by this Approval.
- 6.2 The Owner shall update, within twelve (12) months of any Alteration to the Authorized System being placed into service, any drawings maintained for the Municipal Stormwater Management System to reflect the Alteration of the Sewage Works, where applicable.

7.0 Review of this Approval

- 7.1 No later than the date specified in Condition 1 of Schedule A of this Approval, the Owner shall submit to the Director an application to have the Approval reviewed. The application shall, at minimum:
 - 7.1.1 Include an updated description of the Sewage Works within the Authorized System, including any Alterations to the Sewage Works that were made since the Approval was last issued; and
 - 7.1.2 Be submitted in the manner specified by Director and include any other information requested by the Director.

8.0 Source Water Protection

- 8.1 The Owner shall ensure that any Alteration in the Authorized System is designed, constructed, and operated in such a way as to be protective of sources of drinking water in Vulnerable Areas as identified in the Source Protection Plan, if available.
- 8.2 The Owner shall prepare a “Significant Drinking Water Threat Assessment Report for Proposed Alterations” for the Authorized System on or before March 3, 2024 that includes, but is not necessarily limited to:
 - 8.2.1 An outline of the circumstances under which proposed Alterations could pose a Significant Drinking Water Threat based on the Director’s Technical Rules established under the CWA.
 - 8.2.2 An outline of how the Owner assesses the proposed Alterations to identify drinking water threats under the CWA.
 - 8.2.3 For any proposed Alteration a list of components, equipment, or Sewage Works that are being altered and have been identified as a Significant Drinking Water Threat.
 - 8.2.4 A summary of design considerations and other measures that have been put into place to mitigate risks resulting from construction or operation of the components, equipment, or Sewage Works identified in condition 8.2.3, such as those included in the Standard Operating Policy for Sewage Works.

- 8.3 The Owner shall make any necessary updates to the report required in condition 8.2 at least once every twelve (12) months.
- 8.4 Any components, equipment, or Sewage Works added to the report required in condition 8.2 shall be include in the report for the operational life of the Sewage Works.
- 8.5 Upon request, the Owner shall make a copy of the report required in condition 8.2 available to the Ministry or Source Protection Authority staff.

9.0 Storm Sewer Catchment Asset Inventory

- 9.1 The Owner shall prepare and submit to the Director an inventory of the storm sewersheds and classify in accordance with Tables E1 and E2, on or before March 3, 2026. Minimum classification of the level of Stormwater management is as follows:
- 9.1.1 Level A – Stormwater receives treatment for water quality and quantity prior to discharge to the environment;
- 9.1.2 Level B – Stormwater receives treatment for water quality but no water quantity prior to discharge to the environment; and
- 9.1.3 Level C – Stormwater receives no treatment for water quality prior to discharge to the environment.

Outlet Asset ID	Sewershed Catchment Area (ha)	Tributary or Receiver	Subwatershed/ Watershed	Stormwater Management Level (A, B or C)	Treatment provided by other municipality (if applicable)

Stormwater Management Level	Total Number of Outlets to Environment	Total Sewershed Catchment Area (ha)
Level A		
Level B		
Level C		

- 9.2 Within 12 (twelve) months of the date that the inventory required in condition 9.1 is submitted to the Director, the document(s) or file(s) referenced in Table B1 of Schedule B of this Approval shall be updated to

identify the storm sewersheds for each outlet and their level of Stormwater management.

Schedule F: Residue Management

System Owner	Windsor, The Corporation Of The City Of
ECA Number	318-S701
System Name	Municipal Stormwater Management System
ECA Issue Date	February 16th, 2024

1.0 Residue Management System

1.1 Not Applicable.

Appendix A – Stormwater Management Criteria

1.0 Applicability of Criteria

- 1.1 The criteria listed under Table A1 of this Appendix applies to all drainage areas greater than 0.2 ha, with the construction erosion and sediment control criteria applying also to sites <0.1 ha;
- 1.2 Despite condition 1.1 of Appendix A, if some or all of the criteria listed under Table A1 of this Appendix have been assessed for and addressed in other adjacent developed lands to the project site through a subwatershed plan or equivalent study, then those criteria may not be applicable to the project site.

Table A1. Performance Criteria

Water Balance ^[1]	<p>FOR DEVELOPMENT SCENARIOS ^[2]</p> <p>Assessment Studies:</p> <p>i) Control ^[3] as per the criteria identified in the water balance assessment completed in one or more of the following studies ^[15], if undertaken: a watershed/subwatershed plan; Source Protection Plan (Assessment Report component); Master Stormwater Management Plan, Master Environmental Servicing Plan; Class EA, or similar approach that transparently considers social, environmental and financial impacts; or local site study including natural heritage, Ecologically significant Groundwater Recharge Areas (EGRA), inflow and infiltration strategies. The assessment should include sufficient detail to be used at a local site level and consistent with the various level of studies; OR</p> <p>IF Assessment Studies in i) NOT completed:</p> <p>ii) Control ^[3] the recharge ^[4] to meet Pre-development ^[5] conditions on property; OR</p> <p>iii) Control ^[3] the runoff from the 90th percentile storm event.</p> <p>Lake Simcoe Watershed Municipalities:</p> <p>iv) Control ^[3] as per the evaluation of anticipated changes in water balance between Pre-development and post-development assessed through a Stormwater management plan in support of an application for Major Development ^[6]. The assessment should include sufficient detail to be used at a local site level. If it is demonstrated, using the approved water balance estimation methods ^[7], that the site’s post to Pre-development water balance cannot be met, and Maximum Extent Possible ^[8] has been attained, the proponent may use Lake Simcoe and Region Conservation Authority’s (LSRCA) Recharge Compensation Program ^[9].</p> <p>FOR RETROFIT SCENARIOS ^[10]</p> <p>Assessment Studies:</p> <p>i) Control as per criteria identified in the water balance assessment completed in one or more of the following studies: a watershed/subwatershed plan, Source Protection Plan (Assessment Report component), Master Stormwater Management Plan, Master Environmental Servicing Plan,</p>
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	<p>Class EA, or local site study including natural heritage, EGRA, inflow and infiltration strategies, if undertaken. The assessment should include sufficient detail to be used at a local site level and consistent with the various level of studies; OR</p> <p>ii) If constraints ^[11] identified in i), then control ^[3] as per Maximum Extent Possible ^[8] based on environmental site feasibility studies or address local needs^[14].</p> <p>IF Assessment Studies in i) NOT completed:</p> <p>iii) Control ^[3] the recharge ^[4] to meet Pre-development ^[5] conditions on property; OR</p> <p>iv) Control ^[3] the runoff from the 90th percentile storm event.</p>
<p>Water Quality ^[1]</p>	<p>FOR DEVELOPMENT SCENARIOS ^[2]</p> <p>All of the following criteria must be met for development scenarios:</p> <p>General:</p> <p>i) Characterize the water quality to be protected and Stormwater Contaminants (e.g., suspended solids, nutrients, bacteria, water temperature) for potential impact on the Natural Environment, and control as necessary, OR</p> <p>ii) As per the watershed/subwatershed plan, similar area-wide Stormwater study, or Stormwater management plan to minimize, or where possible, prevent increases in Contaminant loads and impacts to receiving waters.</p> <p>Suspended Solids:</p> <p>i) Control ^[3] 90th percentile storm event and if conventional methods are necessary, then enhanced, normal, or basic levels of protection (80%, 70%, or 60% respectively) for suspended solids removal (based on the receiver).</p> <p>Phosphorus:</p> <p>i) Minimize existing phosphorus loadings to Lake Erie and its tributaries, as compared to 2018 or conditions prior to the proposed development, OR</p> <p>ii) Minimize phosphorus loadings to Lake Simcoe and its tributaries. Proponents with development sites located in the Lake Simcoe watershed shall evaluate anticipated changes in phosphorus loadings between Pre-development and post-development through a Stormwater management plan in support of an application for Major Development ^[6]. The assessment should include sufficient detail to be used at a local site level. If, using the approved phosphorus budget tool ^[12], it is demonstrated that the site's post to Pre-development phosphorus budget cannot be met, and Maximum Extent Possible ^[8] has been attained, the proponent may use LSRCA's Phosphorus Offsetting Policy ^[9].</p> <p>FOR RETROFIT SCENARIOS ^[10]</p> <p>i) Improve the level of water quality control currently provided on site; AND</p> <p>ii) As per the 'Development' criteria for Suspended Solids, OR</p> <p>iii) If 'Development' criteria for Suspended Solids cannot be met, Works are designed as a multi-year retrofit project, in accordance with a rehabilitation study or similar area-wide Stormwater study, such that the completed treatment train will achieve the 'Development' criteria for Suspended Solids or local needs^[14], within ten (10) years; OR</p>

<p>Erosion Control (Watershed) ^[1]</p>	<p>iv) If constraints ^[11] identified in ii) and iii), then control ^[3] as per Maximum Extent Possible ^[8] based on environmental site feasibility studies.</p> <p>FOR DEVELOPMENT SCENARIOS ^[8]</p> <p>i) As per erosion assessment completed in watershed/subwatershed plan, Master Stormwater Management Plan, Master Environmental Servicing Plan, Drainage Plan, Class EA, local site study, geomorphologic study, or erosion analysis; OR</p> <p>ii) As per the Detailed Design Approach or Simplified Design Approach methods described in the Stormwater Management Planning and Design Manual:</p> <p>a. The Detailed Design Approach may be selected by the proponent for any development regardless of size and location within the watershed provided technical specialists are available for the completion of the technical assessments; or considered more appropriate than the simplified approach given the size and location of the development within the watershed and the sensitivity of the receiving waters in terms of morphology and habitat function.</p> <p>b. The Simplified Design Approach may be adopted for watersheds whose development area is generally less than twenty hectares AND either one of the following two conditions apply:</p> <p>1) The catchment area of the receiving channel at the point-of-entry of Stormwater drainage from the development is equal to or greater than twenty-five square kilometres; or</p> <p>2) Meets the following conditions:</p> <ul style="list-style-type: none"> <input type="checkbox"/> The channel bankfull depth is less than three quarters of a metre; <input type="checkbox"/> The channel is a headwater stream; <input type="checkbox"/> The receiving channel is not designated as an Environmentally Sensitive Area (ESA) or Area of Natural or Scientific Interest (ANSI) and does not provide habitat for a sensitive aquatic species; <input type="checkbox"/> The channel is stable to transitional; and <input type="checkbox"/> The channel is slightly entrenched; OR <p>iii) In the absence of a guiding study, detain at minimum, the runoff volume generated from a 25 mm storm event over 24 to 48 hours.</p> <p>FOR RETROFIT SCENARIOS ^[10]</p> <p>i) If approaches i-iii) under ‘Development Scenarios’ are not feasible as per identified constraints ^[11], then improve the level of erosion control ^[3] currently provided on site to Maximum Extent Possible ^[8] based on environmental site feasibility studies or address local needs^[14].</p>
<p>Water Quantity (Minor and Major System) ^[1]</p>	<p>i) As per municipal standards, Master Stormwater Management Plan, Class EA, Individual EA and/or ECA, as appropriate for the type of project ^[13]</p>
<p>Flood Control (Watershed Hydrology) ^[1]</p>	<p>FOR DEVELOPMENT SCENARIOS ^[2]</p> <p>i) Manage peak flow control as per watershed/subwatershed plans, municipal criteria being a minimum 100 year return storm (except for site-specific considerations and proximity to receiving water bodies), municipal guidelines and standards, Individual/Class EA, ECA, Master Plan, as appropriate for the type of project ^[13].</p>

	<p>FOR RETROFIT SCENARIOS ^[10]</p> <p>i) If approaches i) under ‘Development Scenarios’ are not feasible as per identified constraints ^[11], then improve the level of flood control ^[3] currently provided on site to Maximum Extent Possible ^[8] based on environmental site feasibility studies.</p>
<p>Construction Erosion and Sediment Control</p>	<p>i) Manage construction erosion and sediment control through development and implementation of an erosion and sediment control (ESC) plan. The ESC plan shall:</p> <ul style="list-style-type: none"> a. Have regard to Canadian Standards Association (CSA) W202 Erosion and Sediment Control Inspection and Monitoring Standard (as amended); b. Have regard to the Erosion and Sediment Control Guideline for Urban Construction 2019 by TRCA; OR c. Have regard to the Windsor Essex Region Stormwater Management Standards Manual. <p>ii) Be prepared by a QP for sites with drainage areas greater than 5 ha or if specified by the Owner for a drainage lower than 5 ha.</p> <p>iii) Installation and maintenance of the ESC measures specified in the ESC plan shall have regard to CSA W208:20 Erosion and Sediment Control Installation and Maintenance (as amended).</p> <p>iv) For sites with drainage areas greater than 5 ha, a QP shall inspect the construction ESC measures, as specified in the ESC plan.</p>
<p>Footnote</p>	<ol style="list-style-type: none"> 1. Where the opportunity exists on your project site or the same subwatershed, reallocation of development elements may be optimal for management as described in footnote ^[3]. 2. Development includes new development, redevelopment, infill development, or conversion of a rural cross-section into an urban cross-section. 3. Stormwater volumes generated from the geographically specific 90th percentile rainfall event on an annual average basis from all surfaces on the entire site are targeted for control. Control is in the following hierarchical order, with each step exhausted before proceeding to the next: 1) retention (infiltration, reuse, or evapotranspiration), 2) LID filtration, and 3) conventional Stormwater management. Step 3, conventional Stormwater management, should proceed only once Maximum Extent Possible ^[8] has been attained for Steps 1 and 2 for retention and filtration. 4. Recharge is the infiltration and movement of surface water into the soil, past the vegetation root zone, to the zone of saturation, or water table. 5. Pre-development is defined as the more stringent of the two following scenarios: 1) a site’s existing condition, or 2) as defined by the local municipality. 6. Major Development has the same meaning as in the Lake Simcoe Protection Plan, 2009. 7. Currently, the approved tool by LSRCA for calculating the water balance is the Thornthwaite-Mather Method. Other tools agreed upon by relevant approval agencies (e.g., LSRCA, municipality, or Ministry) may also be acceptable, subject to written acceptance by the Director. 8. Maximum Extent Possible means maximum achievable Stormwater volume control through retention and LID filtration engineered/landscaped/technical Stormwater practices, given the site constraints ^[11]. 9. Information pertaining to LSRCA’s Recharge Compensation Program and Phosphorus Offsetting Policy is available on LSRCA’s website (lsrca.on.ca), or in “Water Balance Recharge Policy for the Lake Simcoe Protection Plan”, dated July 2021, and prepared by Lake Simcoe Region Conservation Authority and “Phosphorus Offsetting Policy”, dated July 2021, and prepared by Lake Simcoe Region Conservation

	<p>Authority.</p> <p>10. Retrofit means: 1) a modification to the management of the existing infrastructure, 2) changes to major and minor systems, or 3) adding Stormwater infrastructure, in an existing area on municipal right-of-way, municipal block, or easement. It does not include conversion of a rural cross-section into an urban cross-section.</p> <p>11. Site constraints must be documented. A list of site constraints can be found in Table A2.</p> <p>12. Tools for calculating phosphorus budgets may include the Ministry’s Phosphorus Tool, the Low Impact Development Treatment Train Tool developed in partnership by TRCA, LSRCA, and Credit Valley Conservation (CVC), or other tools agreed upon by the LSRCA and other relevant approval agencies including the municipality.</p> <p>13. Possible to look at combined grey infrastructure and LID system capacity jointly.</p> <p>14. Local needs include requirements for water quality, erosion, and/or water balance retrofits identified by the owner through ongoing operation and maintenance of the stormwater system, including inspection of local receiving systems and the characterization of issues requiring remediation through retrofit controls.</p> <p>15. All studies shall conform with Ministry policies. If any conclusions in the studies negate policy, then the project will require a direct submission to the Ministry for review through an application pertaining to a Schedule C Notice.</p>
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Table A2. Stormwater Management Practices Site Constraints

Site Constraints	
a)	Shallow bedrock ^[1] , areas of blasted bedrock ^[2] , and Karst;
b)	High groundwater ^[1] or areas where increased infiltration will result in elevated groundwater levels which can be shown through an appropriate area specific study to impact critical utilities or property (e.g., susceptible to flooding);
c)	Swelling clays ^[3] or unstable sub-soils;
d)	Contaminated soils (e.g., brownfields);
e)	High Risk Site Activities including spill prone areas;
f)	Prohibitions and or restrictions per the approved Source Protection Plans and where impacts to private drinking water wells and /or Vulnerable Domestic Well Supply Areas cannot be appropriately mitigated;
g)	Flood risk prone areas or structures and/ or areas of high inflow and infiltration (I/I) where wastewater systems (storm and sanitary) have been shown through technical studies to be sensitive to groundwater conditions that contribute to extraneous flow rates that cause property flooding / Sewer back-ups;
h)	For existing municipal rights-of-way infrastructure (e.g., roads, sidewalks, utility corridor, Sewers, LID, and trails) where reconstruction is proposed and where surface and subsurface areas are not available based on a site-specific assessment completed by a QP;
i)	For developments within partially separated wastewater systems where reconstruction is proposed and where, based on a site-specific assessment completed by a QP, can be shown to: <ul style="list-style-type: none"> i Increase private property flood risk liabilities that cannot be mitigated through design;

ii	Impact pumping and treatment cost that cannot be mitigated through design; or
iii	Increase risks of structural collapse of Sewer and ground systems due to infiltration and the loss of pipe and/or pavement support that cannot be mitigated through design.
j)	Surface water dominated or dependent features including but not limited to marshes and/or riparian forest wetlands which derive all or a majority of their water from surface water, including streams, runoff, and overbank flooding. Surface water dominated or dependent features which are identified through approved site specific hydrologic or hydrogeologic studies, and/or Environmental Impact Statements (EIS) may be considered for a reduced volume control target. Pre-consultation with the MECP and local agencies is encouraged;
k)	Existing urban areas where risk to water distribution systems has been identified through assessments to meet applicable drinking water requirements, including Procedures F-6 and F-6-1, and substantiated by a QP through an appropriate area specific study and where the risk cannot be reasonably mitigated per the relevant design guidelines;
l)	Existing urban areas where risk to life, human health, property, or infrastructure has been identified and substantiated by a QP through an appropriate area specific study and where the risk cannot be reasonably mitigated per the relevant design guidelines;
m)	Water reuse feasibility study has been completed to determine non-potable reuse of Stormwater for onsite or shared use;
n)	Economic considerations set by infrastructure feasibility and prioritization studies undertaken at either the local/site or municipal/system level ^[4] .

Footnote:

1. May limit infiltration capabilities if bedrock and groundwater is within 1m of the proposed Facility invert per Table 3.4.1 of the LID Stormwater Planning and Design Guide (2010, V1.0 or most recent by TRCA/CVC). Detailed assessment or studies are required to demonstrate infiltration effects and results may permit relaxation of the minimum 1m offset.
2. Where blasting is more localized, this constraint may not be an issue elsewhere on the property. While infiltration-based practices may be limited in blasted rock areas, other forms of LID, such as filtration, evapotranspiration, etc., are still viable options that should be pursued.
3. Swelling clays are clay soils that is prone to large volume changes (swelling and shrinking) that are directly related to changes in water content.
4. Infrastructure feasibility and prioritization studies should comprehensively assess Stormwater site opportunities and constraints to improve cost effectiveness, environmental performance, and overall benefit to the receivers and the community. The studies include assessing and prioritizing municipal infrastructure for upgrades in a prudent and economically feasible manner.