Ontario

ENVIRONMENTAL COMPLIANCE APPROVAL
For a Municipal Stormwater Management System

ECA Number: 151-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:

Belleville, The Corporation of the City of

169 Front St
Belleville, ON K8N 2Y8

For the following Sewage Works:

Belleville 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 29th day of January, 2023

Signature

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

Schedule A: System Information

System Owner	**Belleville, The Corporation of the City of**
ECA Number	**151-S701**
System Name	**Belleville Stormwater Management System**
ECA Issue Date	**January 29th, 2023**

1.0 ECA Information and Mandatory Review Date

ECA Issue Date	January 29th, 2023
Application for ECA Review Due Date	December 15, 2027

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 Forcemains for Alterations Authorized under Environmental Compliance Approval	v.1.1 (Jan 23, 2023)

3.0 Stormwater Master Plan and Asset Management Plan

Document Title	Version
City of Belleville Asset Management Plan	v.1 (June 2022)
Flood Plain and Water Management Study – Bell Creek	v.1 (March 1984)
Bell Creek Flood Plain Mapping Master Drainage Plan	v.1 (November 1989)
Master Drainage Plan – Canniff Mill Estate Sub-Watershed	v.1 (December 15, 1997)
Potter Creek Master Drainage Plan	v.1 (January 25, 2008)
Final Drainage Report – Upper No Name Creek	v.1 (March 1998)
Stormwater Management Study for Nor-Belle Developments Inc.	v.1 (May 1996)
Stormwater Management Study for Cannifton Industrial Park and Environs	v.1 (August 1996)
Potter Creek Subwatershed Plan	v.1. (November 1994)

4.0 Operating Authority

System	Operating Authority
Belleville Stormwater Management System	The Corporation of the City of Belleville

Schedule B: Municipal Stormwater Management System Description

System Owner	**Belleville, The Corporation of the City of**
ECA Number	**151-S701**
System Name	**Belleville Stormwater Management System**
ECA Issue Date	**January 29th, 2023**

1.0 System Description

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

Overview

The Belleville Stormwater Management (SWM) System, serving the City of Belleville's drainage area, is a separate system for stormwater (i.e. designed not to convey sanitary sewage or combined sewage) within various watersheds/subwatersheds. The Belleville SWM System consists of storm sewers (including appurtenances such as maintenance holes and catchbasins), a stormwater pumping station, culverts, ditches/swales, stormwater management facilities (ponds, oil and grit separators, leveling swales, etc.) and outlets/outfalls.

This ECA covers the entire Municipal Stormwater Management System owned and operated by the City of Belleville. This ECA does not cover municipally or privately owned sewage works on industrial, commercial or institutional land.

This Municipal Stormwater Management System includes various stormwater management facilities as summarized in the following sections.

Sewage Collection System

1.2 The Authorized System comprises:

1.2.1 The sewers, forcemains, pumping stations and storage structures 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
STM-01	Sept. 28, 2022

STM-02	Sept. 28, 2022
STM-03	Sept. 28, 2022
STM-04	Sept. 28, 2022
STM-05	Sept. 28, 2022
STM-06	Sept. 28, 2022
STM-07	Sept. 28, 2022
STM-08	Sept. 28, 2022
STM-09	Sept. 28, 2022
STM-10	Sept. 28, 2022
STM-Index	Sept. 28, 2022
STM-Watersheds	Sept. 28, 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:

Table B2. Stormwater Collection System by Diameter

System Type	Pipe Diameter (mm)	Length (km)	System Totals (km)
Storm Sewers	Up to 250	7.02	--
Storm Sewers	> 250 - 500	96.45	--
Storm Sewers	> 500 - 1050	54.66	--
Storm Sewers	> 1050	10.44	--
Total Storm Sewers		--	168.57
Ditches / Swales	NA		3.62
Culverts			0.21
Total System Length (km)		--	172.40

Table B3. Summary of Stormwater Management Facilities by Type and Pumping Stations							
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)							
LID Facilities - Filtration				2	2	2	2
Stormwater Management Ponds – Wet (includes wetlands, hybrids)			10	8	18	18	19
Stormwater Management Ponds - Dry				1	1	4	4
Super Pipe / Storage Facility							
Filtration MTD - Filter Unit							
Sedimentation MTD - OGS		2	11	13			26
Pumping Stations							1
Other							
Total Number of Facilities		2	21	24	21	24	52

* 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		N/A	
Third Pipe Sewer	> 250 - 500		N/A	
Third Pipe Sewer	> 500		N/A	
Total				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)
N/A		

* 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:

Academy Place Dry Pond (ACP)

Location	44.208663, -77.387869
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Surface discharge to existing ditch, then immediately to existing Cannifton Road North 500 mm Culvert
Outlet location	44.208522, -77.388080
Catchment Area	1.38 ha
Level of Treatment for suspended solids	N/A
Treatment for other contaminants, as required	N/A
Level of Volume control	Quantity: Attenuate post-development flows to pre-development levels for up to 100-year storm.
Design Storm	Quantity: 100 yr storm,
Reference ECA(s)	2443-9CHPNA
Reference Works as part of treatment train	N/A
Brief Description	SWM Dry pond, with: x1 ditch inlet c/w rip rap x1 precast CB outlet structure c/w 105mm dia orifice connected to a 450mm dia pipe with rip rap x1 1m wide rip rap lined emergency overflow spillway to adjacent surface ditch maximum storage volume of 175m3 maximum depth of approx. 0.75m
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	.

Canniff Mills Estates 1-2 Wet Pond (CME 1-2)

Location	44.208533, -77.391647
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Storm sewer that discharges to the Moira River
Outlet location	44.207680, -77.392372
Catchment Area	74.4 ha
Level of Treatment for suspended solids	Level 1 (80%, Enhanced) Long-term suspended solids removal
Treatment for other contaminants, as required	
Level of Volume control	Unknown
Design Storm	Quality: 100 year 6 hour SCS
Reference ECA(s)	1777-5ZDKRG 3-1322-98-006
Reference Works as part of treatment train	N/A
Brief Description	Extended detention wet pond comprised of two (upper and lower) cells, with: X1 splitter manhole to direct flow up to 1.0 m/s into the sediment forebay and divert higher flows to the Moira River X1 7.0 m wide storm bypass channel to direct overland flows to the Moira River Upper Cell of 5000m3 total volume and 700m3 extended detention, with: X1 submerged, 1350 mm dia storm sewer inlet c/w rip-rap X1 355 m^3 sediment forebay with submerged berm X1 overflow spillway c/w geoweb lining X1 900 mm dia outlet pipe to convey flow to the lower cell Lower Cell of 6000m3 total volume and 2300m3 extended detention, with: X1 300mm dia storm sewer inlet X1 overflow spillway c/w geoweb lining X1 Pond Outlet, including: -concrete headwall -300mm dia reverse sloped pipe with 75mm dia orifice at control structure -450mm dia maintenance pipe with gate valve at control structure

	-discharging flow to a 750mm dia storm sewer
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

College Street East Wet Pond (CSE)

Location	44.188238, -77.347043
Watershed/Subwatershed	Bay of Quinte/Bell Creek
Receiver of discharge	Surface discharge to tributary swale that drains to Bell Creek.
Outlet location	44.187795, -77.347101
Catchment Area	42.2 ha, 57% impervious
Level of Treatment for suspended solids	Level 1 (80%, Enhanced) Long-term suspended solids removal
Treatment for other contaminants, as required	
Level of Volume control	Quantity: attenuate post-development peak flows to pre-development levels for all storms up to the 100-year storm Erosion: minimum 24 hour detention of a 25mm storm
Design Storm	Quantity: up to the 100 year storm (6-hour, Chicago distribution) Quality: unknown
Reference ECA(s)	2327-923SKB
Reference Works as part of treatment train	N/A
Brief Description	Wet pond with 25,677m^3 total volume, including 7,114m^3 permanent volume and 6,898m^3 extended detention volume, with: X2 inlets including one 750mm dia CSP culvert and one 1350mm dia pipe c/w concrete headwall X1 sediment drying area, approx. 1300m^2 X1 forebay with riprap berm, including a 300mm dia bottom drain pipe. X1 emergency outlet, comprised of a 25m wide x 350mm deep emergency spillway, discharging water to an existing swale. X1 outlet, comprised of a 600mm dia reverse slope inlet pipe from the pond bottom sump leading to a 3000mm dia outlet control structure and a 1500mm diameter outlet pipe discharging to swale. Outlet control includes 250mm dia vertical orifice built in a baffle wall with a 1500mm wide x 1.10m deep weir.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Foster Park (Newberry) Wet Pond (FPK)

Location	44.159049, -77.371041
Watershed/Subwatershed	Bay of Quinte/Bay of Quinte
Receiver of discharge	Outlet pipe discharges to the Bay of Quinte
Outlet location	44.158817, -77.370962
Catchment Area	22.2 ha
Level of Treatment for suspended solids	unknown
Treatment for other contaminants, as required	N/A
Level of Volume control	Unknown
Design Storm	Quality: 5 yr Event
Reference ECA(s)	3-1317-95-006
Reference Works as part of treatment train	N/A
Brief Description	Wet pond with 2520 m^3 storage volume, with: Inlet: X1 inlet diversion chamber, measuring 3.05m L x 1.83m W by 1.4m H located immediately north of the pond, with the following components: • X2 1.27m by 0.79 m arch storm sewer connected to the north and south ends of the diversion chamber • X1 750mm dia outlet pipe, conveying flows to the pond • X1 Branching from the arch storm sewer to the 750mm pipe serving as an overflow weir with crest elevation of 75.5m, limiting storm flow of 300L/s to the pond. Outlet: X1 outlet chamber measuring 3.0m L x 1.2m W by 1.95m H constructed at the south end of the pond, with the following components: • X1 200mm dia orifice at an invert elevation of 74.2 to limit discharge rates to 300L/s • X1 600mm dia outlet pipe with invert elevation of 74.1m. • X1 1.2m long rectangular weir with crest elevation of 75.1m to discharge excess flows to the outlet pipe.
Receive Emergency Sanitary	No

Overflows	
Notes / Additional Information	

Green Acres Wet Pond (GAC)

Location	44.187952, -77.371626
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Surface discharge to existing ditch leading to the Moira River.
Outlet location	44.187880, -77.371397
Catchment Area	7.5 ha
Level of Treatment for suspended solids	Level 1 (80%, Enhanced) Long-term suspended solids removal
Treatment for other contaminants, as required	N/A
Level of Volume control	Attenuate post-development peak flows to pre-development levels.
Design Storm	Quantity: 100 yr Event Quality: unknown
Reference ECA(s)	6689-973KBK
Reference Works as part of treatment train	N/A
Brief Description	Wet pond with 2111 m^3 storage volume, including approx. 791m^3 permanent and 300m^3 extended detention volumes, including: X1 675mm dia. inlet pipe c/w concrete headwall and one riprap channel conveying sheet flow from nearby ditch X1 Emergency outlet riprapped spillway measuring 1.0m by 0.31m c/w 600mm wide weir, discharging to a ditch X1 Concrete weir outlet structure, consisting of: -x1 100mm dia low flow orifice -x2 300mm dia high flow vertical orifice pipes -600mm wide, 310mm deep weir Discharging into a 1.0m wide riprap lined ditch.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Gentlebreeze Drive Dry Pond (GBR)

Location	44.288026, -77.391888
Watershed/Subwatershed	Moira River/Chrysal Creek
Receiver of discharge	Roadside and easement ditch to Windwhisper Drive dry pond to surface
Outlet location	44.287646, -77.392174
Catchment Area	4.9 ha
Level of Treatment for suspended solids	N/A
Treatment for other contaminants, as required	N/A
Level of Volume control	Attenuate post-development flows to pre-development levels
Design Storm	Quantity: 100 yr Event
Reference ECA(s)	N/A
Reference Works as part of treatment train	WWD Pond
Brief Description	Surface storage located in road side ditches along both sides of Gentlebreeze Drive, with total available storage volume of approx. 644m^3 and a maximum ponding depth of 1.38m. Includes one outlet structure consisting of a ditch inlet catchbasin c/w 250mm dia control/outlet pipe allowing a maximum discharge of 0.147m^3/s via a swale located on Drainage Easement (on lots 19, 18, 17) and an existing roadside ditch along Windwhisper Drive.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Hearthstone Ridge Wet Pond (HSR)

Location	44.282328, -77.396790
Watershed/Subwatershed	Moira River/Chrysal Creek
Receiver of discharge	Surface discharge to adjacent wetland leading to Moira River.
Outlet location	44.281776, -77.396773
Catchment Area	17.3 ha
Level of Treatment for suspended solids	Level 1 (80%, Enhanced) Long-term suspended solids removal
Treatment for other contaminants, as required	N/A
Level of Volume control	Attenuate post-development peak flows to pre-development levels.
Design Storm	Quantity: 100 yr Event Quality: 25mm 4-hour storm event
Reference ECA(s)	8844-A8ZK9Q
Reference Works as part of treatment train	-
Brief Description	Wet pond with sediment forebay, with total storage of approx. 5460m^3, including 2205m^3 permanent pool at 1.8m depth and 2041m^3 extended detention volume, including: X2 inlet grassed swales X1 outlet with 75mm orifice on 150mm dia pipe and a riprap overflow Discharging to adjacent wetland.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Lemoine Wet Pond (LEM)

Location	44.183769, -77.405175
Watershed/Subwatershed	Moira River/No Name Creek
Receiver of discharge	Existing storm sewer system to No-Name Creek
Outlet location	44.183623, -77.404441
Catchment Area	47.2 ha
Level of Treatment for suspended solids	Level 1 (80%, Enhanced) Long-term suspended solids removal
Treatment for other contaminants, as required	N/A
Level of Volume control	Quantity: flows are controlled to 2.8m3/s for flows up to the 100 year storm.
Design Storm	Quantity: 100 yr Event Quality: 14 mm, 4 hr Event
Reference ECA(s)	2776-BK9P7S
Reference Works as part of treatment train	N/A
Brief Description	Extended detention wet pond with 24-hour drawdown and approx. 5375m^3 storage for quality improvement and 8723m^3 total active storage including: • Inlet consisting of 600mm dia pipe with concrete headwall and riprap. • Sediment forebay with approx. 750m^3 permanent storage volume, including a gravel bed and 4.9m by 2.73m concrete outlet culvert with headwalls and 1.4m wide weir discharging to approx. 20m wide and 115m long drainage channel with riprap protection at inlet and outlet ends. • Concrete wingwall with diversion weir and grating to direct runoff from major events via 600mm dia pipe to 3 cell extended detention pond. • Outlet control structure discharging to the existing storm system and No-Name Creek.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Lott Dam (Lions Park) Wet Pond (LOT)

Location	44.174273, -77.380836
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Existing ditch which drains to Moira River.
Outlet location	44.173943, -77.381130
Catchment Area	77.4 ha
Level of Treatment for suspended solids	unknown
Treatment for other contaminants, as required	N/A
Level of Volume control	Attenuate post-development flows to pre-development levels for up to a 1:100 year storm event.
Design Storm	Quantity: 100 yr Event Quality: unknown
Reference ECA(s)	3-1244-95-006
Reference Works as part of treatment train	N/A
Brief Description	Wet pond with 312 m3 forebay, active storage of 985 m3 and total storage of 1,675 m3 Including: X2 Inlet structures: 1. 1x450mm dia inlet pipe c/w concrete headwall draining to forebay. 2. 3 x 450mm dia inlet pipes draining water from drainage ditch channel. 6.0m wide weir with stoplogs diverts water into inlet pipes. X2 450mm dia pipes connecting the forebay and main cell. X1 Outlet structure comprised of: • X2 525mm dia outlet pipes leading to box manhole outflow structure • X1 300mm dia maintenance conduit leading to box manhole outflow structure, c/w sluice gate control and riser pipe with 0.01m^2 diamond-shaped orifice limiting discharge to 18.0 L/s • X2 525mm dia outlet pipes from outlet structure discharging to south ditch channel
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

McFarland Drive Wet Pond (MAC)

Location	44.185852, -77.381311
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Storm sewer system which drains to Moira River
Outlet location	44.185670, -77.380910
Catchment Area	25.0 ha
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	N/A
Level of Volume control	N/A
Design Storm	Quality: Unknown
Reference ECA(s)	3-1067-98-006
Reference Works as part of treatment train	N/A
Brief Description	Extended detention wetpond with clay liner. Total storage of 3500m^3, with permanent pool of 2500m^3 and 1000m^3 extended detention with 24 hour drawdown. Pond includes: Inlet: X1 bypass manhole with overflow weir to divert quality flows via 600mm dia pipe c/w concrete headwall to forebay. X1 submerged berm separating the forebay from the main cell. Outlet: X1 300 mm maintenance conduit leading to box manhole outlet structure, c/w gate valve and riser pipe with 0.023m2 diamond-shaped orifice limiting discharge X2 300mm dia overflow pipes leading to box manhole outlet structure X1 600mm dia outlet pipe from outlet structure discharging to storm sewer to Moira River
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Millennium Parkway Wetland (MPW)

Location	44.191310, -77.404927
Watershed/Subwatershed	Moira River/No Name Creek
Receiver of discharge	Culvert under 401 to No-Name Creek
Outlet location	44.190877, -77.405756
Catchment Area	93.52 ha
Level of Treatment for suspended solids	Level 1 (Enhanced, 80%) long-term removal of suspended solids.
Treatment for other contaminants, as required	N/A
Level of Volume control	Attenuate 100-year peak outflow to pre-development levels (a maximum of 1.4 m3/s at Highway 401 crossing)
Design Storm	Quantity: 100 yr storm Quality: 25mm storm event
Reference ECA(s)	6975-AJZQUE
Reference Works as part of treatment train	N/A
Brief Description	Stormwater wetland consisting of 3 cells, with Permanent Pool storage of 8,245 m3, Extended Detention of 18,078 m3, and maximum storage of 28,861 m3 during 100-yr event (including permanent pool), complete with: • X3 cells consisting of two forebays (west pond and east pond) and one central cell (main pond). • An inlet structure for the west pond c/w 750mm dia pipe and concrete headwall • An inlet structure for the east pond c/w 900mm dia pipe • An inlet for the east pond consisting of a 375mm dia pipe Stormwater flows from the west pond to the main pond via a 300mm dia pipe with a riprap overflow berm. Stormwater flows from the east pond to the main pond via 300mm dia pipe with riprap overflow berm. Main pond discharges via headwall and grate through a 600mm dia reverse sloped pipe at invert elevation 94.17m, controlled via 500mm via 550mm orifice structure at invert elevation 94.65m. Maintenance drawdown via 300mm dia pipe with 300mm gate valve within a box maintenance hole. Discharge is via 750mm dia pipe c/w headwall. Secondary overflow measuring 1.5m by 0.3m high within box manhole, with invert elevation 95.49m. Emergency spillway measuring 10m wide at invert elevation

	95.85m with stepped centre spillway measuring 2m at invert elevation at 95.75, at the outlet of the main cell.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Moira Street East Filter Swale (MSE1)

Location	44.1745, -77.3830
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Sub drain pipe discharges to the Moira River.
Outlet location	44.1743, -77.3831
Catchment Area	0.53ha
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Unknown
Level of Volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	3-0285-94-006
Reference Works as part of treatment train	N/A
Brief Description	X1 300mm storm sewer inlet c/w rip rap X1 levelling swale, 1.5m W x 40m L x 0.2m D with 100mm thick clear stone infiltration trench X1 100mm outlet, perforated subdrain pipe
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Moira Street East Filter Swale (MSE2)

Location	44.1761, -77.3827
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Sub drain discharges to the Moira River
Outlet location	Unknown
Catchment Area	Unknown
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Unknown
Level of Volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	3-0285-94-006
Reference Works as part of treatment train	N/A
Brief Description	X1 375mm storm sewer inlet c/w rip rap X1 levelling swale, 1.5m W x 22 m L x 0.2 m D with 100mm thick clear stone infiltration trench X1 100mm outlet, perforated subdrain pipe
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Potters Creek Wet Pond (PCR)

Location	44.147437, -77.415159
Watershed/Subwatershed	Bay of Quinte/Bay of Quinte
Receiver of discharge	Avondale Rd Storm Sewer
Outlet location	44.147239, -77.414494
Catchment Area	35.58 ha
Level of Treatment for suspended solids	Level 1 (80%, Enhanced) Long-term suspended solids removal
Treatment for other contaminants, as required	N/A
Level of Volume control	Attenuate post-development peak flows to pre-development levels
Design Storm	Quantity: 100 yr Event Quality: 25 mm Event
Reference ECA(s)	3945-9L6PYZ
Reference Works as part of treatment train	N/A
Brief Description	Wet pond with sediment forebay, having a permanent pool volume of 7,080 m^3, extended detention storage volume of 17,100m^3 and a total storage volume of 24,180 m^3, including the permanent pool volume, at a total depth of approx. 3.2m. Inlets: X1 1200mm inlet pipe c/w headwall discharging into forebay X1 4.2m wide ditch discharging to forebay. X1 Swale discharging to main cell Outlet: X2 ditch inlet catchbasins, with a 180mm orifice plate and a 365mm orifice plate each discharging through 525mm reverse-slope pipes to manhole structure. X1 750mm pipe with concrete headwall discharging to existing storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Putman SWM Facility (1) Wet Pond/Wetland (PUT1)

Location	44.202480, -77.370420
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Culvert discharges to Highway 401 corridor
Outlet location	44.201709, -77.370887
Catchment Area	139.6 ha
Level of Treatment for suspended solids	Level 1 (80%, Enhanced) Long-term suspended solids removal
Treatment for other contaminants, as required	N/A
Level of Volume control	unknown
Design Storm	Quantity: 100-yr storm Quality: 10.5mm 2 hr storm
Reference ECA(s)	3-1711-95-966
Reference Works as part of treatment train	N/A
Brief Description of each component of treatment train:	Pond/engineered wetland system with total volume of 40,167m^3 for regional storm event, with overflow via spillway. Consisting of 3 areas: • Pond with overflow via 10.0m broadcrested weir to engineered wetland area. • Engineered wetland area with vegetated low marsh section, consisting of a trapezoidal channel with a 20m top width, 3:1 side slopes, a 0.3m channel depth, 3 vegetated high marsh sections consisting of 100mm depth top soils with overflow via 10m wide spillway to micropool section. • Micropool with top dimensions of 120m by 20m tapered to 118m x 18m at an average depth of 0.35m. Discharging via an overflow spillway c/w 450mm dia pipe to a culvert. The facility has 3 inlets. The main inlet has x2 culverts with riprap protection.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Putman SWM Facility (2) - Wetland (PUT2)

Location	44.200279, -77.375288
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Culvert drains to Highway 401 corridor
Outlet location	44.199909, -77.375154
Catchment Area	22.6 ha
Level of Treatment for suspended solids	Level 1 (80%, Enhanced) Long-term suspended solids removal
Treatment for other contaminants, as required	N/A
Level of Volume control	Unknown
Design Storm	Quantity: 100-yr storm Quality: 10.5mm 2 hr storm
Reference ECA(s)	3-1711-95-966
Reference Works as part of treatment train	N/A
Brief Description of each component of treatment train:	Drainage of 22.6 ha of land draining into Pond B shallow marsh. Pond B with 17,478 m3 capacity incl forebay. Pond flows into vegetated shallow marsh system. Shallow marsh system with volume of 17478m^3 for the regional storm event. Consisting of: • Forebay with dimensions of 34m long by 22m wide overflowing via 6m wide, 0.15m high broad crested weir to shallow marsh system • Shallow marsh system with low area consisting of a trapezoidal channel with a 20m top width, 3:1 side slopes, a 0.28m channel depth, with 3 vegetated high marsh sections consisting of 100mm top soil • Overflow via 6.0m spillway into micropool section with average length of 44m, width of 13m that discharges via 1.5m wide overflow spillway c/w 200mm dia pipe to culvert.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Quinte Sports Centre Wet Pond (QSC)

Location	44.186813, -77.383211
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Storm sewer.
Outlet location	44.186195, -77.383418
Catchment Area	0.76 ha
Level of Treatment for suspended solids	Level 1 (80%, Enhanced) Long-term suspended solids removal
Treatment for other contaminants, as required	N/A
Level of Volume control	Unknown
Design Storm	Quantity: Unknown Quality: Unknown
Reference ECA(s)	3-0240-96-006
Reference Works as part of treatment train	N/A
Brief Description	Facility with approx 195m^3 storage. Overland flow inlet from all around pond. X1 outlet structure with 150mm diameter riser pipe with 50mm orifice plate all inside a 915mm diameter x 2.1m high perforated pipe. Discharging to 915mm diameter storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Quinte Secondary School Wetland (QSS)

Location	44.172867, -77.395587
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	No-Name Creek
Outlet location	44.172669, -77.394837
Catchment Area	37.2 ha
Level of Treatment for suspended solids	unknown
Treatment for other contaminants, as required	N/A
Level of Volume control	Quantity: Attenuate post-development peak flows to pre-development levels
Design Storm	Quantity: 100 yr 12 hr storm Quality: unknown
Reference ECA(s)	3-0590-99-006
Reference Works as part of treatment train	N/A
Brief Description	Flows drain to pond via existing drainage channel in 10.0m wide easement. Outlet structure consists of 375mm dia reverse slope pipe with inlet covered by riprap berm, outletting to a box manhole. Maintenance pipe 300mm dia outlets to box manhole, controlled via 300mm gate valve. Flows exit the control structure via 525mm dia pipe to concrete headwall.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Stanley Park Heights (1) Wet Pond (SP1)

Location	44.180229, -77.354618
Watershed/Subwatershed	Bay of Quinte/Bell Creek
Receiver of discharge	Bell Creek
Outlet location	44.180095, -77.354511
Catchment Area	-
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	N/A
Level of Volume control	Unknown
Design Storm	Quality: unknown Quantity: unknown
Reference ECA(s)	3-0433-95-006
Reference Works as part of treatment train	N/A
Brief Description	Wet pond with up to 560m^3 storage to a depth of 1.3m can be detained with a wet pond (permanent pool) storage of 160m^3. Including: X1 525mm dia inlet pipe with concrete headwall X1 150mm dia outlet pipe, with ditch inlet catchbasin, controlling discharge flow to 54 L/s
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Stanley Park Heights (2) Wet Pond (SP2)

Location	44.179617, -77.354261
Watershed/Subwatershed	Bay of Quinte/Bell Creek
Receiver of discharge	Bell Creek
Outlet location	44.179688, -77.353846
Catchment Area	-
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	N/A
Level of Volume control	Unknown
Design Storm	Quantity: Unknown Quality: Unknown
Reference ECA(s)	3-0433-95-006
Reference Works as part of treatment train	N/A
Brief Description	Wet pond with up to 480m^3 storage to a depth of 1.15m can be detained with a wet pond (permanent pool) storage of 168m^3 . Including: X1 450mm dia inlet pipe with concrete headwall X1 150mm dia outlet pipe with ditch inlet catchbasin, controlling discharge flow to 54 L/s
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Stanley Park Heights (3) Wet Pond (SP3)

Location	44.179871, -77.352202
Watershed/Subwatershed	Bay of Quinte/Bell Creek
Receiver of discharge	Bell Creek
Outlet location	44.179767, -77.351973
Catchment Area	-
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	N/A
Level of Volume control	Unknown
Design Storm	Quantity: Unknown Quality: Unknown
Reference ECA(s)	3-0433-95-006
Reference Works as part of treatment train	N/A
Brief Description	Wet pond with up to 1100m^3 storage to a depth of 1.1m with wet pond storage (permanent pool) of 300m^3. X1 inlet with 750mm dia pipe c/w concrete headwall X1 outlet with 150mm dia outlet pipe with ditch inlet catchbasin, controlling discharge flow to 54 L/s
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Stanley Park Heights (4) Wetland (SP4)

Location	44.179584, -77.346935
Watershed/Subwatershed	Bay of Quinte/Bell Creek
Receiver of discharge	Bell Creek
Outlet location	44.179541, -77.343776
Catchment Area	-
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	N/A
Level of Volume control	6 m3/s for 100-year storm event
Design Storm	Quantity: 100 yr Event Quality: unknown
Reference ECA(s)	3-0434-95-006
Reference Works as part of treatment train	N/A
Brief Description	Natural wetland (also a Provincially Significant Wetland) with up to19,250 m3 of storage to a depth of 1.3 m can be detained. Discharge through 1219 x 3658 mm box culvert to limit outflow to 6 m3/s.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Settlers Ridge (1) Dry Pond (SRS)

Location	44.197501, -77.409134
Watershed/Subwatershed	Moira River/No Name Creek
Receiver of discharge	Surface discharge to existing ditch.
Outlet location	44.197571, -77.408869
Catchment Area	20 ha
Level of Treatment for suspended solids	N/A
Treatment for other contaminants, as required	N/A
Level of Volume control	Quantity: Attenuate post-development flows to pre-development levels for up to 100-year storm.
Design Storm	Quantity: 100 yr storm 6 hour SCS Type II
Reference ECA(s)	2635-7KTKRV
Reference Works as part of treatment train	N/A
Brief Description	Dry pond, with maximum storage volume of 1100m3, receiving overland and storm sewer flows with: x1 inlet with 2.0 m paved asphalt depression to collect overland flows, and double catchbasin c/w rip rap on pond side of the inlet. x1 300 mm dia storm sewer outlet c/w concrete headwall, discharging to existing conveyance. x1 overflow spillway to adjacent drainage ditch
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Settlers Ridge (2) Cell 1 Wet Pond (SRS2-1)

Location	Cell 1: 44.201657, -77.406307
Watershed/Subwatershed	Moira River/Norbelle Creek
Receiver of discharge	Culvert under Towncentre Dr W to Norbelle Creek
Outlet location	Cell 1: 44.202507, -77.405807
Catchment Area	800 ha
Level of Treatment for suspended solids	None – to be provided by separate works as contributing area is built out.
Treatment for other contaminants, as required	N/A
Level of Volume control	Attenuate up to 100-year storm event post-development peak flows to a rate not more than the allowable release rate of the culverts under Towncentre Drive West.
Design Storm	Quantity: 100 yr Event
Reference Works as part of treatment train	SRS2 Cell 2 Pond, OGS21, OGS24, OGS26
Brief Description of each component of treatment train:	Cell 2 – Has not been assumed by the City yet. Details on it are included in Table B8.
Brief Description of each component of treatment train:	Cell 1 – Dry pond west of Towncentre Drive, total storage volume of 31,107 m3 at average depth of 750 mm. X1 major overland flow inlet X1 1630mm x 1120mm pipe inlet from Cell 2 X1 1880mm by 1260mm pipe outlet under Towncentre Drive West X1 overflow spillway weir
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Windwhisper Drive Dry Pond (WWD)

Location	44.284381, -77.390765
Watershed/Subwatershed	Moira River/Chrysal Creek
Receiver of discharge	Surface to Chrysal Creek
Outlet location	
Catchment Area	13.7 ha
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	N/A
Level of Volume control	Unknown
Design Storm	Quantity: Unknown Quality: Unknown
Reference ECA(s)	No ECA for this SWMF.
Reference Works as part of treatment train	GBR Pond
Brief Description	Facility with approx 355m^3 storage. X2 inlets, including: • 1x drainage ditch c/w riprap protection • 1x 750mm dia culvert X2 outlet/overflow areas lined with riprap.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

OGS FACILITIES

Moira Street East OGS Unit (OGS 1)

Location	44.170616, -77.385824
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Storm sewer
Outlet location	44.170616,-77.385824
Catchment Area	Unknown
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Unknown
Level of Volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	3-0285-94-006
Reference Works as part of treatment train	N/A
Brief Description	Model: Stormceptor Sediment capacity: Unknown Oil storage capacity: Unknown Maximum treatment flow: Unknown .
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Moira Street East OGS Unit (OGS 2)

Location	44.176559, -77.382761
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Moira River
Outlet location	44.176559,-77.382761
Catchment Area	Unknown
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Oil Removal
Level of Volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	3-0285-94-006
Reference Works as part of treatment train	N/A
Brief Description	Model: Stormceptor Sediment capacity: Unknown Oil storage capacity: Unknown Maximum treatment flow: Unknown
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Station Street OGS Unit (OGS 3)

Location	44.171359, -77.383040
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Moira River
Outlet location	44.171359,-77.383040
Catchment Area	Unknown
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Oil removal
Level of Volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	3-0582-96-006
Reference Works as part of treatment train	N/A
Brief Description	Model: Stormceptor STC 5000 Sediment capacity: 20,940L Oil storage capacity: 3360L Total storage volume: 24,710L Maximum treatment flow: Unknown
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Crosbie Court OGS Unit (OGS 4)

Location	44.180719, -77.356281
Watershed/Subwatershed	Bay of Quinte/Bell Creek
Receiver of discharge	Tributary of Bell Creek
Outlet location	44.180719,-77.356281
Catchment Area	1.3 ha
Level of Treatment for suspended solids	Level 1 (80%, Enhanced) Long-term suspended solids removal
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	5073-86GKWU
Reference Works as part of treatment train	N/A
Brief Description	Model: Downstream Defender DD 1800 Sediment capacity: 2.03m3 Oil storage capacity: 0.87m3 Maximum treatment flow: 340L/s Receives runoff generated from Crosbie Court and discharges to a 375mm dia outflow pipe to tributary of Bell Creek.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Kawartha Court OGS Unit (OGS 5)

Location	44.180894, -77.358265
Watershed/Subwatershed	Bay of Quinte/Bell Creek
Receiver of discharge	Tributary of Bell Creek
Outlet location	44.180894,-77.358265
Catchment Area	9.95ha
Level of Treatment for suspended solids	Level 1 (Enhanced, 80%) long term suspended solids removal
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	5073-86GKWU
Reference Works as part of treatment train	N/A
Brief Description	Model: Downstream Defender DD 2400 Sediment capacity: 3.56 m^3 Oil storage capacity: 1.98 m^3 Maximum treatment flow: 244 L/s Receives runoff generated from the site on Walkway/Block 56 and Kawartha Court, discharging to a 600mm dia outflow pipe to a tributary of Bell Creek.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Moira Street East OGS Unit (OGS 6)

Location	44.183600,-77.382732
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Storm sewer that discharges to a ditch that leads to two 450 mm diameter culverts draining to the Moira River.
Outlet location	44.183600,-77.382732
Catchment Area	1.46 ha
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Oil Removal
Level of Volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	6126-8HLFYV
Reference Works as part of treatment train	N/A
Brief Description	Model: Stormceptor STC 6000 Sediment capacity: 26,945L Oil storage capacity: 3930L Maximum treatment flow: Unknown Total storage volume: 31,285 L Maximum treatment flow: unknown Receives runoff generated from Moira Street East, discharging to a 600 mm diameter storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Moira Street East OGS Unit (OGS 7)

Location	44.182806,-77.382375
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Storm sewer that discharges to a ditch which drains through a 450 mm diameter culvert to the Moira River.
Outlet location	44.182806,-77.382375
Catchment Area	1.31 ha
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Oil Removal
Level of Volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	6126-8HLFYV
Reference Works as part of treatment train	N/A
Brief Description	Model: Stormceptor STC 750 Sediment capacity: 3000L Oil storage capacity: 915L Maximum treatment flow: Unknown Total storage volume: 4070 L Maximum treatment flow: unknown Receives runoff generated from Moira Street East, discharging via a 375 mm mm diameter storm sewer to a rip rap outlet.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Gale Crescent OGS Unit (OGS 8)

Location	44.212682,-77.388122
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Discharge to surface to Moira River
Outlet location	44.212682,-77.388122
Catchment Area	Unknown
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	6493-7HMPBQ
Reference Works as part of treatment train	N/A
Brief Description	Model: Downstream Defender DD 1200 Sediment capacity: 540 L Oil capacity: 265 L Total storage volume: 1450 L Maximum treatment flow: 85 L/s Receives runoff generated from Gale Crescent discharging through an outflow pipe to surface.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Chestnut Drive OGS Unit (OGS 9)

Location	44.211822, -77.389188
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Discharge to surface to Moira River
Outlet location	44.211822, -77.389188
Catchment Area	Unknown
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	6493-7HMPBQ
Reference Works as part of treatment train	N/A
Brief Description	Model: Downstream Defender DD 1200 Sediment capacity: 540 L Oil capacity: 265 L Total storage volume: 1450 L Maximum treatment flow: 85 L/s Receives runoff generated from Gale Crescent, discharging through outflow pipe to surface.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Haig Road OGS Unit (OGS 10)

Location	44.182782,-77.345729
Watershed/Subwatershed	Bay of Quinte/Bell Creek
Receiver of discharge	Storm sewer
Outlet location	44.182782,-77.345729
Catchment Area	Unknown
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Unknown
Level of Volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	7765-5MJSHT
Reference Works as part of treatment train	N/A
Brief Description	Model: Stormceptor STC 4000 Sediment Capacity: 16,490L Oil Capacity: 3360L Total Storage Volume: 20,255 L Maximum treatment flow: unknown Receives runoff generated from nearby streets discharging through outflow pipe to the surface.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Moira Street East OGS Unit (OGS 11)

Location	44.184467,-77.383116
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Storm sewer that discharges to a ditch that drains through a 450 mm diameter culvert to the Moira River.
Outlet location	44.184467,-77.383116
Catchment Area	1.97 ha
Level of Treatment for suspended solids	Level 2 (Normal, 70%) long term suspended solids removal.
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	7681-9CWJ78
Reference Works as part of treatment train	N/A
Brief Description	Model: Stormceptor STC-750 Sediment capacity: 3000 L Oil capacity: 915 L Total storage volume: 4070 m^3 Maximum treatment flow: 90 L/s Receives runoff generated from Moira Street East, discharging to a 450 mm storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Bell Boulevard OGS Unit (OGS 12)

Location	44.189316,-77.38955
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Drainage ditch to Moira River
Outlet location	44.189316,-77.38955
Catchment Area	4.35 ha
Level of Treatment for suspended solids	Level 1 (Enhanced, 80%) long-term suspended solids removal.
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	7612-7Q8LMG
Reference Works as part of treatment train	N/A
Brief Description	Model: Stormceptor STC 4000 Sediment capacity: 14,060 L Oil capacity: 3,490 L Total storage volume: 20,180 L Maximum treatment flow: unknown Receives runoff generated from Bell Boulevard, discharging to a drainage ditch.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

South Front Street OGS Unit (OGS 13)

Location	44.155334,-77.377874
Watershed/Subwatershed	Bay of Quinte/Bay of Quinte
Receiver of discharge	Bay of Quinte
Outlet location	44.155016,-77.377517
Catchment Area	Unknown
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Unknown
Level of Volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	5232-7DZM2D
Reference Works as part of treatment train	N/A
Brief Description	Model: CDS PMSU 30_20 Sediment capacity: unknown Oil capacity: unknown Maximum treatment flow: unknown Receives runoff generated from South Front Street, discharging to storm sewer to Bay of Quinte.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Mineral Road OGS Unit (OGS 14)

Location	44.196853,-77.397863
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Storm sewer to Moira River.
Outlet location	44.196903,-77.397929
Catchment Area	4.61 ha
Level of Treatment for suspended solids	Level 1 (Enhanced, 80%) long-term suspended solids removal.
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	9074-ACWR55
Reference Works as part of treatment train	N/A
Brief Description	Model: Stormceptor 14000 or equivalent Sediment capacity: 53,890L Oil capacity: 11,700L Total storage volume: 66,410L Maximum treatment flow: 140 L/s Receives runoff generated from Mineral Road, discharging surface through a 675mm dia storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Station Street OGS Unit (OGS 15)

Location	44.172430,-77.381732
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Storm sewer to the Moira River
Outlet location	44.172430,-77.381732
Catchment Area	Unknown
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Unknown
Level of Volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	3-0203-95-006
Reference Works as part of treatment train	N/A
Brief Description	Type: Storm King 8 Sediment capacity: unknown Oil capacity: unknown Maximum treatment flow: 300 L/s Receives runoff generated from neighbouring area, discharging to perforated storm sewer to filter bed to Moira River.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Granby Court OGS Unit (OGS 16)

Location	44.179619,-77.355925
Watershed/Subwatershed	Bay of Quinte/Bell Creek
Receiver of discharge	Storm sewer to a tributary of Bell Creek
Outlet location	44.179619,-77.355925
Catchment Area	Unknown
Level of Treatment for suspended solids	Level 1 (Enhanced, 80%) long-term suspended solids removal.
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	8968-9ASHRB
Reference Works as part of treatment train	N/A
Brief Description	Model: Downstream Defender DD 3600 Sediment capacity: 17,500 L Oil capacity: 4,070 L Total storage volume: 21,570 L Maximum treatment flow: 1,076 L/s Discharges through an outlet pipe to a tributary of Bell Creek.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Farnham Road OGS Unit (OGS 17)

Location	44.206155, -77.393817
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Storm sewer to Moira River.
Outlet location	44.206155, -77.393817
Catchment Area	3.61 ha
Level of Treatment for suspended solids	Level 1 (Enhanced, 80%) long-term suspended solids removal.
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	N/A
Reference ECA(s)	9074-ACWR55
Reference Works as part of treatment train	N/A
Brief Description	Model: Downstream Defender Model DD 3700 or equivalent. Sediment capacity: 11.2 m^3 Oil capacity: 6699 L Total storage volume: 17.9 m^3 Maximum treatment flow: 1118 L/s Accepts stormwater from Maitland Drive, discharging to a 450 mm diameter storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Farnham Road OGS Unit (OGS 18)

Location	44.206226,-77.393858
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	To outflow pipe to the Moira River.
Outlet location	44.206226,-77.393858
Catchment Area	Unknown
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Oil removal
Level of Volume control	Unknown
Design Storm	Unknown
Reference ECA(s)	No ECA in records.
Reference Works as part of treatment train	N/A
Brief Description	Model: Downstream Defender Model DD 2400 or equivalent Sediment capacity: 3.6m3 Oil capacity: 2044L Total storage volume: 5.6m3 Maximum treatment flow: 439L/s Accepts drainage from Farnham Road and Maitland Drive roundabout, draining to 300 diameter storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	

Maitland Drive OGS Unit (OGS 19)

Location	44.203568,-77.398065
Watershed/Subwatershed	Moira River/Norbelle Creek
Receiver of discharge	Norbelle Creek.
Outlet location	44.203568,-77.398065
Catchment Area	1.07 ha
Level of Treatment for suspended solids	Unknown
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	9074-ACWR55
Reference Works as part of treatment train	N/A
Brief Description	Model: Downstream Defender DD2 400 or equivalent. Sediment capacity: 3.6 m^3 Oil capacity: 2,044 L Total storage volume: 5.6 m^3 Maximum treatment flow: 439 L/s Accepts drainage from Maitland drive, draining to a 600 mm outflow pipe to Norbelle Creek.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Hampton Ridge Drive OGS Unit (OGS 20)

Location	44.200669,-77.410886
Watershed/Subwatershed	Moira River/Norbelle Creek
Receiver of discharge	To surface.
Outlet location	44.200669,-77.410886
Catchment Area	1.55 ha
Level of Treatment for suspended solids	Level 1 (Enhanced, 80%) long-term suspended solids removal.
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	6576-9ZDSDR
Reference Works as part of treatment train	N/A
Brief Description	Model: Stormceptor STC 2000 or equivalent. Sediment capacity: 7,700 L Oil capacity: 2890 L Total storage volume: 11,000 L Maximum treatment flow: 30 L/s Accepts runoff from Hampton Ridge Drive, discharging through an outflow pipe to surface.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Trinity Court OGS Unit (OGS 21)

Location	44.202196,-77.411742
Watershed/Subwatershed	Moira River/Norbelle Creek
Receiver of discharge	Storm sewer drains to an adjacent SWM pond, which discharges to Norbelle Creek.
Outlet location	44.202196,-77.411742
Catchment Area	1.46 ha
Level of Treatment for suspended solids	Level 1 (Enhanced, 80%) long-term suspended solids removal.
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	6576-9ZDSDR
Reference Works as part of treatment train	SRS2 Cell 2 Pond, SRS2 Cell 1 Pond
Brief Description	Model: Stormceptor Model STC 2000 or equivalent. Sediment capacity: 7,700 L Oil capacity: 2,890 L Total storage volume: 11,000 L Maximum treatment flow: 30 L/s Accepts runoff from Abbott Street and Trinity Court, draining through outflow pipe to surface.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Kempton Avenue OGS Unit (OGS 22)

Location	44.201272,-77.416805
Watershed/Subwatershed	Moira River/Norbelle Creek
Receiver of discharge	Storm sewer to surface.
Outlet location	44.201272,-77.416805
Catchment Area	2.95 ha
Level of Treatment for suspended solids	Level 1 (Enhanced, 80%) long-term suspended solids removal.
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	6576-9ZDSDR
Reference Works as part of treatment train	N/A
Brief Description	Model: Stormceptor model STC 6000 or equivalent Sediment capacity: 16,400 L Oil capacity: 3360 L Total volume: 20,200 L Maximum treatment flow: 70 L/s Receives drainage from Kempton Avenue, discharging through an outflow pipe to surface.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Mavety Court OGS Unit (OGS 24)

Location	44.203519,-77.411695
Watershed/Subwatershed	Moira River/Norbelle Creek
Receiver of discharge	Outlet pipe discharges to surface to SRS2 pond to Norbelle Creek.
Outlet location	44.203519,-77.411695
Catchment Area	0.28 ha
Level of Treatment for suspended solids	Level 1 (Enhanced, 80%) long-term suspended solids removal.
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	0568-C38S3B
Reference Works as part of treatment train	SRS2 Cell 2 Pond, SRS2 Cell 1 Pond
Brief Description	Model: Downstream Defender Model DD4 Sediment capacity: 0.54 m3 Oil capacity: 256 L Total volume: 1.41 m3 Maximum treatment flow: 85 L/s Receives drainage from Mavety Court, discharging through an outflow pipe to surface.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Raycroft Drive OGS Unit (OGS 26)

Location	44.204279,-77.412352
Watershed/Subwatershed	Moira River/Norbelle Creek
Receiver of discharge	Storm sewer to surface to SRS2 pond to Norbelle Creek.
Outlet location	44.204279,-77.412352
Catchment Area	2.74 ha
Level of Treatment for suspended solids	Level 2 (Normal, 70%) long-term suspended solids removal.
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	0568-C38S3B
Reference Works as part of treatment train	OGS25, SRS2 Cell 2 Pond, SRS2 Cell 1 Pond
Brief Description	Model: Hydro First Defense FD-8HC Sediment capacity: 2.14 m3 Oil capacity: 4240 L Total volume: 9.95 m3 Maximum treatment flow: 142 L/s Receives drainage from Raycroft Drive, discharging to storm sewer.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Herchimer Avenue OGS Unit (OGS 29)

Location	44.163534,-77.354446
Watershed/Subwatershed	Bay of Quinte/Bay of Quinte
Receiver of discharge	Storm sewer to surface to the Bay of Quinte.
Outlet location	44.163534,-77.354446
Catchment Area	28 ha
Level of Treatment for suspended solids	Level 1 (Enhanced, 80%) long-term removal of suspended solids.
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	2413-AKERQM
Reference Works as part of treatment train	N/A
Brief Description	Model: 2x Downstream defender DD 3000 units in parallel. Sediment capacity: 8470L Oil capacity: 3974L Total storage volume: 12,440L Maximum treatment flow: 736.3 L/s Discharges to storm sewer to Bay of Quinte.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Essex Drive OGS Unit (OGS 30)

Location	
Watershed/Subwatershed	Moira River/Moira River
Receiver of discharge	Stormwater management facility.
Outlet location	
Catchment Area	unknown
Level of Treatment for suspended solids	unknown
Treatment for other contaminants, as required	Oil removal
Level of Volume control	N/A
Design Storm	Unknown
Reference ECA(s)	8794-AZ9JAR
Reference Works as part of treatment train	CME3 Pond
Brief Description	Model: 1x Downstream defender DD 3000 Sediment capacity: 6.65m3 Oil capacity: 3975L Total storage volume: unknown Maximum treatment flow: 708L/s Discharges to stormwater management facility.
Receive Emergency Sanitary Overflows	No
Notes / Additional Information	-

Stormwater Pumping Stations

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

Cannifton Rd. Pumping Station

Asset ID and Name	Cannifton Rd. Pumping Station
Site Location	Between Cannifton Rd. and Cannifton Road Pkwy., just south of CN Railway (near 57 Cannifton Road)
Watershed/Subwatershed	Moira River / Moira River
Latitude and Longitude	44.177738, -77.378826
Coordinates (optional)	44°10’39.8562”N, 77°22’43.7736”W
Description	Wet well with integrated generator and control building.
Pumping Station Capacity	5,003 USGPM per pump
Equipment	x2 pumps (1 duty, 1 standby) each rated at 5,003 USGPM flow at 25 feet total dynamic head. x1 screens. x1 wet well of unknown capacity. The station lifts to an integrated chamber cell that discharges to an adjacent gravity storm sewer.
Emergency Storage	Emergency storage tank/pipe volume is unknown.
Equipment: Associated controls and Appurtenances	Level monitors control the operation of the pumps. Power failure monitors will control operation of the standby power.
Overflow	No overflow.
Standby Power	Each pump is a 41kW dual drive (diesel/electric) pump
Reference ECAs	3-1471-79-806
Notes	-

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	N/A
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
N/A			

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
N/A			

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, or will be 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.

Table B8: Facilities with Individual ECAs

Asset ID	Type of Facility	Location	ECA Number	Developer Name
Canniff Mills Estates 3 (CME3)	Dry Pond	44.213212, -77.392352	8794-AZ9JAR	Man Hole Ten Development Inc.
Heritage Park (HPK)	Wet Pond	44.205026, -77.398067	0605-9J3PVM	GCL Developments Ltd.
Mercedes Meadows Subdivision (MMS)	Wet Pond	44.179777, -77.342279	3650-826PDQ	Hilden Homes Ltd.
Potter's Creek Pond 6 (JEN)	Wet Pond	44.176816, -77.422095	8771-B94JU7	Jenland Properties Limited
Settler's Ridge 2 Cell 2 (SRS2-2)	Wet Pond	44.202426, -77.409448	0991-9LNK3L	2398513 Ontario Inc.
Settler's Ridge 110 (SRS 110)	Wet Pond	44.203472, -77.417656	8543-ALXGWZ	Settlers Ridge Developments Inc.
Parkville Greens (PKV)	Wet Pond	44.172728, -77.334670	4659-AE7N5K	Hanley Park Developments Inc.
Covington Crescent (OGS 23)	OGS Unit	44.200508,-77.413026	5406-APGLLY	Settlers Ridge Developments Inc.
Essex Dr (OGS 31)	OGS Unit	44.214212, -77.391967	8794-AZ9JAR	Man Hole Ten Development Inc.
Essex Dr (OGS 32)	OGS Unit	44.213508, -77.392922	8794-AZ9JAR	Man Hole Ten Development Inc.

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	**Belleville, The Corporation of the City of**
ECA Number	**151-S701**
System Name	**Belleville Stormwater Management System**
ECA Issue Date	**January 29th, 2023**

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	**Belleville, The Corporation of the City of**
ECA Number	**151-S701**
System Name	**Belleville Stormwater Management System**
ECA Issue Date	**January 29th, 2023**

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.

“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” which is 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 Separator(s).

“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 Belleville, 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 notice(s) 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; or

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, and 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 where the Alteration is undertaken by 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 Municipal 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 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 between it and 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 in 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 2,400 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 Form 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

5.1.2 Parking lot storage

5.1.3 Superpipe 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) -Be planned, designed, and built to be consistent with the Stormwater Management Planning and Design Guidance Manual. If there is a conflict between it and 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) Include an outlet and/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.

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; and,

d) 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 2012 TRCA Stormwater Management Criteria document, Appendix E, 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 that were applicable 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 July 25, 2023.

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.

Schedule E: Operating Conditions

System Owner	**Belleville, The Corporation of the City of**
ECA Number	**151-S701**
System Name	**Belleville Stormwater Management System**
ECA Issue Date	**January 29th, 2023**

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 shall 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, where available, or street name and location;

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 July 26, 2024, 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 Spills Action Centre, 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 readily available at a nearby location 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 July 25, 2025, 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 July 25, 2024 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, spreadsheet or similar electronic format.

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 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 January 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;

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 from 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 July 25, 2023 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 included 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 July 25, 2025. 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.

Table E1. Storm Sewershed and Associated Treatment

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)

Table E2. Summary of Storm Sewersheds

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.

10.0 System Specific Conditions

10.1 For the College Street East Wet Pond (CSE) identified in Schedule B of this document, the owner shall take an automatic/continuous or grab sample for pre-development: three (3) sampling events at the upstream and downstream locations taken during Spring, Summer and Fall, where possible, prior to development of the site at the outlet manhole structure (SWM) to Bell Creek tributary. Similarly, an automatic/continuous or grab sample shall be taken for Post-development: minimum of three (3) sampling events per annum covering the Spring, Summer and Fall time periods where possible, after a storm event of greater than or equal to 10 mm in a 24-hour period when the storm water at outlet manhole structure to Bell Creek Tributary is discharging for the upstream and downstream locations of outlet manhole Structure/ confluence at the Bell Creek Tributary. The parameters to be sampled include Total Suspended Solids, Total Phosphorus, Oil and Grease (petroleum hydrocarbons) and Heavy Metals (Hg, Pb, Mn, Cd, Zn, Cu, Fe and Cr as a minimum). samples are required for the influent and effluent stream of the pond, when this condition is needed.

10.2 Pumping Stations

10.2.1 The Owner or a Prescribed Person may alter the Authorized System by modifying existing Sewage 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.

10.2.2 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.

10.2.3 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 Sewer;

c) Not increase the generation of sulfides and other odourous 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.

10.2.4 Any Alteration of the Authorized System made under conditions 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.

10.2.5 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 10.2.2 a) and b), as applicable.

c) The Owner has verified in writing that the Alteration meets the requirements of conditions 10.2.2 c), and 10.2.5 a) and b).

10.2.6 The Owner shall verify in writing that any Alteration of the Authorized System in accordance with conditions 10.2.1 has met the requirements of the conditions listed in conditions 10.2.3 and 10.2.4.

10.2.7 The consents, verifications and documentation required in conditions 10.2.5 and 10.2.6 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.

10.2.8 For greater certainty, the verification requirements set out in condition 10.2.7 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 10.2.1.

10.2.9 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.

Schedule F: Residue Management

System Owner	**Belleville, The Corporation of the City of**
ECA Number	**151-S701**
System Name	**Belleville Stormwater Management System**
ECA Issue Date	**January 29th, 2023**

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 0.1 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]	**FOR DEVELOPMENT SCENARIOS** [2] **Assessment Studies:** 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 **IF Assessment Studies in i) NOT completed:** ii) Control [3] the recharge [4] to meet Pre-development [5] conditions on property; **OR** iii) Control [3] the runoff from the 90th percentile storm event. **Lake Simcoe Watershed Municipalities:** 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]. **FOR RETROFIT SCENARIOS** [10] **Assessment Studies:** 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, 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** 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]. **IF Assessment Studies in i) NOT completed:** iii) Control [3] the recharge [4] to meet Pre-development [5] conditions on property; **OR** iv) Control [3] the runoff from the 90th percentile storm event.
Water Quality [1]	**FOR DEVELOPMENT SCENARIOS** [2] All of the following criteria must be met for development scenarios: **General:** 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** 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. **Suspended Solids:** 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). **Phosphorus:** i) Minimize existing phosphorus loadings to Lake Erie and its tributaries, as compared to 2018 or conditions prior to the proposed development, **OR** 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]. **FOR RETROFIT SCENARIOS** [10] i) Improve the level of water quality control currently provided on site; **AND** ii) As per the 'Development' criteria for Suspended Solids, **OR** 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** iv) If constraints [11] identified in ii) and iii), then control [3] as per Maximum Extent Possible [8] based on environmental site feasibility studies.
Erosion Control (Watershed) [1]	**FOR DEVELOPMENT SCENARIOS** [8] 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** ii) As per the Detailed Design Approach or Simplified Design Approach methods described in the Stormwater Management Planning and Design Manual: 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. 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: 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 2) Meets the following conditions: • The channel bankfull depth is less than three quarters of a metre; • The channel is a headwater stream; • 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; • The channel is stable to transitional; and • The channel is slightly entrenched; **OR** 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. **FOR RETROFIT SCENARIOS** [10] 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].
Water Quantity (Minor and Major System) [1]	**i)** As per municipal standards, Master Stormwater Management Plan, Class EA, Individual EA and/or ECA, as appropriate for the type of project [13]
Flood Control	**FOR DEVELOPMENT SCENARIOS** [2]

(Watershed Hydrology) [1]	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]. **FOR RETROFIT SCENARIOS** [10] 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.
Construction Erosion and Sediment Control	i) Manage construction erosion and sediment control through development and implementation of an erosion and sediment control (ESC) plan. The ESC plan shall: a. Have regard to Canadian Standards Association (CSA) W202 Erosion and Sediment Control Inspection and Monitoring Standard (as amended); OR b. Have regard to Erosion and Sediment Control Guideline for Urban Construction 2019 by TRCA (as amended); OR c. Have regard to Ontario Provincial Standard Specification: Construction Specification for Temporary Erosion and Sediment Control Measures (OPSS.MUNI 805), as amended from time to time. 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. 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). iv) For sites with drainage areas greater than 5 ha, a QP shall inspect the construction ESC measures, as specified in the ESC plan.
Footnote	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 Authority. 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. 11. Site constraints must be documented. A list of site constraints can be found in Table A2. 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. 13. Possible to look at combined grey infrastructure and LID system capacity jointly. 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. 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.

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: 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 is 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.