City of Guelph

Stormwater Management Master Plan

Appendix H – Stormwater Management Facility Maintenance Inspection

August 2021

Prepared for:
The City of Guelph

Stormwater Management Master Plan

Appendix H: Stormwater Management Facility Maintenance Inspection Summary

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Reference #: 66636
October 2021
Final Report

Contents

List of Figures

1. Introduction

As part of the Stormwater Management Master Plan for the City of Guelph, Aquafor Beech performed a maintenance inspection on forty-one (41) stormwater management facilities noted as Dry Ponds within the City of Guelph's records and GIS database (**Figure 1**).

This stormwater management facility maintenance inspection summary report has been prepared to communicate the condition of various stormwater facilities across the City of Guelph.

2. Report Structure

The report sections are listed and briefly described below:

Section 1 – Introduction: provides an introduction to the overall project.

Section 2 – Report Structure: describes the document structure and sections

Section 3 - Background and Purpose: Outlines the work completed in the creation of this report and explains why stormwater management facility inspections are beneficial to protecting infrastructure, environmental health and the safety of the public. Further, a general list of inspection components considered is included.

Section 4 - Stormwater Management Facility Categorization: Outlines the re-categorization of stormwater management facilities after completion of the stormwater facility inspections. Re-categorization methodology is also highlighted.

Section 5 - Inspection Categories: Defines the rating categories used for assessing stormwater management facilities and the associated components listed in Section 2.

Section 6 - Summary of Inspection Results: A table of stormwater management facilities by priority ranking.

Section 7 - Assessment Conclusion: Describes the key findings and trends noted upon completion of the stormwater management facility inspections. A figure to display the facility locations colour coded by priority rank is also provided.

Section 8 - Inspection Summary – High Priority Facilities: Summaries the detailed notes and photo tiles for all assessed facilities ranked in the high priority category.

Section 9 - Inspection Summary – Medium Priority Facilities: Summaries the detailed notes and photo tiles for all assessed facilities ranked in the medium priority category.

Section 10 - Inspection Summary – Low Priority Facilities: Summaries the detailed notes and photo tiles for all assessed facilities ranked in the low priority category.

3. Background and Purpose

Inspection of the forty-one (41) stormwater management facilities noted as Dry Ponds within the City of Guelph's records and GIS database were completed in two rounds: June 1, 2020 to June 8, and August 6th to 7th, 2020.

While initially the facilities assessed were classified as dry ponds, upon inspection and review of available records (design drawings, reports and approval records) the forty-one facilities were found to include wet ponds, constructed wetlands, infiltration basins, dry ponds or hybrid combinations as per the 2003 MOE Stormwater Management Planning and Design Manual classifications.

Stormwater management (SWM) facilities require routine inspection to ensure proper function can be achieved during intense or large precipitation events. Due to their complex design, long lifespans, and presence of natural features, neglected facilities can lead to a variety of significant consequences. Functional concerns may include inlet or outlet clogging with stormsewer backup in upstream catchments, increased outflows from deteriorated outlets causing downstream erosion, or flash flooding downstream of a pond with a detrimental berm failure. Where routine inspections yield potential or present damage, maintenance works can be prioritized and performed to minimize the risk of failures such as those listed above.

The assessment team entered and walked around each facility to effectively assess various aspects of each pond with an emphasis on functionality. Inspection forms were completed onsite and supplemented with site photos. The completed inspection forms are provided within the Appendix of this memo. General inspection components included:

- Accessibility for maintenance;
- Inlet and outlet structure condition;
- Emergency overflow weir or spillway conditions;
- Facility grading;
- Conditions of upstream sources and downstream receivers;
- Public access and associated hazards;
- Vegetation including invasive species;
- Proximity to Natural Heritage System
- Proximity to environmental buffers (Wetlands, Woodlands, and Fish Thermal Habitat);
- Fence or gate condition;
- Stormwater pond facility signage conditions where applicable;
- Potential water quality concerns where applicable; and
- Wildlife nuisances.

The purpose of this inspection was to review the conditions and function of existing SWM facilities within the City of Guelph to assist in generating recommendations for future actions such as retrofit works, sediment dredging, or general operations and maintenance works as part of a future report associated with the Guelph Stormwater Management Master Plan. It should be noted that this assessment did not include a bathymetric survey. The City performs these on a 5-year cycle through a separate contract.

4. Stormwater Management Facility Categorization

A specified list of forty-one (41) priority facilities identified for inspection by the City of Guelph was provided to Aquafor Beech by the City. All forty-one facilities were classified as dry ponds within the

City database, however upon background information review and inspection, a number of classifications were revised. Original ECA documents, design drawings, and design reports were reviewed for each facility and compared to satellite imagery combined with photos taken during inspection visits to determine the category of each SWM facility. Inspections were performed in dry weather conditions to ensure all water within the facilities was permanent standing water. These priority facilities are listed by number in Table 1 below per updated facility type.

It should be noted that Ponds 35,36, 37, 53, 87, 93, 107, and 111 were not included in this inspection as they were identified in 2014 for clean up between 2015 and 2025 in the 2014 CH2M study.

A brief description of the key differences used to distinguish between Wet Ponds, Dry Ponds, and Infiltration Ponds is provided below.

- Wet Pond: permanent pool must be present within the basin.
- Dry Pond: basin must be dry or well drained and include at least one outlet structure at the bottom of the facility to allow for the full drainage of the facility.
- Infiltration Pond: basin must be dry or well drained with no outlet structures at the bottom of the facility. Overflow weir outlet structures are acceptable for controlling major storm events.

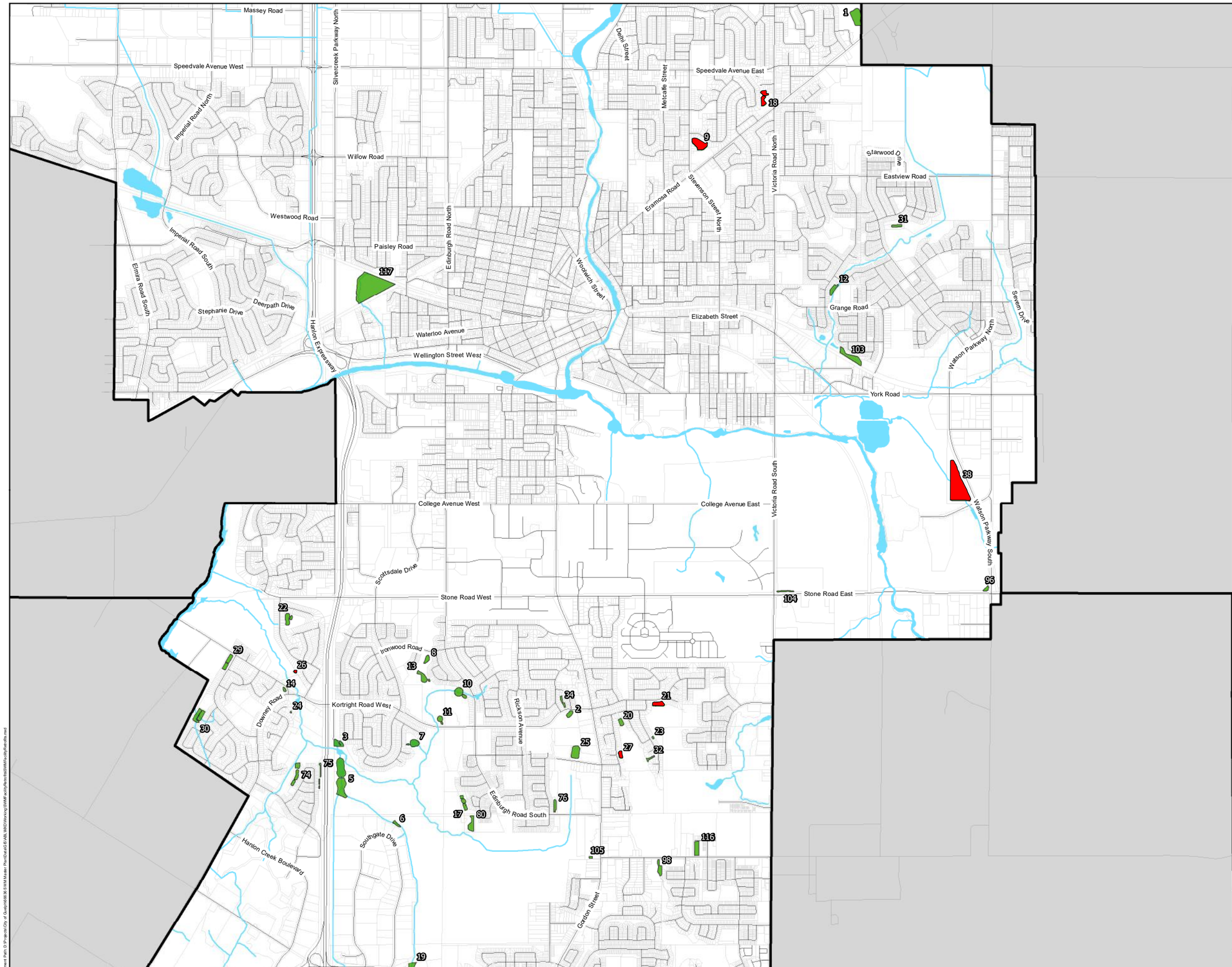
Table 1: Summary of ponds assessed listed by revised facility type.

Inspected Dry pond	Inspected Infiltration Pond	Inspected Wet Pond
○ SWMF #9 (dry)* ○ SWMF #12 (on-line dry) ○ SWMF #17 (dry w/ infiltration)** ○ SWMF #18 (dry)* ○ SWMF #21 (dry)* ○ SWMF #23 (dry) ○ SWMF #27 (dry)* ○ SWMF #29 (dry) ○ SWMF #30 (dry) ○ SWMF #31 (dry) ○ SWMF #32 (dry) ○ SWMF #34 (dry) ○ SWMF #38 (dry)* ○ SWMF #80 (dry) ○ SWMF #96 (dry) ○ SWMF #103 (dry) ○ SWMF #117 (dry)	○ SWMF #2 (infiltration) ○ SWMF #3 (infiltration) ○ SWMF #5 (on-line infiltration) ○ SWMF #6 (on-line infiltration) ○ SWMF #7 (infiltration) ○ SWMF #10 (infiltration) ○ SWMF #11 (infiltration) ○ SWMF #13 (infiltration) ○ SWMF #14 (infiltration) ○ SWMF #20 (infiltration) ○ SWMF #22 (infiltration) ○ SWMF #25 (infiltration) ○ SWMF #26 ((infiltration)* ○ SWMF #98 (infiltration) ○ SWMF #104 (infiltration) ○ SWMF #116 (infiltration)	○ SWMF #1 (wetland) ○ SWMF #8 (wet) ○ SWMF #19 (wet) ○ SWMF #24 (wet) ○ SWMF #74 (wet w/ infiltration)** ○ SWMF #75 (wet w/ infiltration)** ○ SWMF #76 (wet) ○ SWMF #105 (wet)
Total: 18	Total: 15	Total: 8

**Facilities that are starred have been identified by the City of Guelph as scheduled for retrofit prior to completion of this pond assessment*
***Pond contains an additional infiltration cell component*

Original and reclassified facility type and location can be reviewed on the following two figures. Figure 1 identifies all stormwater management facilities assessed, including the six (6) additional facilities

previously identified for retrofit. Figure 2 displays the revised facility type as per the results of the background data review and inspection program.



CITY OF Guelph
Making a Difference

Legend

- Municipal Boundary
- Stormwater Management Facility (Dry Pond)
- Stormwater Management Facility Retrofits
- Property
- Rivers
- Watercourse
- Road Centreline

LOCATOR MAP

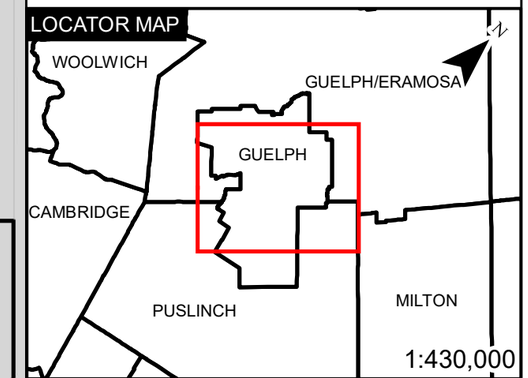


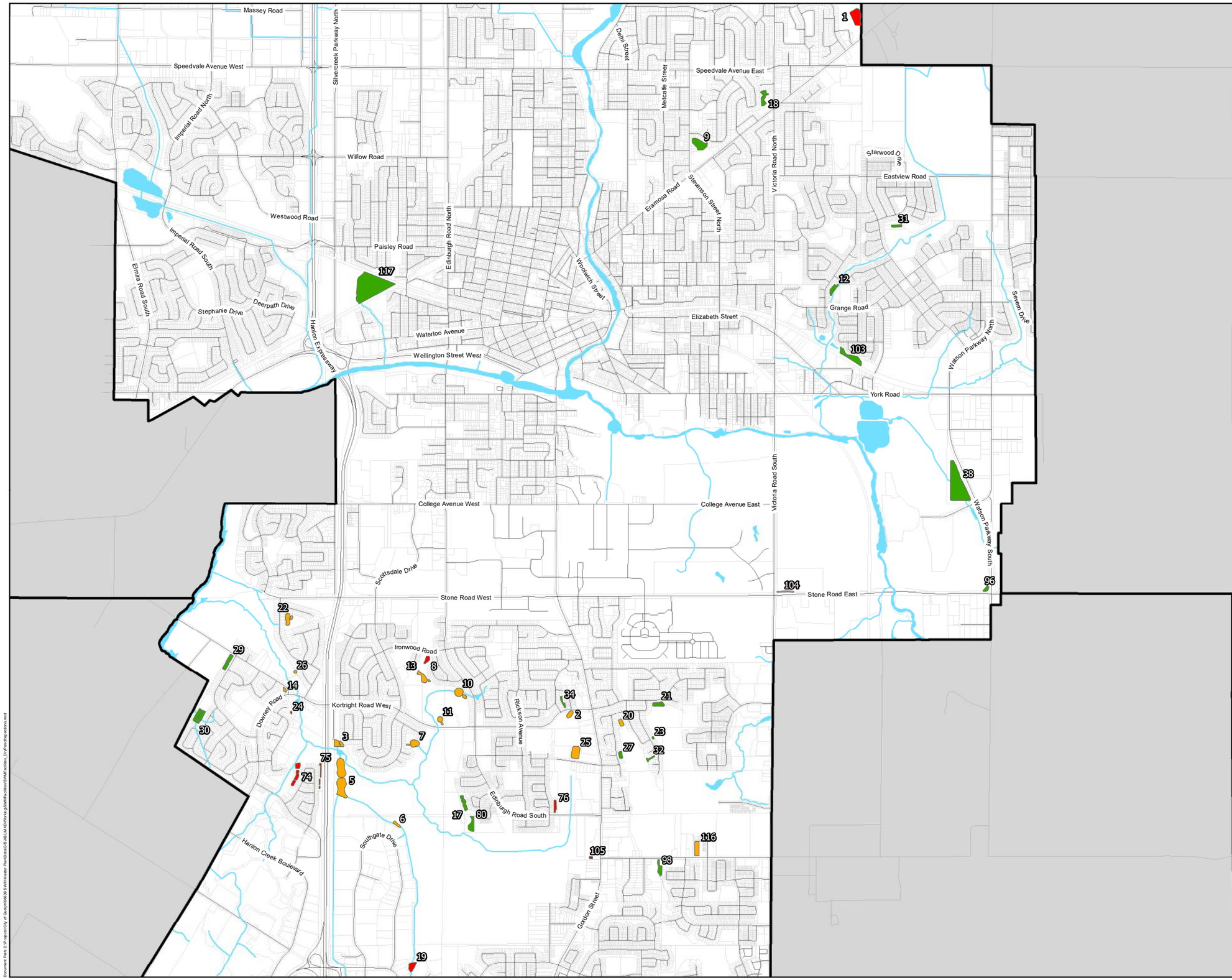
Figure 1

Assessed Stormwater Management Facilities by City Database Classification

Date: 2020-07-28
Projection: NAD83_UTM_Zone_17N
Data Source: City of Guelph, GRCA
Created by: J.R.

0 0.5 1 2
Kilometres

Aquafor Beech Limited



CITY OF Guelph
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Legend

- Municipal Boundary
- Property
- Rivers
- Watercourse
- Road Centreline

Inspected SWM Facility Classification:

- Wet
- Dry
- Infiltration

LOCATOR MAP

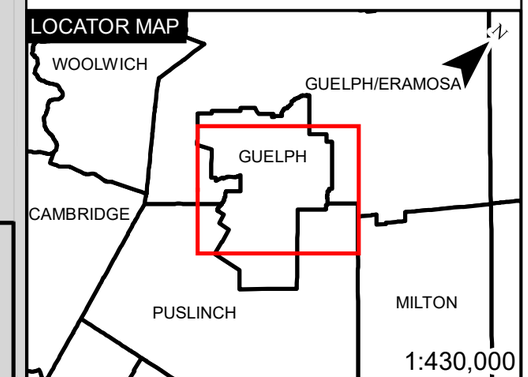

Figure 2

Inspected Stormwater Management Facilities by Revised Classification

Date: 2021-09-28
Projection: NAD83_UTM_Zone_17N
Data Source: City of Guelph, GRCA
Created by: J.R.

0 0.5 1 2
Kilometres

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5. Inspection categories

The following section summarizes how each issue noted during an inspection was categorized while assessing the facilities. A brief description of each pond is provided along with a table of general concerns falling under three categories; Immediate, Moderate, and Low priorities. The categories are based upon the inspection form and were defined by the following descriptions:

1. *High (Immediate)* – Facility is in poor condition. Functional issues to be prioritized. The identified issues can or are currently leading to a high risk of significant financial, environmental, or health and safety costs under significant rainfall events.
2. *Moderate* – Facility is in fair condition. Less significant issues identified in a pond facility but can still impact the pond's functionality. The identified issues have a moderate risk for an occurrence relating to pond function or accessibility and potentially a significant financial or environmental risk if not remediated.
3. *Low* –Facility is in good condition. Minimal risk that will not greatly affect a pond's functional performance.

Visual documentation of concerns at each facility is also provided through site photos. Photo arrays including an overhead key map of picture locations and orientations is provided following each.

6. Summary of Assessment Results

The following section is a summary of the prioritization results found during the June - August 2020 pond assessments for the Stormwater Management Master Plan for the City of Guelph.

Table 2: Summary of priority rankings assigned to assessed stormwater management facilities

Priority Ranking of Assessed Facilities			
	High (poor condition)	Moderate (fair condition)	Low (good condition)
Stormwater Facility number:	○ SWMF #2 ○ SWMF #3 ○ SWMF #7 ○ SWMF #10 ○ SWMF #11 ○ SWMF #20 ○ SWMF #22 ○ SWMF #25 ○ SWMF #103	○ SWMF #1 ○ SWMF #5 ○ SWMF #6 ○ SWMF #9* ○ SWMF #13 ○ SWMF #17 ○ SWMF #19 ○ SWMF #23 ○ SWMF #24 ○ SWMF #26* ○ SWMF #29 ○ SWMF #30 ○ SWMF #31 ○ SWMF #34 ○ SWMF #74 ○ SWMF #75 ○ SWMF #80 ○ SWMF #104 ○ SWMF #105	○ SWMF #8 ○ SWMF #12 ○ SWMF #14 ○ SWMF #18* ○ SWMF #21* ○ SWMF #27* ○ SWMF #32 ○ SWMF #38* ○ SWMF #76 ○ SWMF #96 ○ SWMF #98 ○ SWMF #116 ○ SWMF #117
Totals:	9	19	13

** Facilities that are starred have been identified by the City of Guelph as scheduled for retrofit prior to completion of this pond assessment*

7. Assessment Conclusion

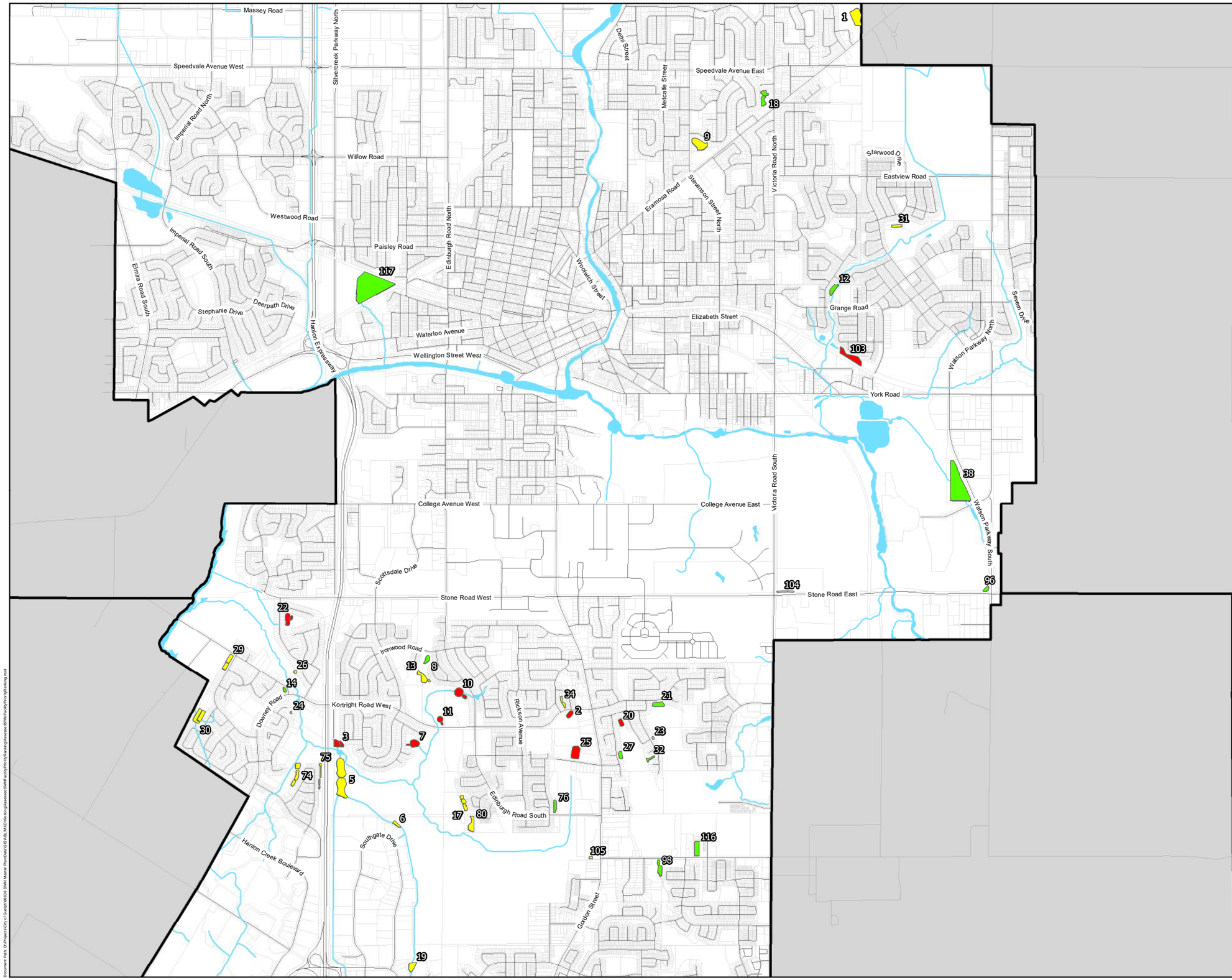
The resulting stormwater management facility prioritizations from the June/August 2020 assessments for the City of Guelph Stormwater Management Master Plan is as follows:

- Nine (9) of the forty-one (41) assessed facilities were identified as high priority. All of the high priority facilities that were assessed were designed as dry or infiltration ponds
- With the exception of SWM #103, all high priority ponds were built between 1975 and 1981, or prior to the implementation of any provincial standards for stormwater management facility design. These facilities may require more detailed analysis to determine if current quantity and quality control standards are being met
- High priority facilities had the following concerns:
    - Eight facilities (numbers 2, 3, 7, 10, 11, 20, 22, and 25) all contain high levels of standing water and thus do not function as the facility type originally intended in their designs. This likely limits their ability to meet the quantity, quality, water balance, and erosion control targets of their original designs
    - One facility (number 103) has inlets that are effectively blocked and presents a high risk for stormsewer backup and flooding in upstream residential catchments during storm events
    - Four facilities (numbers 3, 10, 11, and 20) have effectively blocked forebay outlets preventing effective pre-treatment of incoming stormwater and presents a high risk of sediment deposition in the main cell or downstream receiver in storm events

- Other common moderate priority concerns noted include:
    - Dense vegetation or moderate sediment deposition with potential to significantly restrict flow in overflow weirs, pond outlet structures, or inlet and outlet pipe outfalls
    - Inlet or outlet pipe blockage of less than 50%
    - Signs of erosion on pond berm(s) with risk of further deterioration or failure
    - Ponding less than 0.3m in dry or infiltration pond facility
    - Damage to pond infrastructure (ie. Overflow weir, outlet, pipes) not causing significant flow restriction

- Other common low priority concerns noted include:
    - Small trash items in the basin or on the facility property
    - Graffiti on pond structures
    - Residential access ladders on fenced facilities
    - Minor sediment deposition in basins, at pipe outfalls, or on overflow weirs
    - Dense vegetation limiting access to structures in facilities
    - Signage either not present or inadequate

In addition to Table 2 above, a visual representation of the assessed stormwater management facility locations by colour coded priority is shown in Figure 3.



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Legend

- Municipal Boundary
- Property
- Rivers
- Watercourse
- Road Centreline

Stormwater Management Facility Priority Rank:

- High
- Moderate
- Low

LOCATOR MAP

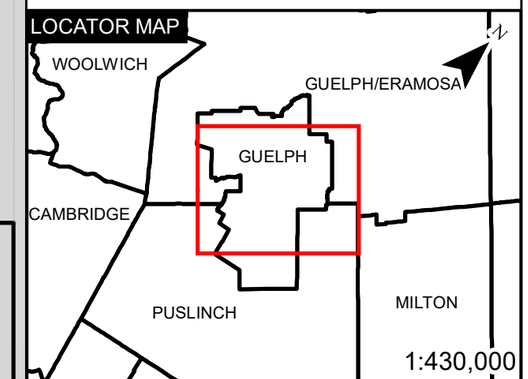


Figure 3

Assessed Stormwater Management Facilities by Priority Ranking

Date: 2021-01-22
Projection: NAD83_UTM_Zone_17N
Data Source: City of Guelph, GRCA
Created by: J.R.

0 0.5 1 2
Kilometres

Aquafor Beech Limited

8. Project Next Steps

The following next steps will be completed using the findings of this SWM facility prioritization assessment:

- The results obtained from completing this assessment in combination with the findings presented in the Stormwater Management Facilities, OGS and Catchments Report will be used to generate recommendations for future actions to address the various concerns identified with each facility. Recommendation options may include but are not limited to:
    - Complete SWM facility retrofit;
    - General operation and maintenance procedures; and
    - Sediment removal to restore original facility conditions.

9. Inspection Summary – High Priority Facilities

Stormwater Facility #2

Location: 4 Westwind Circle

Type: Infiltration Facility

Construction date: 1975

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: Not available at time of review

Drainage area: 12ha per GIS review

Flood Control: Not available

Percent Impervious: 47.5% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

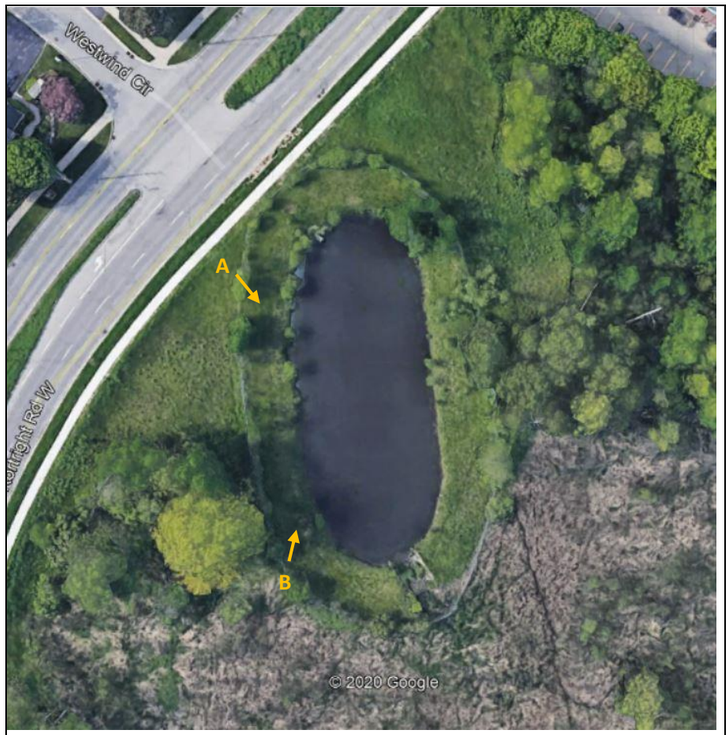
Environmental Buffer Proximity: Not within any buffer

Description: Gated infiltration pond facility in poor condition due to high levels of permanent standing water. Facility was constructed with a 900mm inlet concrete pipe which is 50% submerged in water, and features a riprap overflow weir that outfalls to a nearby wetland. Not able to access pond due to improper key for lock. Team performed walk around perimeter fence to assess pond.

Downstream Receiver: Wooded wetland via an overflow rip-rap weir

Inspection Summary Table		
Immediate	Moderate	Low
• Pond has high levels of permanent standing water (Photo B.) • Located within NHS	• 900mm inlet pipe is 50% submerged and potentially clogged with sediment and debris (Photo B.)	• Outlet weir channel showing sediment deposition (Photo A.) • Minor sediment accumulation in outfall channel and establishment of grassy vegetation that may cause minor flow restriction

Stormwater Facility #2



A. Outlet weir with sediment deposition

B. 900mm Inlet pipe 50% submerged in permanently standing water

Stormwater Facility #3

Location: 27 Shadybrook Crescent

Type: Infiltration Facility

Construction date: 1975

Recommended Cleanout Year (2014 Assessment): 2019

ECA #: Not available at time of review

Drainage area: 21ha per GIS review

Flood Control: Not available

Percent Impervious: 40.1% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Within fish habitat thermal buffer

Description: Gated infiltration pond facility in poor condition due to high levels of permanent standing water. Original design drawings classify pond as detention facility. The facility features a forebay area and dry pond cell that are separated by a berm acting as the principle spillway. The forebay area features a 1500mm concrete inlet pipe in good condition. The separation berm was built with a riser structure that is densely covered in vegetation. The main dry cell was constructed with a concrete riprap spillway that is fracturing, and leads to an outfall channel. An existing sanitary sewer also crosses underneath the pond.

Downstream Receiver: Wooded wetland via an overflow rip-rap weir.

Inspection Summary Table		
Immediate	Moderate	Low
• Pond has high levels of permanent standing water (Photo B.) • 450mm riser 90% buried and surrounded by vegetative overgrowth and sediment accumulation (Photo D.)	• Outlet spillway has concrete fractures and features sediment and vegetative accumulation (Photo G,H,I)	• Early stages of algae growth in pond (Photo B.) • Poor access to pond/structures due to dense vegetation • Buckthorn present in facility

Stormwater Facility #3

A. Infiltration cell with permanent standing water

B. Main Cell with early algae growth

C. Berm separating forebay and main cell

D. Riser Structure 90% buried

E. Forebay looking towards inlet

F. Concrete inlet pipe and structure

G. Cracking Spillway

H. Cracking concrete spillway structure

I. Downstream from weir to outlet channel

Stormwater Facility #7

Location: 492 Kortright Rd W

Type: Infiltration facility with forebay

Construction date: 1981

Cleanout Year: 2016

ECA #: CoA 3-0924-86-006

Drainage area: 24.2ha per GIS review

Flood Control: Not available

Percent Impervious: 42.5% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

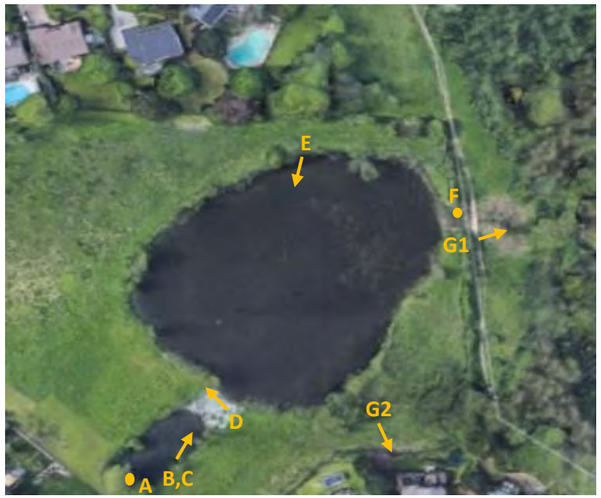
Environmental Buffer Proximity: Within wetland buffer

Description: Infiltration pond facility in poor condition due to high levels of permanently standing water. Forebay and infiltration cell are separated by a riprap berm. The forebay cell is constructed with an 865mm x 1350mm H.E pipe that remains in good condition. A weir and perforated CMP riser with a 300mm outlet pipe convey water from the forebay to the main infiltration cell. The infiltration cell of the pond features a riprap overflow weir. Pond facility has two access gates.

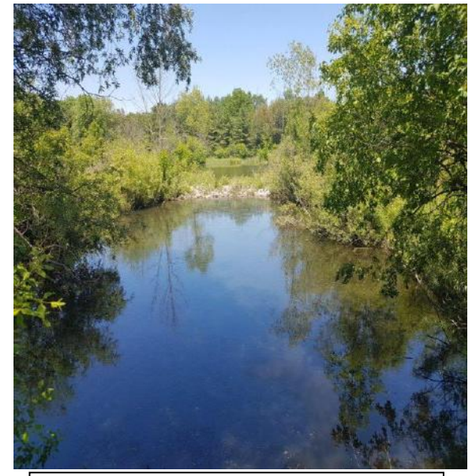
Downstream Receiver: Outfall runs to Hanlon creek next to preservation park trail.

Inspection Summary Table		
Immediate	Moderate	Low
• Recharge pond cell has high levels of permanent standing water (Photo E.)	• Water in forebay found with oily sheen (Photo C.) • Weedy undergrowth in permanent water (Photo. F)	• Residents with ladder access (Photo G.) • No facility signage • Buckthorn and dense shrubs growing around perimeter • Forebay spillway showing minor vegetation establishment (Photo D.)

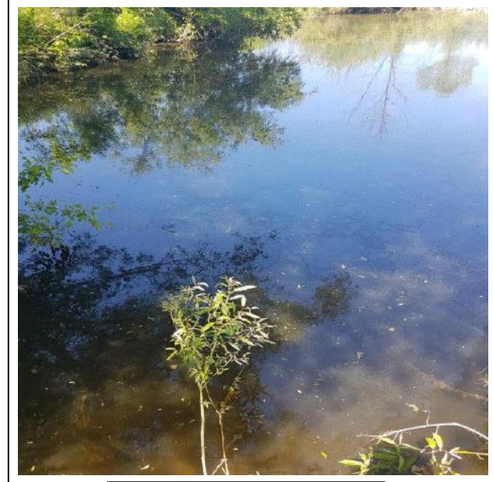
Stormwater Facility #7



A. Concrete inlet pipe and outfall into forebay basin

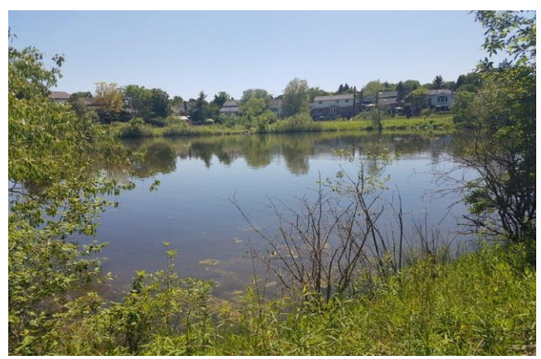


B. Forebay overview and overflow weir into main cell in fair condition



C. Oily Sheen on Forebay

D. Spillway between forebay and main cell with minor vegetative overgrowth (replaced in 20__)



E. Recharge basin with high permanent water level

F. Outlet Weir with weedy undergrowth

G. Outlet Channel/ Residential access ladder

Stormwater Facility #10

Location: 689 Edinburg Rd S

Type: Infiltration facility with forebay

Construction date: 1984

Recommended Cleanout Year (2014 Assessment): 2022

ECA #: 0790-4ZLH2T

Drainage area: 46.8ha per original design report

Flood Control: 100-year storm

Percent Impervious: 39.6% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

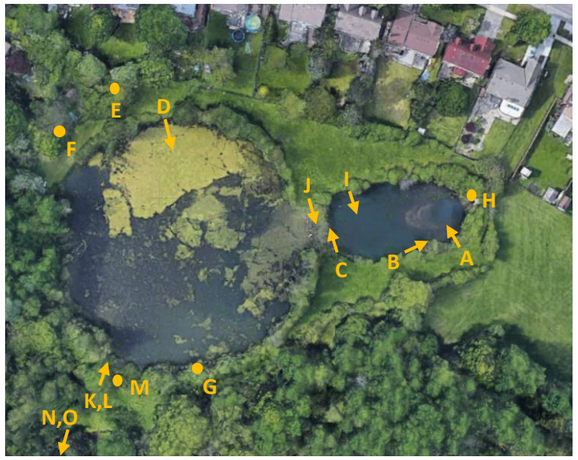
Environmental Buffer Proximity: Within woodlands buffer

Description: Infiltration pond facility in poor condition due to high levels of permanent standing water. A forebay cell is divided from the infiltration cell by an overflow weir undergoing significant vegetation growth. The forebay cell features a 450mm overflow trash rack/riser structure that is 90% submerged and appears damaged. The main cell of the facility has permanent standing water that was odorous during the June site visit and showed signs eutrophication from heavy algal growth at surface on both the June and August site visit. The main recharge cell uses an overflow weir at the northwest corner of the pond for discharge during events exceeding the 100 year design storm.

Downstream Receiver: drainage channel to Hanlon Creek Park wetland

Inspection Summary Table		
Immediate	Moderate	Low
• Infiltration basin has high levels of permanent standing water (Photo D.) • Very poor water quality: eutrophication evident from dense algae growth at surface, high turbidity and water odor (Photo D.) • Trash rack in forebay is submerged and appears to be damaged (Photo I) • Forebay outlet pipe blocked by sediment and forcing water to outlet over the weir to the main cell (Photo I)	• Weir dividing forebay and infiltration pond has heavy tree overgrowth and sediment accumulation due to increased use with riser outlet blocked (Photo C, J.) • Sediment accumulation at base of infiltration pond overflow weir (Photo M.) • Incision evident in outlet channel downstream of weir (Photo O.)	• Mosquitos prevalent • Poor access to inlet structure • Odor complaints from residents • Steep banks • Invasive plant species (buckthorn) causing very dense vegetation and reduced access to structures • Residents with access ladders (Photo E.) • Tree and vegetative deadfall (Photo F.) • Vegetation growing through fence (Photo G.)

Stormwater Facility #10 – Page 1



A. Forebay overview showing dense algae growth

B. Forebay looking at inlet pipe

C. Forebay looking towards overflow weir

D. Main recharge cell showing high permanently standing water that is odorous and undergoing eutrophication

E. Resident access ladder

F. Tree deadfall

G. Trees growing through facility perimeter fence.

Stormwater Facility #10 – Page 2

H. Forebay with sediment basin at inlet pipe outfall. Note the clear water conditions (taken August 6th).

I. Forebay riser outlet submerged. Structure consists of trash rack and anti-vortex plate.

J. Overflow weir from forebay to main cell (covered in dense brush).

K. Overflow weir outlet from main cell with steady flow moving into outflow channel.

L. Main cell overflow weir with some loose rock and dense brush growth that may cause slight flow restriction.

M. Fine sandy sediment accumulation at start of outflow channel.

N. Overflow weir outfall channel looking downstream.

O. Outflow channel section showing incision (deepening and erosion on banks).

Stormwater Facility #11

Location: 492 Kortright Rd W at Royal Recreational Trail

Type: Infiltration facility with forebay

Construction date: 1984

Cleanout Year: 2019

ECA #: CoA 7-0269-84-006

Drainage area: 10.9ha per original design report

Flood Control: Not available (1,140m^3 active storage)

Percent Impervious: 54.4% per original design report

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

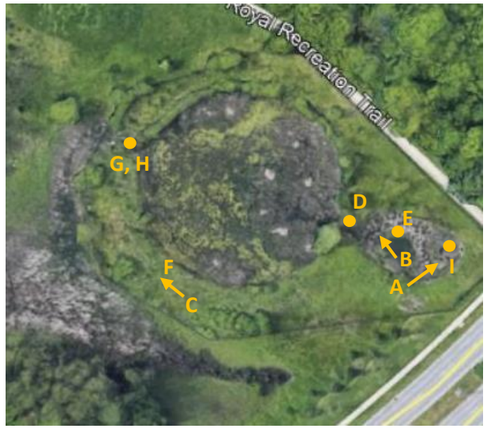
Environmental Buffer Proximity: Within wetland buffer

Description: Infiltration facility in poor condition due to high levels of permanently standing water. Pond facility is divided into a forebay cell in the East and a recharge cell in the West side of the facility. The forebay cell is constructed with a 900mm inlet pipe and also a riser structure with trash rack that is becoming blocked by vegetation and appears damaged. The forebay cell is then separated from the main cell berm by an overflow weir with vegetation and requires maintenance. The infiltration cell is constructed with a concrete riprap overflow weir in the west corner of the cell. Pond was maintained recently (last 3 years) but appears to be left to function as a wet facility, requiring reclassification from original design.

Downstream Receiver: Wetland in Hanlon Creek

Inspection Summary Table		
Immediate	Moderate	Low
• Main infiltration pond cell has high levels of permanent standing water (Photo D.) • Trash rack potentially damaged and evidence of clogging due to being submerged (Photo E.) • Clogging of forebay outlet pipe forcing water directly over weir into main cell (Photo D.)	• Outlet channel showing signs of sediment accumulation (Photo H.) • Embankments featuring poor vegetation/signs of erosion (Photos B, C) • Pond is showing signs of algae growth in permanent pool, risk of eutrophication (Photo F.)	• Garbage present in both spillways • Forebay spillway has regular flow and vegetation growth (Photo D.)

Stormwater Facility #11



A. Looking at Inlet structure on forebay

B. Looking at forebay at spillway to main cell

C. South East embankment lacking vegetation

D. Spillway between forebay and main cell

E. Submerged trash rack from sediment clogging on up or downstream end of outlet pipe

F. Main cell of pond with algae and weed growth

F. Outlet spillway

G. Outlet channel with sediment accumulating

I. Concrete inlet pipe and structure

Stormwater Facility #20

Location: 30 Brady Lane

Type: Infiltration Facility

Construction date: 1987

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: Not available at time of review

Drainage area: 19.6ha per GIS review

Flood Control: Not Available

Percent Impervious: 43.7% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Gated Infiltration facility in poor condition due to high levels of standing permanent water with algae growth. The pond features an 865mm x 1345mm H.E inlet STM pipe that was constructed with a safety grate that has become entirely detached from the pipe structure. The pond was also built with a ditch inlet catchbasin functioning as the control outlet. This ditch inlet structure directs water to a 375mm CSP outlet pipe. There is also an emergency overflow weir in the South East corner of the pond becoming covered by dense sediment and vegetation.

Downstream Receiver: Weir and ditch inlet overflow pipe lead to wetland

Inspection Summary Table		
Immediate	Moderate	Low
• Pond has high levels of permanent standing water with significant algae growth (Photo B.) • Outlet pipe under a rooted tree, and estimated to be 95% submerged in water (Photo F.) • Ditch inlet CB structure about 10% submerged in water, as well as grate heavily matted in sediment at normal water level (Photo E.)	• Outfall densely vegetated and sediment prevalent (Photo D, F.) • Inlet pipe trash grate has popped out from a high flow event and is now attached by one side and leaves pipe open (Photo A1 to A2.)	• Mosquitos present • Buckthorn prevalent • Residents using access ladders, and benches/chairs inside gated area • Emergency overflow weir (South East corner) showing vegetation coverage (Photo C.)

Stormwater Facility #20

A. Concrete inlet pipe inlet with knocked out trash grate and inlet channel

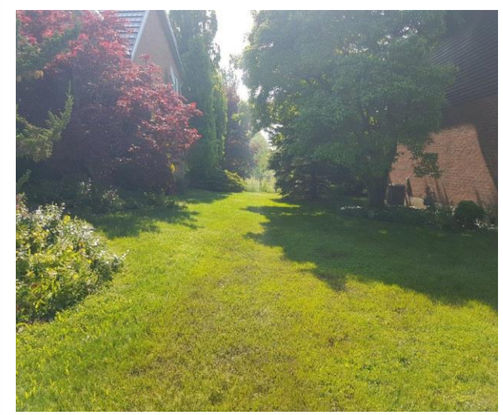
B. Main pond cell with standing water showing signs of algae growth

C. Emergency overflow weir with dense vegetation coverage

D. Downstream receiving wetland

E. Ditch inlet structure heavily submerged (visually estimated as 60%) and matted with sediment

F. Downstream outlet pipe about 95% submerged in water



G. Easement looking toward gate from road

Stormwater Facility #22

Location: 25 Woodland Glen Dr and Wagoner's Trail.

Type: Infiltration facility with forebay

Construction date: 1981

Recommended Cleanout Year (2014 Assessment): 2022

ECA #: Not available at time of review

Drainage area: 25.8ha per GIS review

Flood Control: Not Available

Percent Impervious: 37.7% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

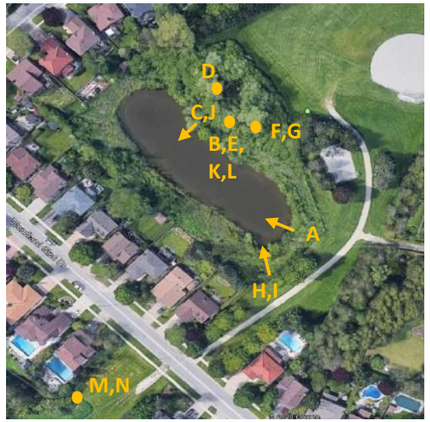
Environmental Buffer Proximity: Not within any buffer

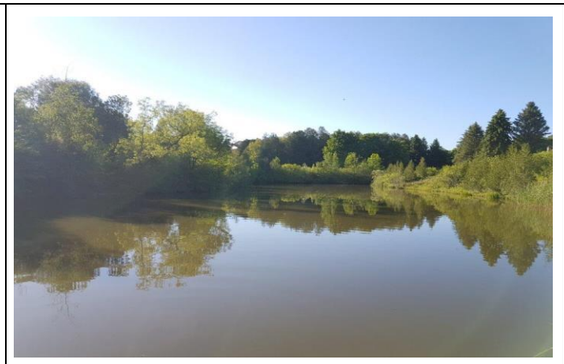
Description: Gated infiltration pond in poor condition due to high levels of permanently standing water. The facility is constructed with a forebay cell and a main recharge cell divided by a riprap weir which is beginning to degrade and accumulate sediment. In the forebay cell, there is a 900mm STM inlet pipe in the North-East and a 600mm STM pipe in the North-West. The forebay is nearly full of sediment and has dense vegetation growth in the cell. There is also a 450mm overflow riser with trash rack in the forebay cell that is becoming blocked from vegetation and sediment. A ditch inlet catchbasin outlet structure with a 600mm outlet pipe conveys flows under Woodland Glen Drive to an outfall channel.

Downstream Receiver: Tributary of the Speed river.

Inspection Summary Table		
Immediate	Moderate	Low
• Infiltration cell has high levels of permanent standing water (Photo A.) • Forebay is becoming clogged with dense vegetation and sediment deposition approximately 1m deep based on design drawings (Photo B.) • Trash rack found submerged in forebay, becoming clogged/blocked by extensive build up from woody debris, sediment, and nearby vegetation growth around grate (Photos K, L)	• Forebay weir accumulating sediment and has some displaced riprap due to increased use as outlet to main cell (Photo C.)	• Mosquitos from standing water • Upstream and downstream channels showing partial flow restriction due to garbage, clogging from sediment and vegetative over growth • Buckthorn and Phragmites presence extensive (Photo E.) • Piles of vegetative deadfall • Outlet pipe headwall structure has several pieces of rip-rap from pond and dense vegetation in receiving channel (Photo M,N.)

Stormwater Facility #22 – Page 1





A. Infiltration cell with permanent standing water

B. Forebay showing dense vegetation and significant sediment build up (80% full by visual assessment).

C. Forebay weir with loose riprap and showing signs of sediment accumulation, vegetation establishment

D. Northern 600mm concrete inlet pipe

E. Phragmites and standing water in forebay.

F. 900mm concrete inlet pipe south end of forebay

G. 900mm forebay inlet pipe in good condition

Stormwater Facility #22 – Page 2

H. Outlet structure with grate on top

I. Under outlet grate looking at pipe

J. Overflow weir from forebay to main cell looking towards main cell.

K. Submerged and buried forebay outlet structure including trash rack and anti-vortex plate. Note sediment has built up to level of trash grate.

L. Closeup of forebay trash rack covered partially by sediment and woody debris.

M. 600mm Concrete outlet pipe outfall featuring trash grate and headwall in good condition. Several pieces of riprap were found in the outfall structure

N. Receiving channel downstream of pond outlet pipe showing dense vegetation and minor sediment accumulation

Stormwater Facility #25

Location: 64 Harts Lane

Type: Infiltration Facility

Construction date: 1989

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: 3-0407-89-006

Drainage area: 13.6ha per GIS review

Flood Control: 1:100-year Storm Event

Percent Impervious: 51.8% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

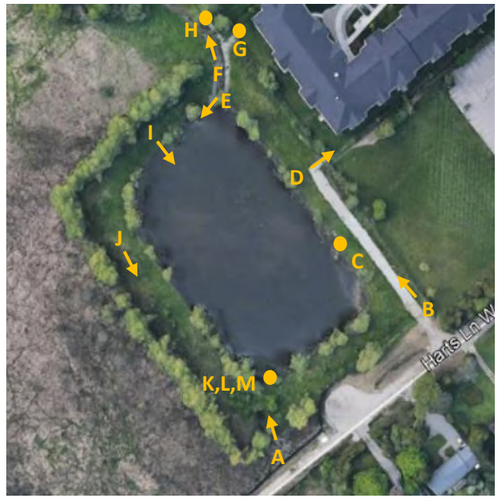
Environmental Buffer Proximity: Within wetlands buffer

Description: "Harts Pond" is a gated infiltration pond found in poor condition, with high levels of permanent standing water. The facility features two inlets including a PVC inlet and an (North-west of pond) from a concrete riprap channel that directs water to main pond basin. Outlet structure is a DICB in the South corner of the pond, leading to an 825mm concrete outlet pipe.

Downstream Receiver: Outfall into wetland

Inspection Summary Table		
Immediate	Moderate	Low
• Pond has high levels of permanently standing water at as much as 0.5m deep (Photo I.)	• Outfall channel has sediment accumulation and vegetation overgrowth nearby outlet pipe (Photo A.) • 450mm storm inlet pipe blocked by an estimated 15% from a riprap channel (Photo G.)	• Vegetation deadfall found • Outlet headwall 1 m drop with no railing • Debris found in downstream channel • Key did not work on lock • Large hole in fence

Stormwater Facility #25 – Page 1



A. Outlet channel with sediment

B. Access path in good condition

C. PVC pipe inlet in East corner of main cell

D. Rip-rap inlet channel looking upstream

E. Concrete inlet channel looking downstream

F. Concrete inlet channel looking upstream towards pipe opening

G. Downstream end of second pipe with 15% blockage from riprap

Stormwater Facility #25 – Page 2

H. Pipe inlet along channel with dense vegetation growth in outfall channel inhibiting flow conveyance

I. Infiltration pond with high levels of standing water

J. Embankment at South end with healthy vegetation

K. Headwall at downstream end of 825mm outlet pipe with dense vegetation immediately downstream

L. Outlet structure with damaged grate over 755mm side opening and vegetation growth around structure

M. Outlet structure grate in good condition

Stormwater Facility #103

Location: 61 Cedarvale Ave

Type: Dry Facility

Construction date: 2004

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: Not available at time of review

Drainage area: 19.2 ha per GIS review

Flood Control: 25mm event (quality control only)

Percent Impervious: 13.4% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Dry Pond facility in poor condition. Two 600mm concrete inlet pipes bring water from the residential neighbourhood around Valleyhaven Lane. The facility is divided by 30m separation berm acting as overflow weir from forebay to main cell of pond. The forebay cell is constructed with a 300mm hickenbottom riser that is surrounded by a 19mm clear stone jacket. This riser structure outlets into the main pond cell by a 300mm PVC STM pipe which is estimated to be about 50% blocked by riprap. The hickenbottom is marked as temporary in design drawings but is still in place. The forebay cell also uses a 1500mm CBMH with a beehive grate that directs water to a pipe network that eventually outlets from the south western corner of pond.

Downstream Receiver: Downstream ditch in south western corner of pond.

Inspection Summary Table		
Immediate	Moderate	Low
• 300mm outlet pipe (main cell) is 50% clogged by rip-rap and sediment (Photo I.) • Both inlet pipes severely blocked or submerged greatly limiting pond inflow capacity and leads to flooding risk in upstream sewershed (Photo (J, K.) • Large amounts of sediment deposition contributing to inlet blockage due to silt fence around inlet pipes (Photo K.)	• Outfall channel features nearby tree growth possibly restricting flow, while also having displaced riprap and sediment accumulation • Spillway has vegetative overgrowth, displaced riprap, signs of erosion, and is become clogged with debris • Hickenbottom has very dense vegetation growth around structure limiting access (Photo G.) • 1500mm CBMH with beehive grate has riprap in bottom channel of manhole (Photo C.)	• Berms showing early signs of erosion, sediment deposition, and displaced riprap • No stormwater facility signage present • Phragmites and Buckthorn very prevalent (Photo A.) • Trash around inlet pipes (Photo K.)

Stormwater Facility #103

A. Dry pond basin with Phragmites stands

B. Upstream end of dry pond showing access pathway

C. 1500mm CBMH with rip-rap in bottom

D. Dry pond looking upstream from outlet weir

E. Overland weir looking at access path

F. Fence around Hickenbottom outlet structure

G. Hickenbottom with vegetation overgrowth and sediment accumulation

H. Silt fence at outlet channel

I. Pond outlet pipe 50% blocked by rip-rap

J. 600mm concrete inlet pipe from Valleyhaven Lane 95% blocked with sediment

K. 600mm concrete inlet pipe from Henry Court 80% blocked and submerged in small pool. Outfall area filled with sediment and trash present

10. Inspection Summary – Medium Priority Ponds

Stormwater Facility #1

Location: 3 Shakespeare Drive

Type: Constructed wetland facility

Construction date: 1970

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: 6695-B9JNRJ

Drainage area: 27.4ha per GIS review

Flood Control: 100-year storm event

Percent Impervious: 26.2% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Within fish thermal habitat buffer

Description: Wet pond facility in fair condition. Classified in original design drawings as detention facility but has since been modified with perforated riser outlet structure. No updated drawings located, thus assumed to function as a wet facility. The pond was constructed with a 900mm inlet pipe and headwall located in the South-East corner, where nearby silt fencing has been damaged allowing fine sediments to enter the pond from adjacent construction site. The pond also features a perforated riser with clear stone around the base, which directs water to a nearby outlet pipe. This outlet pipe conveys to a small plunge pool separated from the outlet channel by a rip-rap overflow berm.

Downstream Receiver: Wooded wetland via an outflow channel from the outlet discharge pipe.

Inspection Summary Table		
Immediate	Moderate	Low
	• Hole in silt fencing in upstream channel allowing fine sediment to enter pond from site development (Photo F.)	• Signs of sediment accumulation at riser outlet structure (Photo C.) • Fine sediments suspended in permanent pool causing increased water turbidity (Photo G.) • Lack of vegetation cover on embankment creating a high erosion potential (Photo D.)

Stormwater Facility #1

A. Outlet pipe leading to plunge pool and riprap berm

B. Pond with permanent pool shown and flock of geese present during inspection

C. Perforated PVC riser outlet structure with clear stone base in good condition

D. NW Access path with and overflow weir. Note surface treatment not present at time of inspection

E. SE Access Path and inlet pipe headwall next to damaged silt fencing

F. Hole in silt fence allowing fine sediment into pond from construction work being done upstream

G. Turbid water from suspended fine sediment entering through silt fence hole

Stormwater Facility #5

Location: 27 Shadybrook and Hanlon Rd

Type: On-line infiltration facility with forebay

Construction date: 1979

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: Not available at time of review

Drainage area: 151 ha per GIS review

Flood Control: Not Available

Percent Impervious: 46.6% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Within wetlands buffer

Description: Infiltration Pond facility with forebay cell in fair condition. The facility is divided into a forebay cell and a recharge cell that are separated by riprap overflow weir. The forebay cell is constructed with a CSP inlet pipe and a 600mm riser outlet structure that is damaged and degrading. This riser leads to the recharge cell through a 450mm CSP pipe which has trees growing through the end of the pipe connection.

Downstream Receiver: Wooded wetland via an overflow rip-rap weir

Inspection Summary Table		
Immediate	Moderate	Low
	• 600mm Hickenbottom riser structure showing signs of rust and corrosion degradation, flow restriction from sedimentation, and rip-rap displacement nearby (Photo D.) • Sediment accumulating below weir in downstream receiving creek • Recharge/dry basin is accumulating sediment and surplus material. Also showing signs of soil erosion (Photo E.) • Small trees growing into 450mm CSP inlet pipe in downstream main cell basin. Pipe is damaged from tree growth, and connection to steel headwall is loosened (Photo F.)	• Tree and shrub dieback • Invasive plants present • Poor vehicle access due to limited pathway width and lack of surface treatment • No facility signage present and pedestrian paths cross infiltration basin

Stormwater Facility #5

A. Emergency overflow spillway out of infiltration basin showing early grass growth in small cracks

B. Infiltration basin overview

C. Infiltration basin with shrubby tree growth

D. Damaged riser structure in forebay cell

E. Dry basin area from forebay outlet showing shrubby tree stand

F. Pipe outlet to infiltration basin (from outlet structure) showing tree growth in structure

G. Settling pool at pipe inlet

Stormwater Facility #6

Location: 310 Southgate Drive

Type: On-line infiltration facility

Construction date: 1979

Cleanout Year: 2016

ECA #: Not available at time of review

Drainage area: 31.2 ha per GIS review

Flood Control: Not available

Percent Impervious: 52.9% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Within wetlands buffer

Description: Ditch acting as an infiltration pond in poor condition as it is substantially filled with permanently standing water. The last documented time the facility was maintained occurred in 2019. The main recharge cell has a grass swale inlet and spillway outlet. Water in significant rain events flows into a downstream grass swale.

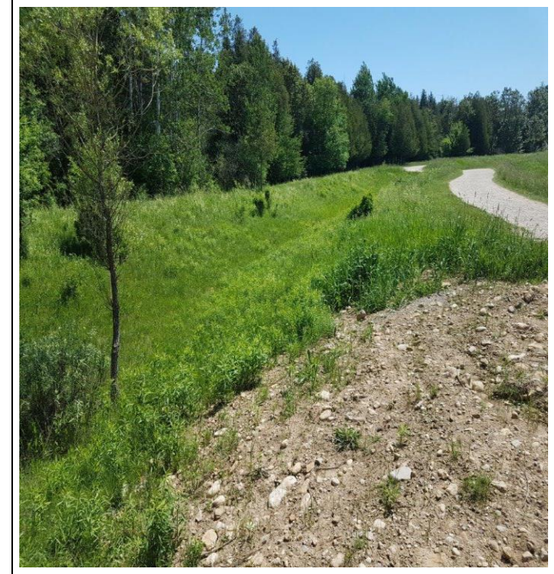
Downstream Receiver: Grass swale via an overflow weir

Inspection Summary Table		
Immediate	Moderate	Low
• Pond has high levels of permanent standing water (Photo A.) • Outer embankment/ berm of pond is poorly vegetated and appears heavily eroded (Photo B.)	•	• Small personal garbage (food waste, cups, etc) found on site • Tree deadfall in form of limbs and small branches found near inlet of ditch into pond • Standing water showing signs turbidity from suspended fine sediments (Photo A.) • Drainage channel has 10% sediment accumulation

Stormwater Facility #6

A. Pond showing permanent standing water

B. South embankment lacking vegetation



C. Upstream grass swale

D. Downstream grass swale

E. SE Access Path and compacted earth outlet weir

Stormwater Facility #9

Location: 323 Stevenson Street North

Type: Dry facility

Construction date: 1983

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: Not available at time of review

Drainage area: 32.6 ha per GIS review

Flood Control: Not available

Percent Impervious: 41.7% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Not within NHS

Environmental Buffer Proximity: Not within any buffer

Description: "Bullfrog Park" is a well-maintained recreational area that also functions as a dry pond facility. The facility has three storm inlet structures, including an 855 x 1345 H.E STM pipe from Stevenson St., a 450mm inlet pipe conveying from a retail parking lot on Eramosa Rd, and a 1050mm inlet pipe from Walnut Dr. These three inlet structures have some cosmetic damage due to graffiti, concrete erosion, and safety grate issues but are otherwise in good condition. A concrete channel system is used to convey all incoming water to a 1200mm STM pipe outlet structure on the East side of the pond facility. This channel also has spots of cracking and sediment accumulation, but is otherwise functional.

Downstream Receiver: STM pipe network

Inspection Summary Table		
Immediate	Moderate	Low
	• Notable amounts of sediment patches found in concrete channel between inlet and outlet structures (Photos B, C, J, N) • 450mm inlet pipe spillway (Eramosa Rd.) has partial concrete spalling and spillway erosion (Photos H, I) • 855 x 1345 H.E pipe from Stevenson Rd has rusting and damaged safety grate and erosion around pipe mouth (Photos K, L) • Stevenson St. inlet pipe has rust and corrosion on safety grate and has partial blockage (under 10%) due to leaf matter and organics accumulating on grate (Photo D.)	• No signage • Graffiti and garbage located near inlet/outlet structures (Photos A,H,F,K)

Stormwater Facility #9 – Page 1

A. North inlet pipe and protective fence. Note inlet structure covered in graffiti.

B. Concrete drainage channel exiting north inlet pipe. Note sediment accumulation in channel.

C. Concrete drainage channel exiting east inlet pipe. Note sediment accumulation in channel.

D. East inlet structure and leaf litter build-up on grate.

E. East inlet control weir and pipe inside grate structure.

F. Trash (cans) beside east inlet structure.

G. Concrete drainage channel exiting south inlet pipe. Note vegetation growth on channel. May cause slight flow restriction.

Stormwater Facility #9 – Page 2

H. South inlet pipe and headwall. Note headwall covered in graffiti.

I. South inlet pipe concrete outfall channel showing early signs of erosion.

J. Concrete drainage channel going towards outlet structure. Note sediment accumulated at bottom of channel.

K. Concrete outlet pipe and headwall structure with protective fence. Note graffiti on

L. Concrete outlet pipe and trash grate.

M. Crack in concrete drainage channel near outlet structure. Allows water to infiltrate and may expand with freeze thaw cycles.

N. Basin overview from near outlet structure.

Stormwater Facility #13

Location: 40 Koch Dr

Type: Infiltration Facility

Construction date: 1986

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: CoA 3-0702-86-006

Drainage area: 10 ha from GIS review

Flood Control: Not available

Percent Impervious: 39.6% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

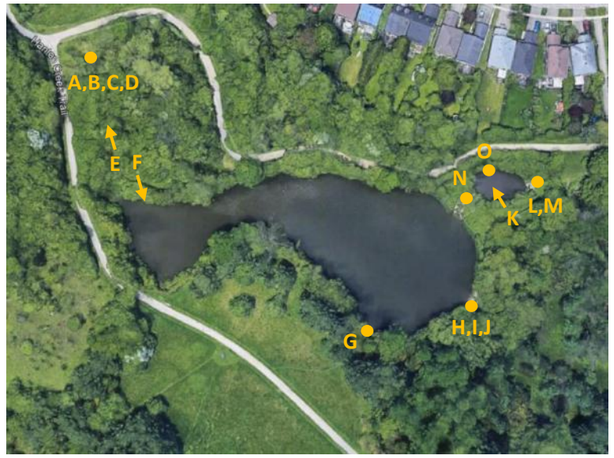
Environmental Buffer Proximity: Not within any buffer

Description: Gated infiltration facility in poor condition due to high levels of permanent standing water. The facility is divided into a forebay cell and recharge cell by a separation berm. The forebay cell receives water via an 855mm x 1345mm H.E STM pipe which has some sediment accumulation on inlet spillway. The forebay cell is also constructed with a hickenbottom riser with trash rack which appears tilted and possibly damaged/clogged. The separation berm between cells features an overflow weir which has significant vegetation growth. The recharge pond cell also receives water via two 1390mm x 970mm CM pipes from the Western corner of the cell from Pond Facility #8. Both of these pipes have about 10% blockage from vegetative matter and garbage debris. An overflow weir that is in good condition is used as an outlet structure in the East corner of the pond.

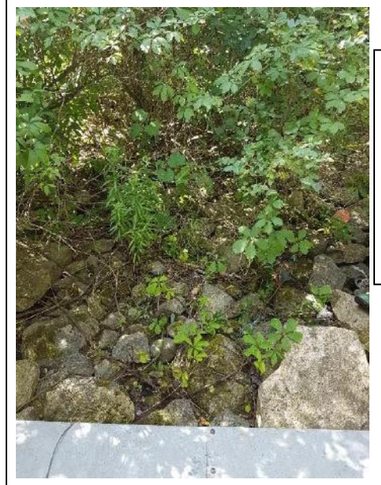
Downstream Receiver: Wetland in Hanlon Creek Park

Inspection Summary Table		
Immediate	Moderate	Low
• Pond has high permanent water level (Photo J.) • Forebay riser structure with trash rack and antivortex plate submerged due to clogging of outlet pipe (Photo P.)	• Double 1390mm x 970mm inlet pipes are estimated to be 10% blocked by garbage debris and leaf matter in safety grates (Photos A, C) • Separation berm between pond cells has significant vegetative overgrowth and can potentially restrict water flow (Photo N.)	• No stormwater facility signage present • Tree growth and displaced riprap in outfall channel of Eastern pond overflow weir may restrict flow path (Photo I.) • 855mm x 1345mm H.E STM pipe in forebay has small amounts of sediment accumulating on spillway (Photo N.) • Erosion/animal access points into main cell along perimeter fence, with a deteriorating concrete fence pier (Photo G.) • Overland flow path from double 1390mm x 970mm pipes has notable vegetation and tree growth, displaced riprap, and woody debris along fence line potentially restricting flow

Stormwater Facility #13 – Page 1

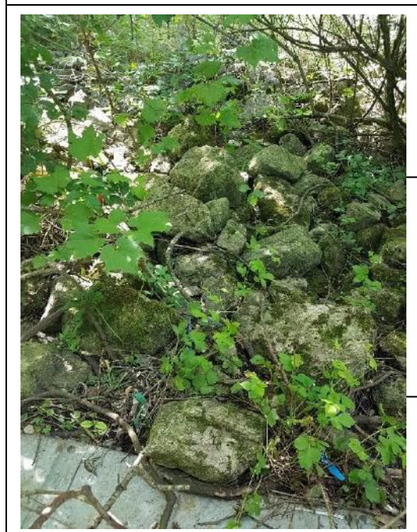


A. South CMP barrel inlet structure from upstream Pond 8. Note trash and plant litter on trash grate blocking about 10% of the pipe opening.



B. Outfall of south CMP inlet showing rip-rap and vegetation growth.

C. North CMP barrel inlet structure from upstream Pond 8.



D. Outfall of north CMP inlet showing rip-rap and vegetation growth.

E. Overland flow path from double barrel CMP inlet pipes. Note the prevalent trees and vegetation.

F. Overland flow path from double CMP inlet looking downstream at perimeter fence of Pond 13. Note the accumulation of some plant and woody debris at fence.

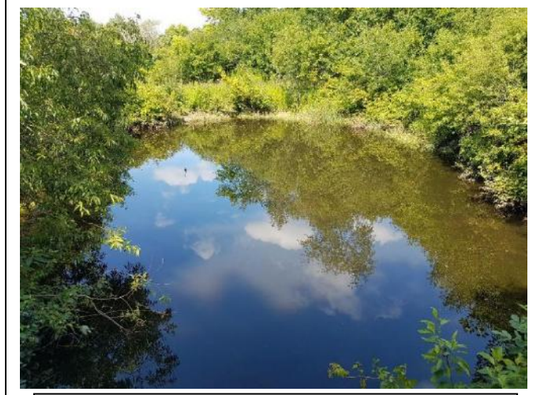
G. Erosion/animal access point into main cell along perimeter fence. Note deteriorating concrete pier.

Stormwater Facility #13 – Page 2

H. Side view of overflow weir from main cell showing the concrete weir end and riprap outflow channel with tree cover.

I. Overflow weir from recharge cell looking towards pond. Note vegetation growth in the concrete weir structure, and permanent pool water levels.

J. Overflow channel downstream of concrete weir edge looking downstream.



K. Pond forebay overview.

L. Concrete inlet pipe entering forebay.

M. Outfall from forebay inlet pipe showing minor sediment accumulation in the sediment basin.

N. Concrete weir structure for overflow between forebay and main cell with around 50% vegetation growth coverage.

O. Submerged forebay outlet structure consisting of trash grate and anti-vortex plate. Forebay water enters main cell via weir currently.

Stormwater Facility #17

Location: 35 Somerset Glen.

Type: Dry Pond with permanent inlet/outlet pools and small internal infiltration basin

Construction date: 1997

Cleanout Year: 2019

COA #: 2426-4MFQXL

Drainage area: 8.1ha per GIS review

Flood Control: 100-year storm event

Percent Impervious: 46% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Pond complex "Southern Creek 300" consists of an Eastern inlet pond cell, a Western outlet pond cell and a small infiltration basin, all encompassed by a large dry pond basin. Water enters the inlet pond via two pipes, the larger being an 825mm inlet pipe with grate and headwall. Water also inlets to the pond basin by a grated concrete pipe which is 25% blocked by vegetation overgrowth. Water exits the facility via infiltration and by a 200mm PVC pipe that leads to a ditch inlet structure that is constructed downstream of the Western outlet pond. In major events, a 20m overflow weir in the East side of the facility conveys larger flows. The PVC outlet pipe is estimated to be 70% filled with sediment and organics, and conveys water from the ditch inlet to a rip-rap strip which functions as a cooling/infiltration trench.

Downstream Receiver: Forest wetland from western rip-rap strip.

Inspection Summary Table		
Immediate	Moderate	Low
• Upstream end of outlet pipe is estimated to be 70% buried and filled with sediment (Photo H.)	• Algae, sediment, and oily sheen found in inlet and outlet ponds (Photo I, J) • Inlet pipe to dry pond is becoming blocked by an estimated 15% from vegetative growth (Photo C.)	• Mosquitos prevalent • Rip-rap displaced by 825mm inlet pipe outfall, along with berm erosion and sediment deposition (Photo N, O) • Garbage found (Photo K.) • Lack of stormwater facility signage • Inlet headwall 1 m high with no railing • Sediment deposition in rip-rap trench • Separation berm between East inlet pond and dry pond cell lacks vegetation (Photo A.) • Separation berm between dry pond and West outlet lacks vegetation (Photo E.)

Stormwater Facility #17 – Page 1

A. Berm between East inlet pond and dry pond

B. Dry pond inlet pipe with vegetation

C. Inlet to dry pond 15% blocked by vegetation

D. Concrete inlet pipe, East Pond

E. Berm from dry pond to west outlet pond with poor vegetation cover

F. Overflow inlet grate structure with rip-rap

G. Downstream end of pipe with rip-rap (East)

Stormwater Facility #17 – Page 2

H. Outlet pipe at outlet pool buried up to 70%

I. Outlet pond cell (West) with algae and oily surface sheen

J. Inlet pond cell (East) Overview

K. Construction Debris, East Pond

L. Poorly vegetated area

M. Emergency weir and path

N. Sediment and riprap displacement in 825mm inlet outfall

O. 825mm inlet pipe and headwall, East Pond

Stormwater Facility #19

Location: 10 Kirkby Court

Type: Wet facility

Construction date: 1987

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: Not available at time of review

Drainage area: 20.3ha per GIS review

Flood Control: Not Available

Percent Impervious: 63.3% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Within wetlands, woodlands, and fish habitat thermal buffers

Description: Wet pond facility in fair condition. In the Southeast end of the facility is a 200mm inlet pipe that leads to a riprap channel. This channel is becoming blocked by garbage and deadfall which could potentially restrict water flow. The channel directs runoff from the Kirkby Court area into the pond. The pond was also built with an additional 300mm CMP inlet in the South-East corner which is 50% buried in vegetation and sediment. A ditch inlet catchbasin is located in the West end of the pond, functioning as the outlet device. This outlet structure has an estimated 25% coverage from overgrown vegetation.

Downstream Receiver: Outlet pipe leads to wetland area

Inspection Summary Table		
Immediate	Moderate	Low
• 300mm CMP inlet pipe in South-East corner of facility is 50% buried restricting design flow (Photo E.)	• Riprap channel from PVC inlet pipe accumulating trash and tree deadfall, restricting inlet flow to pond (Photo C.) • Standing water showing partial algae growth and sediment accumulation • Ditch inlet structure has vegetative overgrowth covering an estimated 20% of grate, in addition to displaced riprap around base of structure (Photo H.)	• Trash in upstream swale • Dense vegetation in drainage inlet channel that may cause flow restrictions in high flow events (Photo A.) • No stormwater facility signage

Stormwater Facility #19

A. Channel inlet from Kirkby Court with dense vegetation

B. Main pond cell

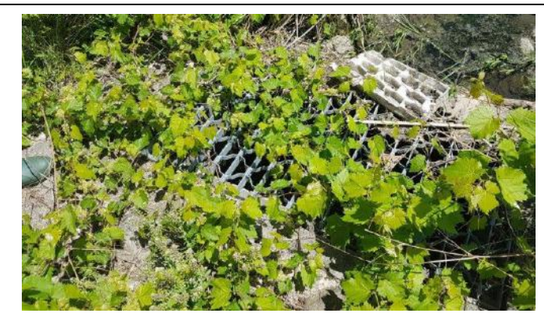
C. Riprap channel from inlet filled with dead fall and trash debris

D. 200mm Inlet pipe off channel

E. CMP 50% buried in vegetation and debris

F. Outlet bank/ Overflow weir

G. Outlet pipe with vegetation immediately downstream



H. Outlet grate structure covered in vegetation

Stormwater Facility #23

Location: 29 Robin Rd

Type: Dry facility

Construction date: 1993

Recommended Cleanout Year (2014 Assessment): N/A

ECA: CoA 3-0643-93-006

Drainage area: 2.3ha per GIS review

Flood Control: 5-year Storm event

Percent Impervious: 50.8% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Within wetlands and woodlands buffers

Description: Gated dry pond basin in poor condition with around 150mm of standing water, originally intended to capture and slowly release the 25mm, 2-hour storm event over a 24 hour period. The pond is constructed with a 375mm PVC inlet pipe with concrete grouted rip-rap spillway. At the North end of the pond is a 1200mm perforated CSP riser structure which leads to a 300mm outlet pipe, adjacent to an overflow weir.

Downstream Receiver: Berm followed by rip-rap ditch separating wetland and basin in conjunction with outlet pipe

Inspection Summary Table		
Immediate	Moderate	Low
• Sediment buildup around perforated riser outlet pipe and in basin limiting drainage ability of structure (Photo D.) • Sediment approximately 0.5m deep in basin with reference to design drawings	• Exposed geo-grid on spillway/rear berm (Photo F.) • Ponded water in basin (Photo B, E.)	• Fence gate is partially damaged (Photo A.) • No stormwater management facility signage (just no trespassing) • Dense vegetation in area preventing access (Photo A.) • Loose/displaced rip-rap around inlet outfall • Minor sediment accumulation in outlet pipe (Photo G.)

Stormwater Facility #23

A. Entry Gate with dense vegetation present on inside of opening

B. Dry pond with dense willow tree stand and ponded water in centre of basin

C. Earth Berm that acts as overflow weir on North side of pond

D. Perforated riser outlet structure

E. Dry Pond basin with dense vegetation growth

F. Exposed geo-grid on overflow weir

G. Outlet pipe with trace sediment in bottom

H. Wooded wetland downstream receiver

I. Pond Inlet pipe with minor sediment accumulation and dense vegetation limiting access

J. Pond Inlet and low flow channel

Stormwater Facility #24

Location: Hazelwood Drive and Mollison Court

Type: Wet facility

Construction date: 1986

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: CoA 3-0761-86-006

Drainage area: 1.65 ha per GIS review

Flood Control: Post to pre for up to 100-year storm

Percent Impervious: 32.3% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Within wetlands buffer

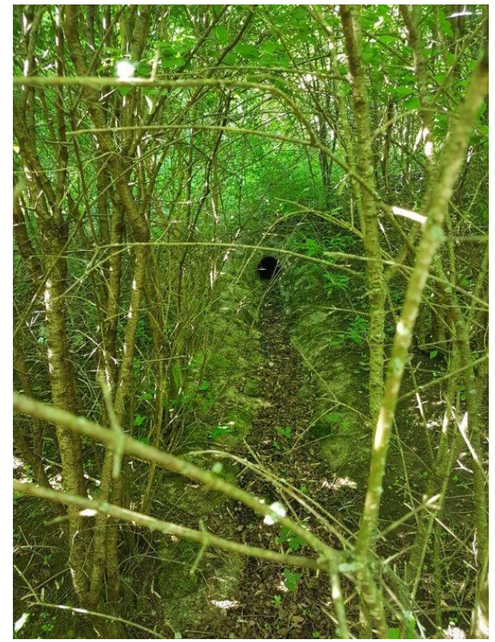
Description: "Mollison pond" is a gated pond facility located in a residential subdivision. Originally constructed as a wet pond in 1986, design notes in drawing F-036 state the pond was reconstructed in 1988, but no redesigns could be located on the Guelph system. For these reasons, the pond will remain classified as a wet pond for this assessment.

The basin at Mollison pond was found having severe buckthorn and vegetative overgrowth, preventing pond access and hindering a complete assessment of the facility. The 450mm concrete STM inlet pipe was located while onsite having displaced riprap and organic debris in the pipe outfall area. The ditch inlet CB designed as the pond outlet structure was not located during the assessment. There was under 150mm of standing water in the pond basin, paired with areas of thick sediment promoting mosquito proliferation.

Downstream Receiver: Outfall undetermined.

Inspection Summary Table		
Immediate	Moderate	Low
•	• Very heavily vegetated; buckthorn is immense preventing access for assessment and maintenance, also potentially impacting proper water conveyance (Photo B.)	• Steep slopes around pond banks • Mosquitos prevalent • No stormwater management facility signage present

Stormwater Facility #24



A. Riprap channel and inlet pipe with vegetation and debris in outfall

B. Basin densely vegetated with buckthorn

Stormwater Facility #26

Location: Trillium Court

Type: Infiltration facility

Construction date: 1989

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: CoA 3-0410-89-006

Drainage area: 4.1 ha per GIS review

Flood Control: 1:100-year storm event

Percent Impervious: 51.7% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

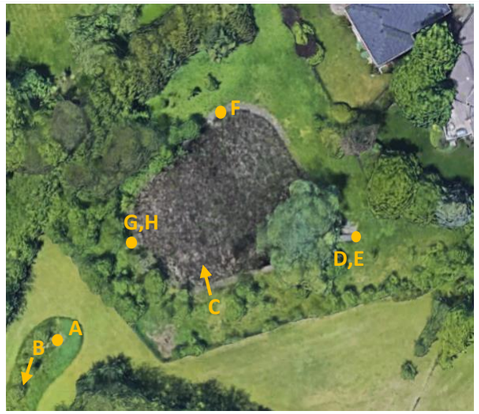
Environmental Buffer Proximity: Not within any buffer

Description: Infiltration pond in good condition, with 0.5m of standing water in dry basin. The pond is constructed with a gabion retaining wall around the pond perimeter, and features a 675mm inlet STM pipe on the East end of the facility. In the South-West corner a grated ditch inlet catch basin structure is used in the facility as an overflow device, directing water through a 450mm outlet pipe. This structure has minor blockage from vegetative overgrowth on the ditch inlet grate. A 2m wide emergency overflow spillway is located beside the ditch inlet structure for additional conveyance.

Downstream Receiver: Wetland

Inspection Summary Table		
Immediate	Moderate	Low
• 150mm-300mm of standing water in pond basin (Photo C.)	• Flow restriction in outlet channel caused by vegetation, displaced riprap and debris accumulation (Photo B.)	• Rusted gate near pond entrance • Mosquitos prevalent • Buckthorn present • No stormwater facility signage present • Inlet pipe has slight cracking along pipe mouth and is showing early signs of erosion (Photo D.)

Stormwater Facility #26



A. Concrete pond outlet pipe at downstream end.

B. Outlet channel looking downstream from outlet pipe. Note weedy vegetation growing in the rip-rap, causing minor flow restriction.

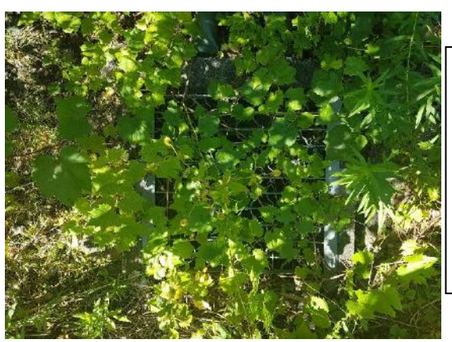
C. Pond main cell with standing water and dense cattail cover.

D. Concrete inlet pipe and caged rock wall perimeter.

E. Plunge pool/outfall of inlet pipe.

F. Caged rock wall perimeter. Note standing water near top elevation of wall.

G. Pond outlet structure, a catch basin inlet with caged top.



H. Outlet ditch inlet structure with vine growth causing 10% blockage restricting flow.

Stormwater Facility #29

Location: 96 Ptarmigan Dr

Type: Dry facility with first flush wet basin

Construction date: 1997

Cleanout Year: 2019

ECA #: CoA 3-1225-92-006

Drainage area: 20.9 ha per GIS review

Flood Control: Post to pre up to the 100-year storm

Percent Impervious: 41.8% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Not within NHS

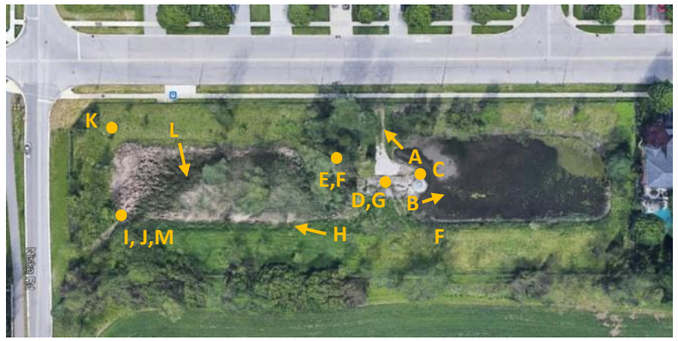
Environmental Buffer Proximity: Not within any buffer

Description: Gated pond facility in fair condition. The pond is divided into a forebay cell and a main pond cell, separated by a riprap earth berm. The forebay or "first flush" cell receives water from a 735mm x 1145mm H.E concrete STM pipe, and has notable algae growth. An 1800mm CSP aluminized riser leads from forebay to main cell by a 300mm pipe showing no issues. The main pond cell is built with a 1050mm concrete inlet pipe, and an additional PVC inlet pipe from the North that is 15% blocked by sediment. The main cell is also constructed with a DICB that leads to a 675mm outlet pipe connected back to the storm sewer system on Niska Road and an additional overflow weir that is becoming overgrown with vegetation.

Downstream Receiver: Outfall into wetland

Inspection Summary Table		
Immediate	Moderate	Low
• 675mm dry basin outlet pipe's downstream end not located (likely buried in rip-rap of weir and restricting flow)	• Overflow weir in North West corner of main cell has sediment deposition, and vegetation that is restricting flow (Photo J.) • Excess standing water in forebay has algae growth along pond surface (Photo B.) • North corner of dry pond basin's PVC STM inlet pipe is estimated to be 15% blocked (Photo K.)	• Perimeter embankment of ponds are eroding, gathering sediment, and steeply sloping requiring aquatic benching at waterline (Photo H.) • Phragmites prevalent (Photo L.) • Access gate damaged • No stormwater facility signage present • 1050mm concrete inlet pipe to main pond showing early signs of sediment accumulation at pipe mouth in rip-rap (Photo E.)

Stormwater Facility #29 – Page 1



A. Inlet to forebay pond approximately 15% submerged

B. Forebay with algae growth and high standing water level

C. Hickenbottom structure with riprap base in good condition

D. Riprap overflow/looking at dry pond

E. Early sediment accumulating at mouth of 1050mm pipe inlet

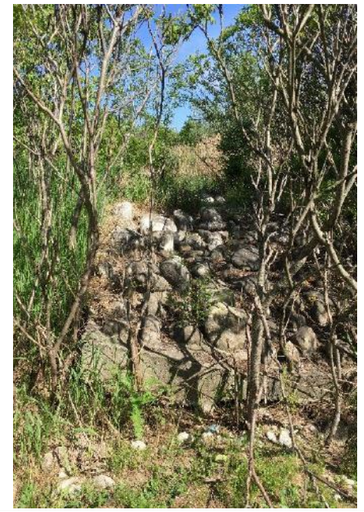
F. Riprap around 1050mm pipe

G. Valve in overflow weir

Stormwater Facility #29 – Page 2

H. Embankment to the West, facing North showing bare spots in vegetation cover

I. Dry pond outlet structure in good condition



J. Dry pond outlet structure and buried 675mm pipe outlet

K.15% buried PVC pipe in North corner

L. Dry pond cell with Phragmites stand

M. Dry pond outlet pipe with flowing water and vegetation in the inlet structure

Stormwater Facility #30

Location: 134 Pheasant Run Dr

Type: Dry facility with first flush wet basin

Construction date: 1998

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: CoA 3-1225-92-006

Drainage area: 30.5 ha per GIS review

Flood Control: Post to pre up to 100-year storm

Percent Impervious: 46.5% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Not within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Dry pond facility system in fair condition and that is divided into two basins. The forebay or "first flush" cell is built with a 735mm x 1145mm inlet pipe, and features permanently standing water with heavy algae growth. The forebay cell also has a 300mm hickenbottom in a 2700mm aluminized CSP riser jacket which has minor sediment accumulation around the base to outlet water to the dry pond cell. The forebay pond is separated from the main pond cell by a 4m wide concrete rip-rap weir which is beginning to show sediment accumulation and riprap displacement. An additional 1200mm STM pipe inlets directly to the dry pond cell in high flow events. The dry pond cell outlet structure is a grated ditch inlet CB with a 600mm outlet pipe and a 350mm diameter orifice opening on its side at the pond bottom elevation.

Downstream Receiver: Outfalls into creek beyond fence line

Inspection Summary Table		
Immediate	Moderate	Low
• Forebay pond with high levels of standing permanent water. Water visibly polluted with thick algae growth on surface, a strong sign of eutrophication (Photo L.)	• Grated outlet structure is not easily accessed, has some sediment accumulation, and is partially clogged on its side orifice (est. 15% - Photo K.) • Overflow weirs in both forebay and main cell ponds are showing damage including displaced riprap, accumulation of sediments, and partial erosion (Photos G, H)	• Phragmites present (Photo D.) • Garbage present • Poor vegetative growth around forebay • Inflow pipes featuring slight sediment deposition

Stormwater Facility #30 – Page 1

A. Valve on overflow weir

B. Hickenbottom riser with early signs of sediment accumulation

C. Inlet wet pond and forebay

D. Phragmites in dry pond

E. Overflow weir between cells

F. Dry Pond/overflow berm in good condition

G. “First flush” weir between cells showing sediment deposition

Stormwater Facility #30 – Page 2

H. Rip-rap overflow weir

I. Dry pond outlet pipe

J. Outfall channel from dry pond

K. Grated outlet structure showing partial clogging

L. Dense algae and vegetation in forebay cell

M. Dry pond inlet concrete pipe with small plunge pool

Stormwater Facility #31

Location: Summit Ridge Drive/ 8 Washburn Drive

Type: Dry facility

Construction date: 1995

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: CoA 3-0514-95-006

Drainage area: 20.5 ha per GIS review

Flood Control: post to pre for 5 to 100-year events

Percent Impervious: 46.4% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Within wetlands buffer

Description: Gated dry pond in fair condition, divided into a forebay channel and main dry cell. The forebay cell is constructed with a 1500mm STM inlet pipe that is 30% submerged. The forebay conveys water to the main dry cell by a 900mm STM pipe and a separation berm on the design, although these were not located during the assessment. The main dry cell features a 1500mm aluminized hickenbottom riser as a controlled outlet structure to a 200mm outlet pipe in addition to an emergency overflow spillway in the North-East corner. Pond overflow weir and outlet pipe not located in assessment due to dense vegetation growth in area.

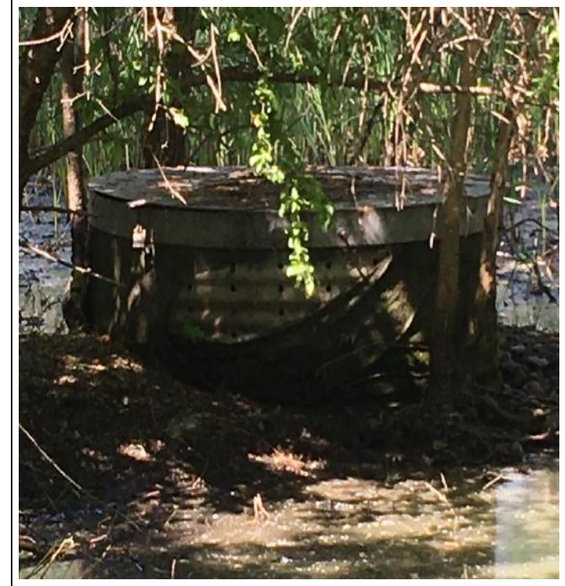
Downstream Receiver: Wetland outfall

Inspection Summary Table		
Immediate	Moderate	Low
• Inlet pipe 30% submerged/clogged by sediment and vegetative growth (Photo A.)	• vegetative overgrowth causing flow restriction and displaced clear stone around base of structure. (Photo C) • Dense vegetation at overflow weir and 200mm outlet pipe discharge point made them inaccessible for assessment, but likely have some degree of flow restriction	• No direct access to inlet or outlet • Channel partially blocked due to dense vegetative overgrowth in channel • No stormwater facility signage present • Riser structure is showing signs of rust

Stormwater Facility #31

A. Inlet pipe 30% submerged

B. Main cell overview showing vegetative growth and willow trees on bank



C. Perforated riser outlet structure with torn sediment cloth and missing 50mm clear stone jacket as noted in design drawings

Stormwater Facility #34

Location: Yewholme Drive

Type: Dry facility

Construction date: 1997

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: Not available at time of review

Drainage area: 1.7 ha per GIS review

Flood Control: post to pre for 5 to 100-year events

Percent Impervious: 41.3% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Not within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Fenced dry pond facility in fair condition, divided into three cells. Water enters the facility by a 600mm PVC storm inlet which is estimated to be 20% clogged with sediment and organic matter. This pipe inlets into a forebay basin area, which is separated from the main dry cell by an earth berm to the East. The dry basin is constructed with a 1200mm perforated CSP jacket for hickenbottom riser and a ditch inlet CB with a grate currently blocked by 30% vegetative overgrowth. These structures lead to 200mm storm pipe that outlets in the North East corner of the pond. South of the dry basin is an infiltration trench, which is separated by another earth berm. This infiltration trench has a grated DICB overflow structure which has a perforated pipe underground. The dry cell of the pond currently has under 300mm of standing water.

Downstream Receiver: Wet pond

Inspection Summary Table		
Immediate	Moderate	Low
• Significant sediment accumulation in basin and near perforated riser outlet likely limits outflow capacity of structure (Photo B.) • Ditch inlet grate is 30% blocked by vegetation and organic matter (Photo A.)	• Separation berm has vegetative overgrowth (Photo G.) • Dry basin requires maintenance for sediment, vegetative overgrowth, and standing water (Photo D.) • Small garbage upstream in STM sewer and at inlet • Dry pond basin has about 300mm of standing water (Photo D.) • Inflow pipe filled with an estimated 20% from sediment and organic matter (Photo E.)	• Mosquitos prevalent • Easy public access from Kortright Rd • Dense small trees and shrubs prevalent preventing vehicle access • No stormwater facility signage present

Stormwater Facility #34

A. Ditch inlet blocked by vegetation and debris

B. Perforated riser outlet with sediment accumulation covering clear stone jacket.

C. Dry Pond basin with standing water

D. Dry pond basin with less than 300mm of standing water and accumulated sediment preventing water from leaving via riser outlet structure

E. Inlet pipe an estimated 15% clogged

F. Space between facility and homes with no perimeter fence

G. Ditch inlet catchbasin to infiltration trench in good condition

Stormwater Facility #80

Location: 65 Terraview Crescent

Type: Dry facility

Construction date: 2002

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: 2818-4MJHDQ

Drainage area: 4.0 ha per GIS review

Flood Control: 5-year up to 100-year storm

Percent Impervious: 49.3% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Dry Pond facility in fair condition, built with an 825mm inlet pipe in SE corner leading to forebay cell which is buried an estimated 75%. From the forebay to the main pond cell is another 200mm CSP pipe that is buried an estimated 95%. In the main cell of the pond, there are two grated ditch inlet structures with 200mm CSP outlet pipes on outer embankment of pond. These main cell outlets lead to riprap strips that function as cooling trenches, eventually leading to SWM Pond Facility #17. In the South-West end of the pond, there is a grated outlet structure that is 40% clogged by vegetation in the main cell of the pond. The downstream end of this pipe is about 90% buried in riprap and vegetation.

Downstream Receiver: SWM Pond 17 via rip-rap channel

Inspection Summary Table		
Immediate	Moderate	Low
• Both forebay inlet pipes buried an estimated 75% (Photo E, J.) • CSP pipe from forebay to main cell of pond is buried on the upstream end in rip-rap and vegetation an estimated 95% (Photo B.) • Grated outlet structure with 40% blockage from vegetation on main cell embankment (Photo C.) • Downstream end of 200mm outlet pipe from main cell is buried 90% rip-rap (Photo I.)	• Inlet pipes are showing signs of degradation with cracking, sediment and garbage accumulation	• No stormwater facility signage present • Some mosquitos present • Some rip-rap displacement at inlet flow dissipators

Stormwater Facility #80

A. Rip rap apron and asphalt weir

B. Forebay outlet pipe heavily buried

C. Grated outlet structure with 40% blockage from vegetation

D. Dry pond basin

E. 825mm Inlet pipe to forebay, 75% buried

F. Culvert outlet and grate #2

G. Culvert and grate #2 close up

H. Riprap strip

I. 200mm outlet pipe from main cell grate outlet structure is buried 90% in rip rap buried in riprap

J. Northeast pipe inlet to main cell buried 75%

Stormwater Facility #104

Location: 527 Stone Road East

Type: Infiltration facility

Construction date: 2004

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: 2606-63BL6S

Drainage area: 4.1 ha per GIS review

Flood Control: Post-to-pre to 100-year storm event

Percent Impervious: 32.3% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Not within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Road side ditch functioning as an infiltration pond in fair condition, with three inlet PVC pipes ranging from 300mm to 525mm in diameter which are 20%-40% submerged in water and sediment. In larger storm events, a 30m long 0.1m deep overflow weir on the north end of the facility directs water into an adjacent field.

Downstream Receiver: Inlet pipes lead to swale ditch next to farmland

Inspection Summary Table		
Immediate	Moderate	Low
• Eastern 525mm inlet pipe is 30% filled with standing water and sediment (Photo F.) • Center 300mm inlet pipe has a broken trash grate and is 40% clogged with garbage and debris (Photo E.)	• Sediment accumulating, vegetation overgrowth and trash beginning to accumulate basin (Photo B, D.) • Southern most 450mm CSP inlet filled with an estimated 20% with sediment and debris (Photo C.)	• Garbage present • No stormwater facility signage present • Outer berm of ditch is showing early signs of erosion, and has steep slope grading (left of Photo A.) • Overflow weir has dense vegetation cover leading to minor flow restriction (Photo G.)

Stormwater Facility #104

A. Infiltration facility looking towards Victoria Road

B. Ditch with sediment deposition overtop sand filter layer

C. 450mm CSP Inlet 20% submerged and sediment deposition near mouth

D. Dense stand of willow trees in infiltration facility

E. 300mm inlet pipe with damaged grate and 40% clogged with trash

F. 500mm inlet pipe that is 30% submerged

G. Overflow weir region along pond bank with dense vegetation and small rock material withed with soil.

Stormwater Facility #105

Location: 1291 Gordon St.

Type: Wet facility

Construction date: 2003

Recommended Cleanout Year (2014 Assessment): N/A

COA #: 6580-5K6TCA

Drainage area: 13.6 ha per GIS review

Flood Control: 100-year storm event

Percent Impervious: 49.2% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Not within NHS

Environmental Buffer Proximity: Not within any buffer

Description: "Arkell Road Outlet" is a pond facility that stands in fair functioning condition, and is located behind Solstice 1 Condos parking lot off of Gordon Street. The COA denotes quantity control to pre-development peak flow rates from "major storm events". The facility consists of a gated wet pond that functions as a wet pond with an overflow weir outfall into the adjacent wetland area, and is separated from the dry pond area by a berm. The assessment team was unable to enter the facility through the gate, but could assess the facility from the perimeter. Sediment accumulation at the 825mm inlet poses a low risk to overall facility storage, but may cause partial blockage of the inlet pipe with additional sediment deposition in the short term.

Downstream Receiver: Wetland area

Inspection Summary Table		
Immediate	Moderate	Low
•	• Sediment accumulation at outfall of inlet pipe limits available storage volume of forebay pool in pond (Photo N.) • No forebay basin evident in field or record drawing, suggesting limited sediment removal may allow finer sediments to outlet into wetland receiver • Stormwater management facility access key failed to work on the gate for this pond	• Garbage, dense vegetation and sediment present in overflow weir causing minor flow restriction (Photo O.)

Stormwater Facility #105 – Page 1

A. Dry pond basin with small stand of Phragmites

B. CMP outlet pipe #4 with nearby vegetation and debris restricting flow

C. Closer picture of headwall inlet with displaced riprap and sediment deposition

D. Wet pond overview including fence and facility signage

E. 825mm concrete inlet pipe to wet pond facility complete with headwall and trash grate

F. Outfall area from inlet pipe showing accumulated sediment, limiting the storage volume of the forebay sediment basin

G. Overflow weir with trash present, dense vegetation cover and sediment accumulation restricting flow.

11.Inspection Summary: Low Priority Ponds

Stormwater Facility #8

Location: 2 Reid Court

Type: Wet facility

Construction date: 1982

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: Not available at time of review

Drainage area: 33.8 ha per GIS review

Flood Control: Not available

Percent Impervious: 34.1% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Not within any buffer

Description: A fenced wet pond in good condition with minimal maintenance issues. Water enters the pond by a single concrete 1520mm x 970mm inlet pipe with a nearby sediment peninsula in its flow path. The pond features two outlet pipes sized 1390mm x 970mm CMP and 1473mm x 914mm CSP running parallel with each other.

Downstream Receiver: Wet pond

Inspection Summary Table		
Immediate	Moderate	Low
•	• Steep embankment at permanent water level and noticeable erosion at points along perimeter (Photos F. and G.) • Trash and deadfall are potential blockage hazards for outlet pipes due to trash grates on downstream ends (Photo B.)	• Steep berm slopes • Catchbasins in upstream neighbourhood are covered with grass • Buckthorn present • Resident ladder access into pond area on east side of facility fence • Sediment peninsula near inlet pipe, potential for limiting flow into main cell (Photo A.)

Stormwater Facility #8

A. Main cell with sediment peninsula to the left of photo.

B. Outlet structures with garbage and trees growing in front of pipes

C. Close up of north outlet pipe (no grate on upstream end)

D. Wet pond looking across from outlet end

E. Inlet pipe looking at channel into wet pond

H. Channel from inlet (on peninsula)

G. Steep pond bank at water line and erosion (hidden by vegetation, see photo F for erosion evidence).

Stormwater Facility #12

Location: Chesterton Lane and Auden Road

Type: On-line dry facility

Construction date: 1985

Recommended Cleanout Year (2014 Assessment): N/A

COA #: 1615-4HWJKT

Drainage area: 281.2 ha per GIS review

Flood Control: 100-year storm event

Percent Impervious: 13.8% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Within fish habitat thermal buffer

Description: "Hadati Farm" dry pond basin in good condition. COA document notes storm sewer and weeping tile collectors in the vicinity of the basin. No reference to a SWM facility is included within the COA. Basin area mostly appeared as farmland during assessment, with little to no structural or pond issues found. Basin leads South East towards Grange road, with dual 1880 x 1260 CMP outlet pipes. Ditch inlet catchbasin with 300mm outlet on north side of pedestrian path conveys overland runoff from farmland under path to Hadati Creek and dual outlet pipes.

Downstream Receiver: Hadati Creek

Inspection Summary Table		
Immediate	Moderate	Low
	• Grass and vegetation covering outlet pipe and ditch inlet grate to Hadati Creek outlet by estimated 15% near outlet pipe (Photo A.)	• Buckthorn very prevalent

Stormwater Facility #12

A. Outlet pipe from farmland and ditch inlet to creek receiver.

B. Low area around inlet to drainage

C. Open field area looking towards drainage culvert

D. Open field area looking Northwest.

Stormwater Facility #14

Location: 35 Niska Rd and Downey Rd

Type: Infiltration Facility

Construction date: 1986

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: CoA 3-0726-88-006

Drainage area: 6.4 ha per GIS review

Flood Control: Post to pre for up to 100-year storm

Percent Impervious: 43.5% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Fenced infiltration basin in good condition with minimal maintenance issues at this time. In the West side of the pond facility is a 600mm STM inlet pipe, and in the East side there is a 525mm STM inlet pipe. In north end of the pond is a ditch inlet CB functioning as the overflow outlet structure leading to a 300mm pipe.

Downstream Receiver: Outflow leading to creek

Inspection Summary Table		
Immediate	Moderate	Low
	• Western 600mm inlet pipe showing partial sediment deposition and reduced access due to vegetative growth (Photos E, F)	• East inlet pipe has an estimated 10% clogging due to sediment deposition at pipe outfall (Photo L.) • Buckthorn present • No signage present besides trespassing sign • Dense vegetation around inlet pipes (Photo F.) • Under 150mm of standing water in dry basin (after several significant rain events over a three-day period) (Photo I.)

Stormwater Facility #14

A. Infiltration basin overview

B. outlet grate in good condition

C. East concrete inlet pipe plunge pool with about 10% sediment accumulation.

D. Outlet Grate at rock berm wall

E. Vegetation in basin

F. West concrete inlet pipe, looking at plunge pool at end of inlet structure.

G. Ponded water in the dry pond infiltration basin (photo August 6th after two significant rainfall events 3 days prior).

H. West concrete inlet pipe, front view. Note dense brush around pipe and inlet structure limiting access.

I. East concrete inlet pipe and outfall

J. Channel from east inlet with sediment

Stormwater Facility #18

Location: Eramosa Rd & Victoria Rd. N

Type: Dry facility

Construction date: 1988

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: Not Available

Drainage area: 28.1 ha per GIS review

Flood Control: 10-year storm event

Percent Impervious: 39.2% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Not within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Recreational park area/dry pond in good condition, located behind Sutherland & Son's Insurance building on Victoria Rd N. The dry pond has one 450mm inlet pipe and headwall that has a patch of sediment accumulating downstream of the pipe. In the North-West corner of the pond is a control chamber outlet structure that has a moderate amount of sediment accumulating (estimated 15% blocked).

Downstream Receiver: STM sewer network

Inspection Summary Table		
Immediate	Moderate	Low
•	• Control chamber outlet structure is estimated to be 15% blocked by sediment accumulation (Photo E.) • Downstream of inlet pipe there is sediment deposition on grassed area, approximately 1m³ (Photos A, B)	• No stormwater management facility signage present • Inlet safety grate beginning to rust and headwall is showing signs of erosion (Photo C.)

Stormwater Facility #18

A. Concrete inlet pipe and headwall including sediment deposition around inlet.

B. Close up of sediment deposit by inlet pipe.

C. Concrete inlet pipe and headwall. Close up for view of suitable trash grate condition.

D. Concrete outlet structure and protective fence.

E. Close up of accumulated sediment in left half of outlet flow control structure (looking into grate).

F. Overview of general dry basin from outlet structure.

Stormwater Facility #21

Location: 66 Kortright Road East.

Type: Dry facility

Construction date: 1988

ECA #: CoA 3-1247-93-946

Drainage area: 16.5 ha per GIS review

Flood Control: 5-year Storm Event

Percent Impervious: 43.1% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

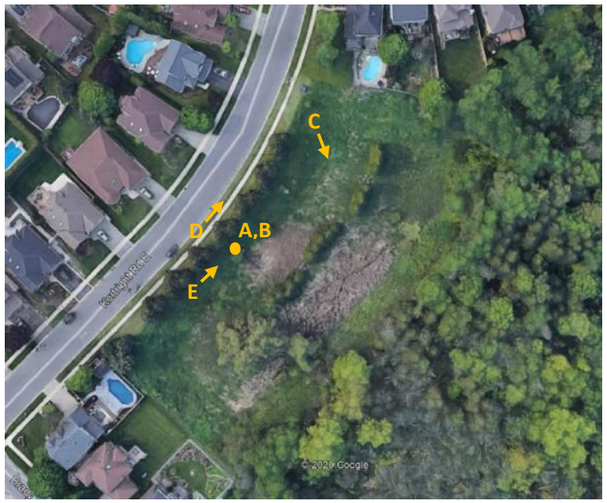
Environmental Buffer Proximity: Within wetlands buffer

Description: Dry pond facility in fair condition, constructed with an 855mm x 1345mm H.E inlet pipe and headwall on the north side of the pond with about 10% blockage from trash and plant material. A small PVC inlet pipe with riprap spillway shown in design drawings from Kortright Rd was not located during assessment. On the East side of the facility the two pond outlet structures, an overflow weir and 450 mm CSP, were both in good condition. The outlet pipe and channel could not be located during assessment due to dense vegetation.

Downstream Receiver: Forest/Wetland

Inspection Summary Table		
Immediate	Moderate	Low
	• 855 x 1345mm Inlet pipe has an estimated 10% blockage from leafy organic matter covering the pipe safety grate (See Photo A.) • Numerous soft spots with pooled water indicating facility does not drain or infiltrate water effectively • Extremely dense vegetation prevented assessment of outlet pipe and overflow weir (likely some obstruction of these outlet structures due to vegetation presence)	• Steep embankment next to Kortright Road along tree line (See Photo E.) • Unable to locate/access outlet pipe and outlet channel due to dense vegetation (Photo B.) • No stormwater facility signage • Phragmites present (Photo B.)

Stormwater Facility #21



A. West concrete inlet pipe and trash grate with vegetation and trash litter collected on grate causing a 10% blockage. Note northwest inlet pipe not located in field.

B. Inlet outfall channel looking downstream into the pond's main cell. Note phragmites and dense vegetation pushed over from a recent high flow event.

C. Overview of pond basin area, including phragmites stand along low flow channel out of west inlet pipe.

D. Kortright Road and pedestrian sidewalk adjacent to Pond 21 with dense tree row limiting quick access into pond facility.

E. Pond embankment along Kortright Road with relatively steep bank and shrub growth in basin shown.

Stormwater Facility #27

Location: 34 Bathgate Dr.

Type: Dry facility

Construction date: 1989

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: Not available at time of review

Drainage area: 10.7 ha per GIS review

Flood Control: Post to pre for 5-year event; on-site control of all storms up to 100-year

Percent Impervious: 42.1% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

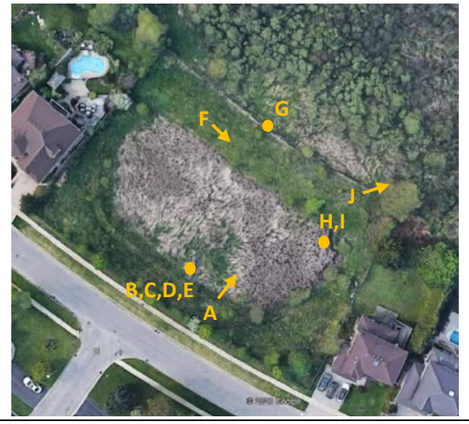
Environmental Buffer Proximity: Within wetlands buffer

Description: Dry pond in fair condition, with notably dense vegetation in main cell. The facility consists of a single dry cell which is designed with a 675mm concrete inlet pipe (South-West side of the pond), and a ditch inlet CB structure that functions as the pond outlet to the North East. The outlet structure is currently 20% blocked by vegetative overgrowth. Fencing along the Northern embankment of the pond is damaged and is sitting at a 45° slant.

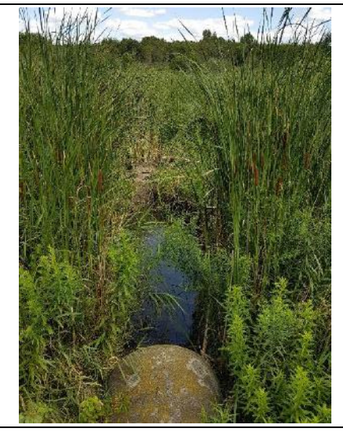
Downstream Receiver: Outfall into wetland

Inspection Summary Table		
Immediate	Moderate	Low
•	• Vine overgrowth on outlet grate is blocking inflow to structure by an estimated 20% (Photo H.) • Downstream of inlet pipe is showing signs of high inflow with nearby cattails and vegetation pushed over, as well as erosion of pond basin with sediment deposition (Photos B, D)	• Dense vegetation in outfall area potentially restricting flow and making difficult to locate/access outlet pipe (Photo J.) • Fencing is damaged at several locations of pond, one section found at 45° slant along the Northern pond embankment (Photo G.) and another located next to ditch inlet structure (Photo H.). May be evidence of high outflows or erosion on northern embankment

Stormwater Facility #27



A. Pond basin overview looking north.



B. Concrete inlet pipe and outfall sediment stilling basin. Note pushed over cattails from recent high flow event.

C. Concrete inlet pipe and headwall reinforcement in good condition

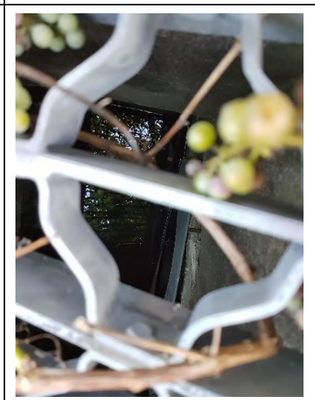
D. Small amount of sediment collected at inlet outfall.

E. Close up of inside edge on inlet pipe.

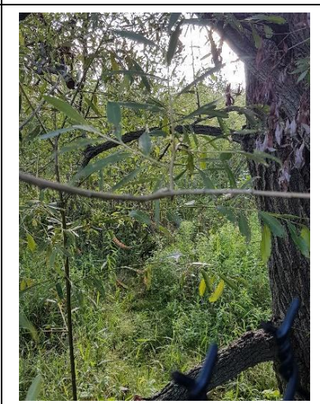
F. North berm of pond basin. Weir on design drawings but little grade change found on berm.

G. Perimeter fence on north side of pond shows signs of displacement, toppling.

H. Ditch inlet structure 20% blocked due to vine growth, and damaged fencing (top right of photo)



I. Inside of ditch inlet outlet structure with outlet pipe on right wall.



J. Pond outlet flow path showing dense vegetation at entrance into existing wetland.

Stormwater Facility #32

Location: 49 Robin Road

Type: Dry facility

Construction date: 1994

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: CoA 3-0643-93-006

Drainage area: 4.9 ha per GIS review

Flood Control: 2-year to 5-year storm events

Percent Impervious: 43.7% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

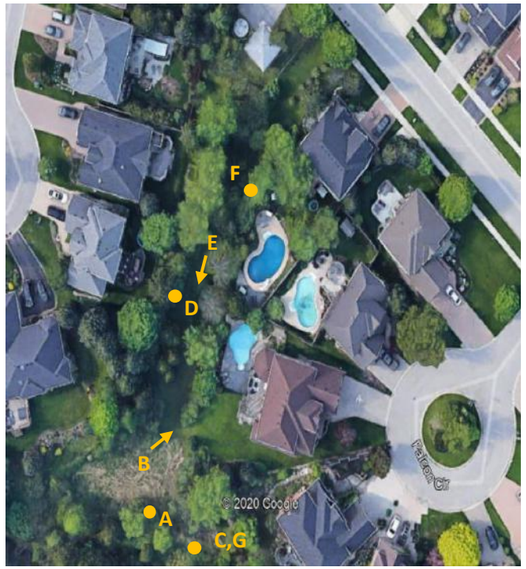
Environmental Buffer Proximity: Not within any buffer

Description: Dry pond facility in good condition, located approximately 100m off roadway downstream of a grassed swale pre-treatment zone. The facility is constructed with a 300mm and 375mm PVC pipe, both of which are over 30% blocked. The dry pond basin also features an overflow weir and a perforated 1200mm CSP steel riser leading to a 300mm outlet pipe.

Downstream Receiver: Wooded wetland via an outflow channel from the outlet discharge pipe.

Inspection Summary Table		
Immediate	Moderate	Low
•	• 375mm PVC inlet is an estimated 30% buried by riprap, sediment and vegetation (Photo F.) • Sediment accumulation and dense vegetation growth at perforated riser outlet may limit inflow capacity (Photo A.) • 300mm outlet pipe blocked 30% at outfall by rip-rap in pipe mouth (Photo G.)	• Mosquitoes present • No stormwater facility signage present • 100mm inlet pipe (residential sump drain) blocked 85% by riprap (Photo D.) • Rip-rap around inlet pipe displaced

Stormwater Facility #32

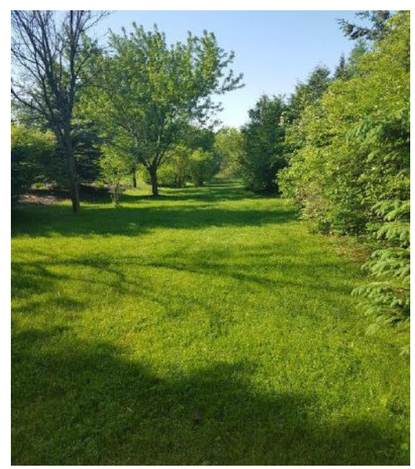


A. Perforated riser outlet with dense vegetation nearby and sediment deposition around 50mm clear stone jacket

B. Dry pond basin overview

C. Overflow weir with rip-rap and dense brush vegetation causing minor flow restriction

D. 300mm PVC inlet 85% buried in riprap



E. Upstream end of basin, looking downstream

F. 375mm PVC inlet is est. 30% buried by rip rap, sediment and vegetation

G. 300mm PVC outlet pipe from hickenbottom riser structure with rip-rap around outfall creating a 30% blockage in flow capacity

Stormwater Facility #38

Location: 180 Watson Parkway

Type: Dry facility

Construction date: 1996

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: CoA 3-0147-93-006

Drainage area: 91.8 ha per GIS review

Flood Control: 1:100-year storm event

Percent Impervious: 32.4% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Not within any buffer

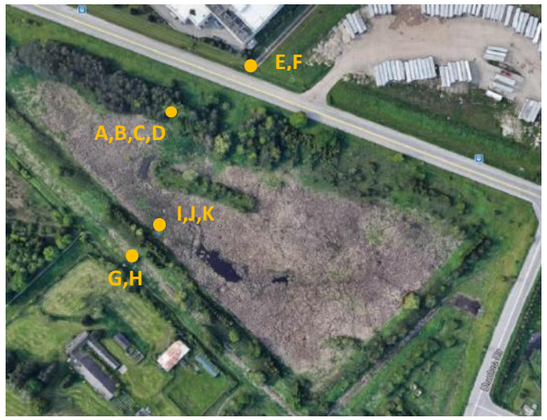
Description: Large dry pond facility in good condition. The pond receives water from a concrete channel and roadside ditches on the North side of Watson parkway which enters a control chamber inletting to the pond via a 1600mm STM inlet pipe and a 300mm PVC pipe. Water is directed through the basin by a low flow channel and ends in the South end of the pond. At the downstream end of the low flow channel there are two ditch inlet CB structures used to capture overflow, and two 1200mm perforated hickenbottom riser structures for controlled flow. These structures appeared in good condition, but were difficult to access due to dense vegetation in the South end of the pond.

***Note** that there is an additional sediment pond with a DICB structure and two inlet pipes in the North-East corner of the pond next to Dunlop Drive. These were not assessed because these structures appear to divert water to the outlet structures in the South end of the pond via pipe network, and do not impact the dry basin's functionality.

Downstream Receiver: Box culvert directing to nearby watercourse

Inspection Summary Table		
Immediate	Moderate	Low
		• Minor sediment deposition and flow restriction in outlet culvert in the outfall channel leading to creek (Photo H.) • Poor access to pond outlet structures due to location, narrow pathway, and dense vegetation • Under 50mm of standing water in dry basin area (Photo C.) • No stormwater facility signage present • Downstream of 1600mm inlet pipe has trees growing in forebay basin (Photo B.)

Stormwater Facility #38



A. Sediment basin at CMP inlet outfall.

B. CMP inlet structure and trash grate. Includes cobble rock retaining wall. Note trees growing in sediment basin, and signs of erosion on pond banks.

C. Low flow channel out of CMP inlet, looking downstream into dry pond area.

D. Sediment accumulated in CMP inlet outfall channel.

E. Concrete drainage channel, main upstream source of SWM facility.

F. Concrete drainage channel inlet structure and upstream end of CMP inlet pipe.

G. Outlet channel from SWM facility at box culvert crossing pedestrian path, upstream side.

H. Outlet channel from SWM facility at box culvert crossing pedestrian path, downstream side.

I. Double outlet riser structures complete with clear stone base.

J. Pond overflow outlet ditch inlet catchbasin structure #1 and look inside at outlet pipe.

K. Pond overflow outlet ditch inlet catchbasin structure #2 and look inside at outlet pipe.

Stormwater Facility #74

Location: 151 Milson Crescent

Type: Wet facility with infiltration basin

Construction date: 2001

Recommended Cleanout Year (2014 Assessment): 2023

ECA #: CoA 3422-4LALPS

Drainage area: 13.8 ha per GIS review

Flood Control: Post-to-pre to 100-yr event

Percent Impervious: 49.9% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Within fish habitat thermal buffer

Description: A multi-basin pond facility functioning inconsistently with the information provided in record drawings. The facility is divided into a wet pond with two cells by a separation berm that is degrading, and a sand filter infiltration basin. The wet pond basin includes a 1050mm concrete inlet pipe with headwall and riprap spillway separating the forebay from the main cell. The main cell component of the wet pond features a 600mm perforated CSP hickenbottom riser and an additional concrete riprap overflow channel that direct higher flows into the sand filter basin to allow the treated stormwater to infiltrate into the ground. Upon field inspection, the permanent pool water level was noted to be lower than the forebay berm elevation, and no permanent pool was observed within the main cell portion of the wet pond.

Downstream Receiver: Grassland receiving basin

Inspection Summary Table		
Immediate	Moderate	Low
• Permanent pool water level is approximately 0.2m below the elevation identified in record drawings • No permanent pool exists within the main cell portion of the wet pond (Photo B.)	• Overflow channel between ponds is becoming cracked, showing signs of weathering, erosion, and sediment deposition (Photo C.) • Pipe outlet from dry pond partially buried and surrounded by dense grass (estimated 30%, see Photo A.)	• Tree deadfall • Dense vegetation in forebay cell and moderate sediment accumulation at outfall from forebay inlet pipe (Photo I) • Dense tree growth around dry pond cell perforated riser outlet structure limiting access (Photo J,K.) • Heavy vegetation growth on overflow weir from dry pond cell (Photo L.)

Stormwater Facility #74 – Page 1

A. Outlet pipe from dry basin perforated riser 30% buried in earth and grass

B. Dry pond looking from outlet end

C. Riprap channel between ponds (damaged)

D. Overflow weir from forebay dry pond

E. Overflow weir from forebay to dry pond

F. Overflow weir from forebay to dry

G. Overflow weir from forebay to dry pond

Stormwater Facility #74 – Page 2

H. 1050mm concrete inlet pipe and headwall structure featuring trash grate and concrete block energy dissipators

I. Forebay basin from inlet pipe location showing dense stands of tall grasses and moderate sediment accumulation at outfall of inlet pipe

J. Hickenbottom riser outlet clear stone jacket base and dense tree growth overtop of structure limiting access

K. Hickenbottom riser outlet in dry pond cell with perforations in good condition

L. Overflow weir from dry pond to infiltration basin with dense vegetation establishment that may cause minor flow restriction

M. Overflow weir material made of concrete base and grouted rip-rap

N. Infiltration basin overview from near dry pond cell overflow weir

Stormwater Facility #75

Location: 61 Milson Crescent

Type: Wet facility with infiltration basin

Construction date: 2001

Cleanout Year: 2017

COA #: 7334-4L9RHG

Drainage area: 3.5 ha per GIS review

Flood Control: Post-to-pre to 100-yr event

Percent Impervious: 44.7% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Pond facility with minimal maintenance issues that is divided into a wet and infiltration cell. Water initially enters the facility through a 600mm inlet pipe with headwall and grate, where the forebay cell has permanently standing water with significant algae growth. Water then enters the main cell of the wet pond via a riprap weir that has some sediment deposition and cracking in the concrete. From the main wet pond cell, water outlets to the infiltration cell by a 1500mm aluminized hickenbottom riser and an overflow weir. The infiltration pond cell is functioning well and is in good condition. The permanent pool of the wet pond cell was at a lower elevation than the forebay separation weir, and the main cell was dry during the assessment visit, which is inconsistent with the information provided on record drawings of the facility.

Downstream Receiver: Dry swale leading to creek

Inspection Summary Table		
Immediate	Moderate	Low
• Permanent pool water level approximately 0.2m below record drawing elevation • Main cell of wet pond is dry, inconsistent with record drawing (Photo D.)	• Outer embankment of pond basin showing signs of erosion and has displaced riprap • Riser structure has vegetative growth and debris accumulating around the structure's base partially restricting flow (Photo C.) • Outlet pipe is showing early signs of rust and small deposits of sediment deposition (Photo A.)	• Early signs of erosion along permanent pool shoreline • Large deadfall debris in wet cell • Overflow weir between pond cells showing signs of sedimentation, vegetative growth, and fractured concrete (Photos E, F)

Stormwater Facility #75

A. Dry basin outlet pipe in good condition

B. Overland outlet weir from dry basin with dense grassy vegetation growth

C. Hickenbottom with vine growth

D. Dry Pond Cell in good condition

E. Overflow weir with sediment and vegetation growth

F. Fracturing riprap weir between forebay and dry cells

G. Forebay, Headwall and inlet pipe

H. Headwall and inlet pipe

Stormwater Facility #76

Location: 264 Carrington Drive

Type: Wet facility

Construction date: 2002

Cleanout Year: 2019

ECA #: 1168-5BQRWA

Drainage area: 5.8 ha per GIS review

Flood Control: 5 year storm

Percent Impervious: 49.1% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Within wetlands buffer

Description: Wet pond in fair condition with cooling trench low flow outlet. Main cell of pond has 750mm inlet pipe with slanted concrete/riprap headwall in the North-West corner of the pond, showing minimal signs of degradation. Also found in North end of pond is a grated ditch inlet catch basin which leads to a 300mm PVC outlet pipe running through an overflow weir. This outlet pipe is estimated to be about 90% submerged and appears to have flow restriction due to clogging. There is a cooling trench designed to run parallel with the main pond cell/ditch which receives from a 300mm PVC outlet from the main pond cell. The Northwest berm acts as the major overflow weir with a 0.29m depth.

Downstream Receiver: Wet pond leads to overflow into heavily vegetated dry pond.

Inspection Summary Table		
Immediate	Moderate	Low
• 300mm PVC outlet pipe from DICB outlet is about 90% submerged/buried and likely restricts flow (Photo C.)	• Berm between main cell and cooling trench features significant degradation, erosion, displaced riprap, steep grading and sediment deposition (Photo D.)	• Pipe inlet has slanted concrete headwall and has no fencing • No stormwater facility signage present

Stormwater Facility #76

A. Wet pond by access road

B. Downstream wetland from overflow berm

C. 300mm outlet pipe 90% buried

D. Embankment on North end of pond lacking vegetation

E. Inlet pipe with slanted headwall

F. Overflow structure located near inlet and along vegetated overflow weir

G. Access path in good condition

Stormwater Facility #96

Location: Stone Road East & Watson Parkway

Type: Dry facility

Construction date: 2005

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: 2606-63BL6S

Drainage area: 2.92 ha per GIS review

Flood Control: Post-to-pre up to 100-year event

Percent Impervious: 21% per GIS review

Outfall Location Digitized: Yes

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Dry pond off ditches of Stone Road and Watson Parkway, and is in good condition. A 600mm and 300mm pipe inlet into the pond from the road STM system, meanwhile another two inlet pipes (525mm and 300mm) convey water from the North side of Watson and East side of Stone Rd. The facility is constructed with a 300mm solid riser and 300mm hickenbottom riser that are jacketed by a 1500 CSP riser outlet structure. There is also an emergency overflow weir designed along western leg of pond that was not located during the assessment.

Downstream Receiver: Wetland and Eramosa river

Inspection Summary Table		
Immediate	Moderate	Low
•	•	• No railings on inlet headwalls (greater than 1m drop) (Photo. H) • Heavy Phragmites presence (Photo C.) • Upstream of pipe inlets have vegetation growing close to pipe mouth, grass clippings/sediment deposition and loose rock displaced nearby (Photos G, H, L, M, N) • Minor sediment accumulation in curb inlets from Stone Road and Watson Parkway (Photo E,F, J.)

Stormwater Facility #96 – Page 1

A. Hickenbottom outlet

B. Inside Hickenbottom with multi-perforate riser outlet system

C. Dry Pond with heavy phragmites growth

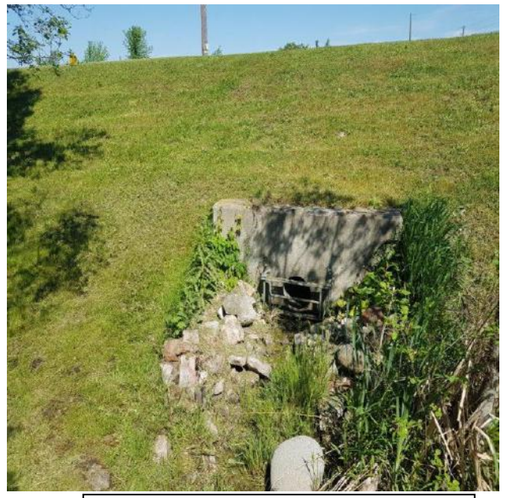
D. Dry Pond

E. Curb cut inlet on Stone Rd

F. Inlet drain channel from Stone Rd.

G. Inlet from East 10% filled with sediment

Stormwater Facility #96 – Page 2



H. Inlet from east ditch of Stone Road

I. Dry Pond from Watson Parkway

J. Curb cut inlet from Watson Parkway

K. Headwall and inlet to dry pond with no railing or fence for 1m drop

L. Inlet on North side of Watson Parkway with vegetation and debris in upstream channel

M. Front view of concrete inlet pipe on North side of Watson Parkway (upstream end).

N. Front view of concrete inlet pipe on downstream end entering dry pond.

O. Location of overflow weir according to design drawings. No obvious weir could be located and minimal grade change from rest of berm.

Stormwater Facility #98

Location: 141 Arkell Rd

Type: Infiltration facility

Construction date: 2004

ECA #: 0220-62EJC5

Drainage area: 11.5 ha per GIS review

Flood Control: 100 Year Storm event

Percent Impervious: 50.1% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Infiltration basin in good condition backing onto residential area**.** The pond is constructed with a 600mm concrete inlet pipe and headwall at the North end of pond, and dual inlet pipes receiving water from wetland in Eastern portion of pond**.** No outlets located. ECA notes containment, filtration and infiltration of runoff up to the 5-year storm event. Under greater storm events, flows are attenuated and discharged into the adjacent kettle depressions to the South of the facility.

Downstream Receiver: None found

Inspection Summary Table		
Immediate	Moderate	Low
• Upstream end of dual CSP inlet pipes beginning to become clogged by vegetation, rip-rap and sediment (Photo F.)	•	• Outer berm edges of basin show early signs of displaced riprap, soft spots, and erosion • Graffiti on sign • Dense vegetation at outfall of 600mm concrete inlet pipe (Photo I)

Stormwater Facility #98

A. Inlet headwall entering grassy basin

B. Dry basin overview looking west

C. Inlet Pipe with headwall and grate

D. Downstream end of dual culvert in good condition

E. Dry basin overview looking East

F. Upstream end of dual culvert becoming blocked by sediment and vegetation

G. Inlet headwall structure and railing at 600mm pipe inlet from Amsterdam Crescent

H. 600mm concrete pipe inlet from Amsterdam Cr. Complete with trash grate in good condition

I. Outfall from 600mm inlet pipe with dense vegetation causing minor flow restriction

Stormwater Facility #116

Location: 222 Arkell Road

Type: Infiltration facility

Construction date: 2013

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: 1049-9ADGKC

Drainage area: 3.8 ha per GIS review

Flood Control: Regional event

Percent Impervious: 49.9% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Not within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Fenced infiltration pond in good condition, constructed with a 900mm STM inlet pipe with stone dissipators and two grouted riprap spillways at North East end of Pond. The pond basin also has six ditch inlet structures leading to infiltration galleries on both the East and West embankments. There is an additional DCMH with a 300mm STM inlet pipe on Eastern bank with spillway. Overflow drains to Arkell road via the spillway.

Downstream Receiver: Infiltration galleries

Inspection Summary Table		
Immediate	Moderate	Low
• South East and South West Ditch inlets have estimated 90% grate coverage by vegetation and debris (Photos B, I)	•	• Outer berms showing early signs of erosion and displaced rip-rap stone and sediment deposition • Steep banks

Stormwater Facility #116

A. Gate access off road

B. South East ditch inlet with vegetation cover

C. Infiltration pond basin

D. Spillway #1

E. Pipe inlet

F. North West ditch inlet

G. Spillway #2

H. Pipe Inlet

I. South West ditch inlet with heavy cover

J. Asphalt access into pond

Stormwater Facility #117

Location: Inkerman St. and Hearn Ave.

Type: Dry facility

Construction date: 2013

Recommended Cleanout Year (2014 Assessment): N/A

ECA #: Not available at time of review

Drainage area: 247.8 ha per GIS review

Flood Control: 100 Year Storm event

Percent Impervious: 48% per GIS review

Outfall Location Digitized: Location not available for this facility

Natural Heritage System (NHS) Proximity: Within NHS

Environmental Buffer Proximity: Not within any buffer

Description: Large grass basin that operates as a large dry pond in which quantity control is provided up to the 100 year storm, as per the original design ECA. No apparent water quality flow control structures are present within the facility. Captured runoff discharges through a 1650mm culvert into a plunge pool as part of Howitt Creek.

Downstream Receiver: Howitt Creek

Inspection Summary Table		
Immediate	Moderate	Low
•	•	• Presence of invasive plants (buckthorn near Creek)

Stormwater Facility #117

A. Dry basin overview noted as large field area

B. Basin materials and vegetation cover

C. Asphalt path, West bank

D. Asphalt path, West bank

E. Hewitt Creek