



# **INTERIM WATER QUALITY IMPROVEMENT STRATEGY**

## *ENHANCED REQUIREMENTS FOR PHOSPHORUS IMPAIRED WATERS*

### **1.0 Purpose:**

Like other developed areas in Monroe County, growth in Perinton over the last 60 years has caused some unfortunate consequences to the water quality of natural streams, creeks and wetlands. One consequence is that developed areas shed larger volumes of stormwater run-off from impervious surfaces like roads, buildings and parking lots compared to the natural landscape. Because there is more volume of stormwater run-off, there is more associated pollution. These pollutants typically include petroleum products and heavy metals from vehicles; fertilizers, chemicals and animal waste from lawns; and sediment from eroded streambanks, construction sites and roadways.

A second consequence is that streams more frequently flow full or overtop their banks. High stormwater flows can cause flooding, damage property, and harm fish and wildlife habitat. Common damages from high flows include eroded stream banks, wider and deeper stream channels, and excessive sediment deposition. This continued degradation can result in poor water quality and added maintenance costs to municipalities and property owners.

According to the New York State Department of Environmental Conservation's "Lake Ontario Basin Waterbody Inventory and Priority Waterbodies List" (NYSDEC 2020/2022), Thomas Creek, here in the Town of Perinton, has been identified and listed as a 303(d) impaired waterbody; likely the result of stormwater run-off from suburban development, with silt/sediment and nutrients like Phosphorus being the primary pollutants of concern.

What is phosphorus and why is it a problem?

- Phosphorus is a nutrient that is essential for plant and animal life. However, when present in excessive amounts in water bodies, it acts as a fertilizer and can cause rapid algae growth, leading to blooms and poor water quality.
- Algal blooms can block sunlight from reaching underwater plants, causing them to die. The decomposition of dead aquatic plants and large amounts of algae consumes oxygen, leading to low dissolved oxygen levels, which can suffocate fish and other aquatic organisms.

In Perinton, what are some sources of Phosphorus Pollution:

- Agricultural runoff: Animal waste, and fertilizers.
- Urban runoff: Stormwater runoff from streets, lawns, commercial/retail plazas, industrial areas, and active construction sites can carry phosphorus into waterways.
- Stream Bank Erosion: loose soil or unstable stream banks can deliver phosphorus into waterways.

Impacts of Phosphorus Pollution:

- Reduced water quality: Excess phosphorus makes water cloudy, less clear, and aesthetically unappealing.
- Harm to aquatic life: Low dissolved oxygen levels, toxic algal blooms, and habitat destruction can lead to fish kills and the decline of other aquatic species.
- Public health concerns: Some algal blooms can produce toxins that pose risks to human and animal health.
- Quality of Life / economic concerns: Impaired water quality can negatively affect recreational activities like fishing or impact the visual aesthetic of the natural environment.

Why develop a Water Quality Improvement Strategy?

The Town of Perinton has developed this Water Quality Improvement Strategy for the Thomas Creek/Whitebrook watershed to serve as a guide for the implementation of additional Best Management Practices (BMPs) by Town Staff to address and reduce Phosphorus as the pollutant of concern. The waterbodies of concern within the Thomas Creek/Whitebrook watershed include:

- Main stem of Thomas Creek (3-12) from Irondequoit Creek to the Canal
- Trib 3-12-1
- Trib 3-12-1a
- Trib 3-12-3 (including Commission Ditch)
- Trib 3-12-3-1
- Trib 3-12-3-2
- Trib 3-12-3-3

This interim strategy is a companion document to a Green Infrastructure Rapid Assessment Plan that was developed for the Thomas Creek Watershed in 2013.

## **2.0 NYSDEC SPDES GP-0-24-001 Requirements:**

Part VIII of the NYSDEC SPDES General Permit of Stormwater Discharges from MS4 systems, (GP-0-24-001) directs the TOWN to implement, in addition to the applicable requirements of the six (6) MCMs in Part VI of the general permit, enhanced Best Management Practices (BMP's) for the sewersheds that discharge to an impaired waterbody like that of Thomas Creek / White Brook.

### 3.0 Enhanced Water Quality BMPs:

The additional pollutant specific BMPs for Phosphorus impaired waters include eight (8) specific strategy elements that are listed and described below.

#### 3.1 Mapping

- *Permit Requirement*

*In accordance with the timeframes listed below, the MS4 Operator must update, in geographic information system (GIS) format with a scale of 1:24,000 or finer, the comprehensive system mapping (Part IV.D.) to include:*

- a. *Within three (3) years of the EDC, MS4 infrastructure mapping requirements (Part IV.D.2.b.i.) and sewersheds for each:*
  - i. *MS4 outfall; and*
  - ii. *ADA MS4 outfall.*
- b. *Within three (3) years of the EDC, the following information for each MS4 outfall:*
  - i. *Retail and wholesale plant nurseries (including big box stores);*
  - ii. *Commercial lawn care facilities; and*
  - iii. *Golf courses.*
- c. *Within three (3) years of the EDC, ADA MS4 outfalls.*

- **Compliance Strategy**

The TOWN currently meets the *a.i* and *a.ii* requirement listed above through its active and comprehensive GIS mapping program. This program contains dataset layers that include ***Stormsewer Monitoring Locations*** (formerly known as Outfalls) and ***Stormsewer Shed Collection Areas*** for both MS4 and ADA monitoring locations.

The TOWN is not complete with the requirements of *b.i*, *b.ii*, and *b.iii* listed above, but will incorporate that information into the ***Monitoring Location*** dataset layer within the timeframes stated in GP-0-24-001.

The TOWN currently meets the *c* requirement listed above through its active and comprehensive GIS mapping program. This program contains dataset layers that include the ***Outfalls*** and ***Stormsewer Collection Areas*** for both MS4 and ADA outfalls.

#### 3.2 Public Education and Outreach

- *Permit Requirement*

- a. *Within six (6) months of the EDC, the MS4 Operator must make available information on how the impairment is being addressed by implementation of the MS4 Operator's local law or legal mechanism with content equivalent to the model local law (Part IV.E.1 and Part IV.E.2.). MS4 Operators must document the completion of this requirement in the SWMP Plan. 93 Part VIII.A.*
- b. *Following the completion of Part VIII.A.1 (above), twice a year, once from March to August and once from September to February, the MS4 Operator must provide educational messages with information specific to phosphorus to the applicable target audiences within the sewersheds for impaired waters listed in Appendix C focus area, identified in Part VI.A.1.b. or Part VII.A.1.b,*

*depending on the MS4 Operator type. The SWMP Plan must be updated with changes made to public education and outreach program (Part VI.A or Part VII.A, depending on the MS4 Operator type). MS4 Operators must document the completion of this requirement in the SWMP Plan.*

- Compliance Strategy

The TOWN is in general conformance with permit requirement *a* listed above. The TOWN adopted a local law in July of 2010 that was modelled after the 2006 NYSDEC Model IDDE Local Law and the 2006 NYSDEC Model Stormwater Management and Erosion & Sediment Control Law. The TOWN's local law is Chapter 119 of the Perinton Town Code and is entitled "Erosion and Sediment Control". This local law is included in Appendix A of the SWMP Plan and has gone largely unchanged since its adoption in 2010.

The adoption and implementation of this local law provides the Town with the legal mechanism to control and regulate development (both during and after construction), as well as inspect and eliminate illicit types of water discharges that enter the stormsewer drainage system from the built environment. This is important because Phosphorus can be a dissolved or particulate pollutant of concern; meaning that there are many ways for Phosphorus to enter the natural environment as a pollutant. Sources of phosphorus in urban stormwater run-off often come from plant and leaf litter, soil particles (erosion and sediment transport), road salt, fertilizer from lawn/landscaped areas, pet wastes, and other organic wastes found in sewage or industrial effluent. The primary purpose of Perinton's Erosion & Sediment Control Law is to lessen the impacts of Phosphorus in stormwater run-off by:

- Acknowledging that land disturbing development projects and associated increases in impervious cover alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, as well as can cause stream channel erosion, and sediment transport and deposition. This stormwater runoff contributes to increased quantities of waterborne pollutants.
- Understanding that stormwater runoff, soil erosion and nonpoint source pollution can be controlled and minimized through the regulation of stormwater runoff from development sites through Chapter 119 of the Perinton Town Code.
- Prohibiting non-stormwater discharges from entering the stormsewer/drainage system.
- Establishing minimum stormwater management requirements and controls as well as policies for water quality and quantity standards that provide reasonable guidance for the regulation of stormwater runoff and, in addition to the above, safeguard property, and prevent damage to the environment.
- Regulating stormwater runoff discharges from land development projects and other construction activities in order to control and minimize increases in stormwater runoff rates and volumes, stream channel erosion, and nonpoint source pollution associated with stormwater runoff is in the public interest and will prevent threats to public health and safety.
- Requiring the creation and implementation of a Stormwater Pollution Prevention Plan that utilizes soil stabilization best management practices and activities to be implemented to eliminate or reduce pollutant discharges from exposed soils to stormwater conveyance systems and/or receiving waters.

- Creating an enforcement mechanism that holds persons accountable for violating these requirements.

The TOWN is not complete with the requirements of *b* listed above, but incorporate specific educational messaging to those target areas/sewersheds of the impaired segment of Thomas Creek / White Brook within the timeframes stated in GP-0-24-001.

### 3.3 Public Involvement/Participation

- *Permit Requirement*

*No Additional requirements necessary.*

- Compliance Strategy

Not Applicable

### 3.4 Illicit Discharge Detection and Elimination

- *Permit Requirement*

*Following the completion of Part VIII.A.1, within five (5) years of the EDC, the MS4 Operator must include on the MS4 outfall inventory (Part VI.C.1.c. or Part VII.C.1.c, depending on the MS4 Operator type) the number of each item identified in Part VIII.A.1.b. for each associated MS4 outfall.*

- Compliance Strategy

The TOWN is not complete with the requirements listed above but will incorporate that land-use information into the Monitoring Location (**Outfall**) dataset layer (inventory) within the timeframes stated in GP-0-24-001.

### 3.5 Construction Site Stormwater Runoff Control

- *Permit Requirement*

*For Following the completion of Part VIII.A.1, high priority construction sites must be inspected during active construction after the pre-construction meeting (Part VI.D.7. or Part VII.D.7, depending on the MS4 Operator type).*

*a. If the MS4 Operator is completing the inspection, the construction site must be inspected every ninety (90) days; or*

*b. If the MS4 Operator utilizes the qualified inspector's weekly inspection reports, as required by the CGP, to satisfy this requirement, the MS4 Operator must inspect the construction site once every six (6) months, or sooner if any deficiencies are noted that require attention.*

*MS4 Operators must document the construction site inspections in the SWMP Plan.*

- Compliance Strategy

The TOWN is in general conformance with permit requirements of *a* & *b* listed above The TOWN currently implements a robust construction inspection program, where active

construction sites are routinely inspected for a variety of compliance items, including erosion and sediment controls and conformance of post-construction stormwater management practices to design specifications.

Generally, each active construction site is inspected weekly. However, the exact dates of when each individual site gets inspected can be found in the Construction Oversight Program Plan in Appendix D (Construction) of the SWMP Plan. It is also important to note that the TOWN's Construction Inspection staff have all received NYSDEC endorsed 4-hours training in the principles and practices of erosion and sediment control.

### 3.6 Post-Construction Stormwater Management

- *Permit Requirement*

*No Additional requirements necessary.*

- Compliance Strategy

Not Applicable

### 3.7 Pollution prevention & Good Housekeeping

- *Permit Requirement*

*Following the completion of Part VIII.A.1:*

*a. Annually, from April 1 through October 31, all streets located in sewersheds discharging to phosphorus impaired segments must be swept. MS4 Operators must document the completion of this requirement in the SWMP Plan. This requirement is not applicable to: i. Uncurbed roads with no catch basins; High-speed limited access highways; or Roads defined as interstates, freeways and expressways, or arterials by the United States Department of Transportation, Federal Highway Administration, Highway Functional Classification Concepts, Criteria and Procedures, 2013.*

*b. Within six (6) months of MS4 outfall inspection, the MS4 Operator must initiate actions to repair all MS4 outfall protection and/or bank stability problems identified during the inspection. Repairs must be completed in accordance with the NYS E&SC 2016. MS4 Operators must document the completion of this requirement in the SWMP Plan.*

- Compliance Strategy

The TOWN is in general conformance with permit requirement *a* listed above. The TOWN presently sweeps every local, state and county road within the Town of Perinton, excluding the Village of Fairport and Interstate 490 on an annual basis. The TOWN also sweeps various parking lots, including Town Hall/Community Center and the Department of Public Works several times a year.

In general, the TOWN attempts to make two (2) sweeping passes any given year for all roads. It is also important to note that Perinton's street sweepers are also assisting other operational services provided by the Department of Public Works, like the chip seal

program, and leaf collection program. For these operational services, the sweepers are collecting loose stone from 20-miles of various roadways throughout Town associated with the Chip Seal Program, and collecting leaf debris from all roads throughout Town, associated with the Leaf Collection Program.

The TOWN is not complete with the requirement *b* listed above but acknowledges that within six (6) months of an Monitoring Location (Outfall) inspection, the Town will initiate actions to repair outlet protection practice and/or bank stability problems identified during the inspection within the timeframes stated in GP-0-24-001 and that repairs must be completed in accordance with the NYS E&SC 2016.