

August 31, 2022

Holliday Keen, Stormwater Coordinator
Bureau of Water Quality
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

Submitted via email to Holliday.Keen@Maine.gov

**SUBJECT: MS4 Model LID Strategies Ordinance
Falmouth, Maine Permit Number MER041023**

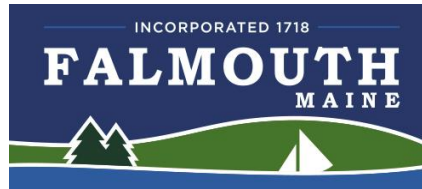
Dear Holliday,

We are submitting the Town of Falmouth's model Low Impact Development Strategies Ordinance as required per BMP 5.1 – Implement Strategies to Prevent or Minimize Water Quality Impacts of the Town's Stormwater Management Plan dated August 2, 2022. The attached model Ordinance used the "*Maine Model Ordinance for Low Impact Development Strategies*", prepared by Southern Maine Planning and Development Commission, Cumberland County Soil and Water Conservation District, and Integrated Environmental Engineering, Inc. (under award CZM NA21NOS4190082 to the Maine Coastal Program from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce in July 2022) as a guide for its development.

The attached model Ordinance will undergo a thorough review process by Town staff and the Town's Ordinance Review Committee as part of the ordinance development. At which time, the provisions may need to change to better suit the Town and the Town's Land Use Regulations. Substantive changes will be supported with written justification and reviewed with the Maine Department of Environmental Protection prior to incorporation.

Please note the Town is considering incorporating the LID Strategies Ordinance into the Town's Code of Ordinances via Chapter II-7 Land Subdivision and/or Chapter II-19 Zoning and Floodplain Management as a new Section, similar to the Post-Construction Stormwater Management Ordinance or as a stand-alone ordinance that is referenced in the Subdivision and Zoning ordinances. The new section or stand-alone ordinance would need to be cross referenced in several existing Chapters, including Appendix 7-7 Stormwater Management of the Subdivision Ordinance. The means of incorporation will be determined as part of ordinance review and development. The Town's existing ordinances already embrace low impact development in several ways, and implementation of this model ordinance further those efforts.

TOWN OF FALMOUTH PUBLIC WORKS DEPARTMENT
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Additionally, please note there are several "Notes to DEP" included in the model LID Strategies Ordinance. These notes provide additional information to aid in your review.

Sincerely,

A handwritten signature in blue ink that reads "Justin Early".

Justin Early, P.E.

Assistant Director of Public Works/Town Engineer

Enclosure

Falmouth Model Ordinance for Low Impact Development Strategies

Prepared for submittal to the Maine Department of Environmental Protection, September 2022, as required by the Maine General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems.

Note to DEP: The Town is considering incorporating the Low Impact Development (LID) Strategies Ordinance into the Town's Code of Ordinances via Chapter II-7 Land Subdivision and/or Chapter II-19 Zoning and Floodplain Management as a new Section, similar to the Post-Construction Stormwater Management Ordinance or as a stand-alone ordinance that is referenced in the subdivision and zoning ordinances. The location of the Ordinance in the Town's Code of Ordinances will be reviewed and determined during ordinance development and review. The new section or stand-alone ordinance, including the Performance Standards, would need to be cross referenced in applicable existing Chapters, including Appendix 7-7 Stormwater Management of the Subdivision Ordinance. The Town will rely on existing provisions related to procedures, enforcement, and severability and conflicts of the subdivision and/or zoning ordinances, where possible, and additional language related to these areas will be added accordingly, during ordinance development and review. Language addressing waiver criteria will be added during ordinance development and review.

Section 1 Purpose

The Purpose of this Ordinance for Low Impact Development Strategies (the "Ordinance") is to protect, maintain and enhance the public health, safety, and general welfare of the citizens of Falmouth by establishing minimum requirements and procedures to minimize the adverse effects of New Development and Redevelopment on the environment. This Ordinance establishes methods for implementing Low Impact Development Strategies to comply with minimum control measure requirements of the federal Clean Water Act, of federal regulations and of Maine's Small Municipal Separate Storm Sewer Systems (MS4) General Permit.

Section 2 Definitions

Note to DEP: During ordinance development, the Town's existing ordinances will be reviewed and cross-checked to determine which definitions will be included in this section. Definitions will be carefully reviewed to avoid creating new definitions for terms that already exist elsewhere in the ordinance as well as to avoid creating conflict with the current ordinance's use of those terms. Following review, applicable definitions will be removed, included, and/or revised.

Buffers - Means all three kinds of buffers listed below unless a subset of the three is specifically called out:

- **Stormwater Vegetative Buffer or Stormwater Treatment Buffer** - a buffer constructed in accordance with Appendix F in Chapter 500 for the purposes of providing pollutant removal.
- **Shoreland Zoning Setback Buffer** - A buffer required by the municipal Shoreland Zoning Ordinance to protect a water of the State.
- **General Buffer** - a buffer required by the municipal ordinances to provide screening to parcels or developments from light, noise, other parcels, rubbish areas, or other areas.

Chapter 500 - Means Chapter 500 of the Maine Department of Environmental Protection's Rules ("Stormwater Management Rules").

Chapter 502 - Means Chapter 502 of the Maine Department of Environmental Protection's Rules ("Direct Watersheds of Lakes Most at Risk from New Development, and Urban Impaired Streams").

Climate Resilient Northeast Native Vegetation - Means plants identified as native to the Northeast as identified by the Northeast Regional Invasive Species & Climate Change (RISCC) Network or a Maine Licensed Landscape Architect.

Construction Activity - Means any activity on a Site that results in Disturbed Area.

Discharge - Means any spilling, leaking, pumping, pouring, emptying, dumping, disposing or other addition of pollutants to the Waters of the State, other than groundwater.

Disturbed Area² - Means all land areas of a Site that are stripped, graded, grubbed, filled, or excavated at any time during the site preparation or removing vegetation for, or construction of, a Project. Cutting of trees, without grubbing, stump removal, disturbance, or exposure of soil is not considered Disturbed Area. Disturbed Area does not include routine maintenance but does include Redevelopment and new Impervious Areas. "Routine maintenance" is maintenance performed to maintain the original line and grade, hydraulic capacity, and original purpose of the facility. Paving impervious gravel surfaces provided that an applicant or permittee can prove the original line and grade and hydraulic capacity shall be maintained and original purpose of the gravel surface remains the same is considered routine maintenance. Replacement of a building is not considered routine maintenance of the building and is therefore considered Disturbed Area.

Drainageway - Means the same as "Drainageway" defined in Chapter 500

General Permit - Means the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4) approved October 15, 2020, and modified November 23, 2021, and any amendment or renewal thereof.

High Intensity Soil Survey - Means a Class A survey defined by the March 2009 Guidelines for Maine Certified Soil Scientist for Soil Identification and Mapping, prepared by the Maine Association of Professional Soil Scientists.

High Permeability Soils - Means hydrologic soil groups A or B as determined by on-site soil testing by a certified soil scientist using a High Intensity Soil Survey.

Impervious Area³ - Means the total area of a Parcel covered with a low-permeability material that is highly resistant to infiltration by water, such as asphalt, concrete, or rooftop, and areas such as gravel roads and unpaved parking areas that will be compacted through design or use to reduce their permeability. Common Impervious Areas include, but are not limited to, rooftops, walkways, patios, driveways, parking lots or storage areas, concrete

² Disturbed Area definition is from the MS4 General Permit plus addition of the last sentence to ensure that Redevelopment Projects removing buildings take into account that area as Disturbed Area.

³ Impervious Area definition is the same as Chapter 500 definition of Impervious Area except the last sentence was modified.

or asphalt paving, gravel roads, packed earthen materials, and macadam or other surfaces which similarly impede the natural infiltration of stormwater. Pervious pavement, pervious pavers, pervious concrete, and under drained artificial turf fields are all considered impervious. For the purpose of determining whether a Site exceeds the Impervious Area thresholds requiring conformance to LID performance standards, the municipality may exclude these from calculation of Impervious Area if these are designed to be infiltration Stormwater Treatment Measures.

Lot – Means the same as it is defined under the Municipality’s zoning ordinance.

Low Impact Development (LID) - Means a broad approach to site planning that preserves natural resources, processes, and habitat, defines what portions of the Site are suitable for development and then utilizes Stormwater Treatment Measures to manage Runoff from the proposed developed impervious areas. In LID, Stormwater Treatment Measures using natural processes such as vegetated buffers are given preference over constructed treatment Stormwater Treatment Measures. The goals of LID are to minimize the environmental impacts of the development.

Maine Native Vegetation - Means vegetation including grass seed mixtures, identified as native to Maine from lists maintained by: US Department of Agriculture Hardiness Zones by the Maine Cooperative Extension, Wild Seed Project, Regional Soil and Water Conservation District, Maine Yard Scaping Program, or a Maine Licensed Landscape Architect.

Municipal Separate Storm Sewer System (MS4) - Means a conveyance or system of conveyances designed or used for collecting or conveying Stormwater (other than a publicly owned treatment works (POTW), as defined at 40 CFR 122.2, or a combined sewer), including, but not limited to, roads with drainage systems, municipal roads, catch basins, curbs, gutters, ditches, human-made channels or storm drains owned or operated by any municipality, sewer or sewage district, Maine Department of Transportation (MDOT), Maine Turnpike Authority (MTA), State agency or Federal agency or other public entity that Discharges to Waters of the State other than groundwater.

Municipality - Means the Town of Falmouth.

New Development⁴ - Means the same as “New Development or Construction” defined in the General Permit.

Parcel⁵ - Means the same as "Tract or parcel of land" as defined at 30 M.R.S. §4401.6 et seq. (

⁴ The General Permit defines “New Development or Construction” as follows: “New Development or Construction” means activity undertaken to develop property, including but not limited to: the construction of buildings, parking lots, roads and other new impervious surfaces; landscaping; and other activities that disturb land areas. New Development or Construction does not include Redevelopment or maintenance. Permitted municipalities may define New Development more stringently.)

⁵ §4401.6 Tract or Parcel of land means all contiguous land in the same ownership, except that lands located on opposite sides of a public or private road are considered each a separate tract or parcel of land unless the road was established by the owner of land on both sides of the road after September 22, 1971.

Permitting Authority - Means the Code Enforcement Officer, Building Inspector, Planning Board, or other official or body authorized by State law or the Municipality's ordinances to approve Development or Redevelopment of Sites.

Project - Means Construction Activity undertaken for New Development or Redevelopment, both as defined in the General Permit, located on a Site that will Discharge Stormwater to a Small MS4 located partially or entirely within the Urbanized Area.

Protected Natural Resource - Means coastal sand dunes, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, community public water system primary protection areas, great ponds, or rivers, streams or brooks as defined in the Natural Resources Protection Act at 38 M.R.S. §480-B.

Redevelopment⁶ - Means the same as "Redevelopment" defined in the General Permit.

Regulated Small MS4 - Means any Small MS4 authorized by the most recent, in-force General Permit or the general permits for the Discharge of Stormwater from MDOT and MTA Small MS4s or state or federally owned or operated Small MS4s including all those located partially or entirely within the Urbanized Area.

Runoff - Means the part of precipitation from rain or melting ice and snow that flows across a surface as sheet flow, shallow concentrated flow or in Drainageways.

Rural Areas - Means those zones or districts designated as follows on the municipal zoning map: [to be determined during ordinance development and review].

Small MS4 - Means any MS4 that is not already covered by the Phase I MS4 stormwater program including municipally owned or operated storm sewer systems, state, or federally owned systems, such as colleges, universities, prisons, military bases and facilities, and transportation entities such as MDOT and MTA road systems and facilities. See also 40 CFR 122.26(b)(16).

Significant and Essential Wildlife Habitats - Means the areas identified as Significant or Essential Habitats of endangered or threatened species as identified by the Maine Department of Inland Fisheries and Wildlife either on the Beginning with Habitat viewer or in consultation with the Maine Department of Inland Fisheries and Wildlife.

Site - Means the portion of a Lot, Parcel, or subdivision under municipal law, which is proposed for Construction Activity, including open space, Stormwater Treatment Measures, and Disturbed Area, subject to this Ordinance.

⁶ The General Permit defines "Redevelopment" as follows: "Redevelopment" means an activity, not including maintenance, undertaken to redevelop or otherwise improve property in which the newly developed area is located within the same footprint as the existing developed area.

Stormwater- Means the part of precipitation including Runoff from rain or melting ice and snow that flows across the surface as sheet flow, shallow concentrated flow, or in Drainageways. “Stormwater” has the same meaning as “storm water”.

Stream Crossing - Means the mechanism by which any road, sidewalk, or other structural feature of a Site will cross or pass over or through a Water of the State. . Typical Stream Crossings include culverts and bridges.

Stormwater Treatment Measure - Means a Stormwater management system or innovative treatment measure as described in Chapter 500 4.c.(3) Types of treatment measures allowed. These measures include wet ponds, vegetated soil filters, infiltration, buffers, or innovative treatment measures. For purposes of this Ordinance these are cumulatively referred to as Stormwater Treatment Measures, or individually referred to as Stormwater Treatment Wet Pond, Stormwater Treatment Vegetated Soil Filter, Stormwater Treatment Infiltration Measure, Stormwater Treatment Buffer, or Stormwater Treatment Innovative Measure.

Suburban Areas - Means those zones or districts designated as follows on the municipal zoning map: [to be determined during ordinance development and review].

Time of Concentration - Means the same as “Time of concentration” defined in Chapter 500.

Urban Areas - Means those zones or districts designated as follows on the municipal zoning map: [to be determined during ordinance development and review].

Urbanized Area - Means the area of the Municipality so defined by the inclusive sum of the 2000 decennial census and the 2010 decennial census by the U.S. Census Bureau.

Waters of the State - See 38 M.R.S. §361-A (7).

Section 3 Applicability

This Ordinance shall apply to any Project for which an application for subdivision or site plan approval is filed with the Municipality on or after 7/1/2024, which results in:

- Disturbed Area of one or more acres of land, or
- Disturbed Area that is less than one acre of land if the Construction Activity creating Disturbed Area is less than one acre of land and is part of a larger subdivision under municipal law that as approved or amended would create Disturbed Area of one acre or more.

Section 4 Submission Requirements

Note to DEP: During ordinance development, the submission requirements of the Town’s existing ordinances related to subdivision and site plan review will be reviewed. This section will include additional submission requirements that are not covered elsewhere.

4.1 Project Narrative

The applicant shall provide a Project narrative describing:

- the overall approach to Stormwater management at the Project Site,

- a listing of Stormwater Treatment Measures that will be in use, stating which will be maintained privately and which will be offered to the Municipality for acceptance and operation,
- how they have prioritized protection of the sensitive areas from disturbance, and
- a rationale for any waivers from performance standards.

4.2 Project Plan Contents

The applicant shall submit Project plans in conjunction with required subdivision or site plan applications. In addition to the required plan contents of the applicable subdivision or site plan application and to conform to the requirements of this Ordinance, the plans shall include:

- Waters of the State and their associated Shoreland Protection areas
- Protected Natural Resources
- Maine Native and Climate-Resilient Northeastern Native Vegetation in General Buffer areas and Shoreland Zoning Buffer areas
- Significant and Essential Wildlife Habitats
- Limits of disturbance
- Locations of snow storage areas
- Proposed Stormwater Treatment Measures
- Pre-development drainage areas, Drainageways and associated hydrologic soil group boundaries and hydrological flow lines used to calculate the Time of Concentration
- Post-development drainage areas, Drainageways and associated hydrologic soil group boundaries and hydrological flow lines used to calculate the Time of Concentration

4.3 Submittals Related to Infiltration Performance Standard

The applicant shall submit the following to support review of the Project application under the LID Performance Standards for infiltration:

- Information required by Chapter 500 Section (7)(D)(5)(c) Infiltration Submittals including a plan for use of de-icing materials, pesticides, and fertilizers within the drainage area of any infiltration Stormwater Treatment Measures.
- Locations of any Maine Uncontrolled Hazardous Substance Sites, Maine Voluntary Response Action Program sites, federal Resource Conservation and Recovery Act (“RCRA”) Corrective Action sites, or Petroleum Remediation sites on or adjacent to the Site.

Section 5 Approval Standards

When reviewing the Project for approval, the Permitting Authority shall consider the following criteria, and before granting approval, must determine that:

- The proposed Project protects sensitive areas, provides on-site volume control, provides treatment of Stormwater, and minimizes Impervious Areas.

Section 6 Performance Standards

Note to DEP: To show conformance to the MS4 General Permit Requirements, a “Note to DEP” has been included referencing the LID Measure(s) from Table 1 Appendix F of the 2022 MS4 General Permit the performance standard addresses. Additionally, the “Note to DEP” also includes a suggested area where the performance standard could

apply (Rural, Urban or Suburban areas). The suggested zones are to be determined during ordinance development and review. It is intended that Town, as part of the ordinance development and review, will determine which of the zones or districts shown on the zoning maps are included in each of the Rural, Urban or Suburban Area categories, and will list those in the Definitions in Section 2.

1. Align development layout with conservation of sensitive areas. Prioritize the protection of the following sensitive areas listed below by limiting disturbance in these areas:
 - a. Waters of the State and associated shoreland protection areas
 - b. Protected Natural Resources
 - c. Predevelopment Drainageways
 - d. High Permeability Soils
 - e. Maine Native Vegetation and Climate Resilient Northeastern Native Vegetation in General Buffer areas and Shoreland Zoning Setback Buffer areas
 - f. Significant and Essential Wildlife Habitats

The applicant will need to provide a description in the Project narrative of how these areas have been prioritized for protection from disturbance. Removal of Maine Native Vegetation and Climate Resilient Northeastern Native Vegetation that is diseased or in poor condition does not need to be prioritized for protection.

Note to DEP: The performance standard is intended to address LID Measure: 1. Minimize Site Clearing, 2. Protect Natural Drainage System, 4. Minimize Impervious Area, 5. Minimize Effect of Impervious Area, and 6. Minimize Soil Compaction. Suggested zones: Rural, Suburban, and Urban (to be determined during ordinance development and review).

2. Depict limits of disturbance on the Project plans. Limits of disturbance shall be established on-site prior to disturbance using flagging, fencing, signs, or other means to provide a clear indication.

Note to DEP: The performance standard is intended to address the LID Measure: 1. Minimize Site Clearing and 6. Minimize Soil Compaction. Suggested zones: Rural, Suburban, and Urban (to be determined during ordinance development and review).

3. Stream Crossings for Waters of the State shall be designed in accordance with all required State and Federal permits.

Note to DEP: The performance standard is intended to address LID Measure: 2. Protect Natural Drainage System and 3. Minimize Decrease in Time of Concentration. Suggested zones: Rural, Suburban, and Urban (to be determined during ordinance development and review).

4. Preserve the natural pre-development Drainageways on the Site to the maximum extent practicable. Exceptions are allowed if the Time of Concentration for a predevelopment Drainageway is the same as or shorter than the post-development Drainageway. The applicant may submit an “alternative analysis” which demonstrates that this performance standard is impracticable.

Note to DEP: The performance standard is intended to address LID Measure: 2. Protect Natural Drainage System and 3. Minimize Decrease in Time of Concentration. Suggested zones: Rural and Suburban (to be determined during ordinance development and review).

5. Provide Stormwater Treatment Measures in accordance with Chapter 500 Section 4.C General standards, 4.C.(2) Treatment requirements, 4.C.(3) Types of treatment measures allowed, and 4.D Phosphorus standard (for lake watersheds only) for Projects that have a Disturbed Area of one acre of land or more.

Individual Stormwater Treatment Measure may not treat more than one acre of Impervious Area. Vegetation used in Stormwater Treatment Measures shall be Maine Native Vegetation and/or Climate Resilient Northeastern Native Vegetation. Note that although Chapter 500 General Standards and Phosphorus standard have higher thresholds for developed and Impervious Area, these standards apply to sites within the Urbanized Area of the Municipality at a lower threshold.

Note to DEP: The performance standard is intended to address LID Measure: 2. Protect Natural Drainage System, 5. Minimize Effect of Impervious Area, 7. Minimize Lawns and Maximize Landscaping that Encourages Runoff Retention, and 10. Stormwater Quality Treatment and Retention Requirements. Suggested zones: Rural, Suburban, and Urban (to be determined during ordinance development and review).

6. Provide volume control on-site (through infiltration or storage) in accordance with the following Infiltration Standard:

Volume to be controlled = (total area of Impervious Area after New Development and Redevelopment - total Impervious Area that existed before New Development and Redevelopment) x Rd

Where Rd is the groundwater recharge depth based on the United States Department of Agriculture, Natural Resources Conservation Service (NRCS) hydrologic soil group as follows: Rd = 0.40 inches of rain for type A soils, 0.25 inches of rain for type B soils, 0.10 inches of rain for type C soils and 0 for type D soils.

Stormwater Treatment Measures with liners may not be used to meet the volume requirement via storage. Restrictions and requirements identified in Sections D(2) through D(4) of Appendix D Infiltration basins, drywells, and subsurface fluid distribution systems of Chapter 500 apply.

For Sites in Rural and Suburban areas where infiltration will disrupt the preservation of the pre-development Drainageways, an exception from the infiltration standard will be allowed. If any Uncontrolled Hazardous Substance Sites, Voluntary Response Action Program sites, RCRA Corrective Action sites, or Petroleum Remediation sites are on or adjacent to the Site, the Site is exempt from providing volume control under this performance standard. The Municipality may allow infiltration on an alternate site within the same watershed in-lieu of on-site infiltration.

Note to DEP: The performance standard is intended to address LID Measure: 2. Protect the Natural Drainage System, 3. Minimize the Decrease in Time of Concentration, and 5. Minimize Effect of Impervious Area. Suggested zones: Rural, Suburban, and Urban (to be determined during ordinance development and review).

7. Minimize Impervious Area and the Effect of Impervious Area from roadways by directing at least 70 percent of roadway Runoff into a Stormwater Treatment Measure

Note to DEP: The performance standard is intended to address LID Measure: 4. Minimize Impervious Area and 5. Minimize Effect of Impervious Area. Suggested zones: Rural, Suburban, and Urban (to be determined during ordinance development and review).

8. Direct Runoff from on-site roofs, sidewalks, and peak-use overflow parking Runoff into Stormwater Treatment Buffers or Stormwater Treatment Measures.

Note to DEP: The performance standard is intended to address LID Measure: 5. Minimize Effect of Impervious Area and 8. Provide Vegetated Open-Channel Conveyance Systems. Suggested zones: Rural, Suburban, and Urban (to be determined during ordinance development and review).

9. Restrict construction equipment movement, laydown areas and parking to the Disturbed Area. Areas to be vegetated shall be tilled and the soils amended with organic matter as needed based on the results of soil tests.

Note to DEP: The performance standard is intended to address LID Measure: 6. Minimize Soil Compaction. Suggested zones: Rural, Suburban, and Urban (to be determined during ordinance development and review).

10. Depict snow storage areas on Project plans. The location of snow storage areas shall be prohibited from Stormwater Treatment Measures and Shoreland Zoning Setback Buffers.

Note to DEP: The performance standard is intended to address LID Measure: 5. Minimize Effect of Impervious Area. Suggested zones: Rural, Suburban, and Urban (to be determined during ordinance development and review).

11. Utilize Maine Native Vegetation and/or Climate Resilient Northeastern Native Vegetation in General Buffers to be vegetated.

Note to DEP: The performance standard is intended to address LID Measure: 7. Minimize Lawns and Maximize Landscaping that Encourages Stormwater Runoff Retention. Suggested zones: Rural, Suburban, and Urban (to be determined during ordinance development and review).

Section 7 Waivers

Note to DEP: Waiver criteria will be added during ordinance development and review.

Section 8 Authority

The Municipality enacts the Ordinance for Low Impact Development Strategies provisions pursuant to Maine Constitution Art. VIII, Part Second, §1 and 30-A M.R.S. §§3001 et seq. (municipal home rule authority), 38 M.R.S. §413 (the Wastewater Discharge Law), 33 USC §§1251 et seq. (the Clean Water Act), and 40 CFR Part 122 (US Environmental Protection Agency's regulations governing the National Pollution Discharge Elimination System (NPDES)). The Maine Department of Environmental Protection, through its promulgation of the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems has listed the Municipality as having a Regulated Small MS4; under this General Permit, listing as a Regulated Small MS4 necessitates enactment of elements of this Ordinance as part of the Municipality's Stormwater management program in order to satisfy the minimum control measures for Post Construction Stormwater Management in New Development and Redevelopment.