

Town of Halifax

Stormwater Management Regulations

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Figure 1. Monponsett Pond Watershed

Section 1. Purpose

The purpose of these Stormwater Regulations is to protect, maintain and enhance public health, safety, environment, and general welfare by establishing minimum requirements and procedures to control the adverse effects of increased runoff, decreased ground water recharge, erosion and sedimentation, and nonpoint source pollution associated with new development and redevelopment of land, pursuant to the Halifax Stormwater Management Bylaw (Town of Halifax Chapter 146).

Development of land including loss of vegetative cover to create impervious surfaces, regrading, and other land use changes, permanently alter the hydrologic system of local watersheds by decreasing transpiration and infiltration, and increasing stormwater runoff rates and volumes, causing an increase in flooding, stream channel erosion, and sediment transport and deposition, and water quality degradation. This additional runoff contributes to increased nonpoint source pollution and degradation of receiving waters.

Stormwater management systems that are properly designed utilizing low impact design (LID) and green infrastructure (GI) techniques and appropriate best management practices (BMPs) can better simulate the natural hydrologic condition and reduce adverse impacts.

During the construction process, soil is often exposed for periods of time and most vulnerable to erosion by wind and water. The eroded soil endangers water resources by reducing water quality, and causing the siltation of valuable wetland resources including swamps, streams, rivers, lakes and aquatic habitat for fish and other desirable species.

The impacts of construction and post-development stormwater runoff quantity and quality can adversely affect public safety, public and private property, surface water drinking water supplies, groundwater resources including drinking water supplies, recreation, aquatic habitats, fish and other aquatic life, property values and other uses of lands and waters.

These Stormwater Regulations (Regulations) have been developed to provide reasonable guidance for the regulation of project design, construction and post-development stormwater runoff for the purpose of protecting local water resources from degradation. It is in the public interest to regulate construction and post-development stormwater runoff discharges in order to control and minimize increases in stormwater runoff rates and volumes, soil erosion and sedimentation, stream channel erosion, and nonpoint source pollution associated with construction site and post-development stormwater runoff.

Section 2. Definitions

ABUTTER: The owner(s) of land sharing a common boundary or corner with the site of the proposed activity in any direction, including the owner(s) of land within 100 feet of the proposed activity and including land located directly across a street, way, creek, river, stream, brook or canal.

ALTER: Any activity which will measurably change the ability of a ground surface area to absorb water or will change existing surface drainage patterns. Alter may be similarly represented as “alteration of drainage characteristics,” and “conducting land disturbance activities.”

APPLICANT: Any person, individual, partnership, association, firm, company, corporation, trust, authority, agency, department, or political subdivision of the Commonwealth or the Federal Government to the extent permitted by law, requesting a permit for an activity applicable to the Stormwater Management Bylaw and these related regulations.

AS-BUILT DRAWING: Drawings that completely record and document applicable aspects and features of conditions of a project following construction completion.

BEST MANAGEMENT PRACTICE (BMP): Structural, non-structural and managerial techniques that are recognized to be the most effective and practical means to prevent and/or reduce increases in stormwater volumes and flows, reduce point source and nonpoint source pollution, and promote stormwater quality and protection of the environment. "Structural" BMPs are devices that are engineered and constructed to provide temporary storage and treatment of stormwater runoff. "Non-structural" BMPs use natural measures to reduce pollution levels, do not require extensive construction efforts, and/or promote pollutant reduction by eliminating the pollutant source.

BIOSOLIDS: Wastewater Septic Treatment Plant sludge that has been treated to ensure that it can be safely applied to land as a fertilizer or soil amendment. Biosolids are further defined in EPA's "Regulations for the Use and Disposal of Sludge" (40 CFR 503), MA DEP's 310 CMR 32.00: Land Application Of Sludge And Septage and MDAR's 330 CMR 31.00: Plant Nutrient Application Requirements For Agricultural Land And Land Not Used For Agricultural Purposes.

BIOSOLIDS PERMIT: A permit issued by the Stormwater Authority after review and approval of a permit application and prior to commencement of land application of biosolids.

CERTIFICATE OF COMPLETION (COC): A document issued by the Stormwater Authority after all construction activities have been completed, which states that all conditions of an issued permit have been met and that a project has been completed in compliance with the conditions set forth in the permit.

CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC): A specialist in soil erosion and sediment control who has been certified by a recognized Erosion and Control organization approved by the Stormwater Authority; or who is qualified by demonstrated acceptable evidence of erosion and sediment control education, experience, expertise and continuing professional development courses satisfactory to the Stormwater Authority.

CLEARING: Any activity that removes the vegetative surface cover.

CONSTRUCTION AND WASTE MATERIALS: Excess or discarded building or site materials, including but not limited to concrete truck washout, chemicals, litter and sanitary waste at a construction site that may adversely impact water quality.

DAY: One calendar day.

DISCHARGE OF POLLUTANTS: The addition from any source of any pollutant or combination of pollutants into the municipal storm drain system or into the waters of the United States or Commonwealth from any source.

DRAINAGE EASEMENT: A legal right granted by a landowner to a grantee allowing the use of private land for stormwater management purposes.

EPA: United States Environmental Protection Agency.

EROSION: The wearing away of the land surface by natural or artificial forces such as wind, water, ice, gravity, or vehicle traffic and the subsequent detachment and transportation of soil particles.

EROSION AND SEDIMENTATION CONTROL PLAN: A document containing narrative, drawings and details developed by a qualified professional engineer (PE) or a Certified Professional in Erosion and Sediment Control (CPESC), which includes best management practices, or equivalent measures designed to control surface runoff, erosion and sedimentation during pre-construction and construction related land disturbing activities.

EROSION CONTROL: The prevention or reduction of the movement of soil particles or rock fragments due to stormwater runoff.

ESTIMATED HABITAT OF RARE WILDLIFE AND CERTIFIED VERNAL POOLS: Habitats delineated for state-protected rare wildlife and certified vernal pools under the Wetlands Protection Act Regulations (310 CMR 10.00) and the Forest Cutting Practices Act Regulations (304 CMR 11.00).

HAZARDOUS MATERIAL: Any material which, because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment. Toxic or hazardous materials include any synthetic organic chemical, petroleum product, heavy metal, radioactive or infectious waste, acid and alkali, and any substance defined as "toxic" or "hazardous" under MGL c. 21C and c. 21E, and the regulations at 310 CMR 30.000 and 310 CMR 40.0000.

ILLICIT DISCHARGE: Direct or indirect discharge to the municipal storm drain system or into a watercourse or the waters of the Commonwealth that is not composed entirely of stormwater, except as exempted in Halifax's Illicit Discharge Detection and Elimination Bylaw.

IMPERVIOUS COVER or IMPERVIOUS SURFACE: Any material or structure on or above the ground that prevents water infiltrating the underlying soil. Impervious Surface includes without limitation roads, paved parking lots, sidewalks, and rooftops.

LAND DISTURBING ACTIVITY: Any activity that causes a change in the position or location of soil, sand, rock, gravel, biosolids, or similar earth material; results in an increased amount of runoff or pollutants; measurably changes the ability of a ground surface to absorb waters; involves clearing and grading; or results in an alteration of drainage characteristics.

LOW IMPACT DEVELOPMENT PRACTICES: A comprehensive land planning and engineering design approach with a goal of maintaining and enhancing the pre-development hydrologic regime of urban and developing watersheds.

MA DEP: Massachusetts Department of Environmental Protection.

MASSACHUSETTS ENDANGERED SPECIES ACT: M.G.L. c. 131A and its implementing regulations (321 CMR 10.00) which prohibit the "taking" of any rare plant or animal species listed as Endangered, Threatened, or of Special Concern.

MASSACHUSETTS STORMWATER MANAGEMENT REGULATIONS: The regulations, also referred to as standards, as further defined by the 2008 Massachusetts Stormwater Handbook, issued by the Department of Environmental Protection, and as amended, that coordinate the requirements prescribed by state regulations promulgated under the authority of the Massachusetts Wetlands Protection Act G.L. c. 131 §. 40 and Massachusetts Clean Waters Act G.L. c. 21, §. 23-56 to prevent or reduce pollutants from reaching water bodies and control the quantity of runoff from a site.

MDAR: Massachusetts Department of Agricultural Resources.

MINOR STORMWATER MANAGEMENT PERMIT: A permit issued by the Stormwater Authority after review and approval of a permit application and prior to commencement of land disturbing activities in the Monponsett Pond Watershed.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) or MUNICIPAL STORM DRAIN SYSTEM: The system of conveyances designed or used for collecting or conveying stormwater, including any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or man-made or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drainage system owned or operated by the Town of Halifax.

NEW DEVELOPMENT: New development is defined as any construction activities or land alteration resulting in total earth disturbances equal to or greater than 1 acre (or activities that are part of a larger common plan of development disturbing greater than 1 acre) on an area that has not previously been developed to include impervious cover.

NONPOINT SOURCE POLLUTION: Pollution from many diffuse sources caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into water resource areas.

OPERATION AND MAINTENANCE PLAN (O&M PLAN): A plan setting up the functional, financial and organizational mechanisms for the ongoing operation and maintenance of a stormwater management system to ensure that it continues to function as designed.

OUTFALL: The point at which stormwater flows out from a point source discernible, confined and discrete conveyance into Waters of the Commonwealth.

OWNER: A person with a legal or equitable interest in property.

PERSON: An individual, partnership, association, firm, company, trust, corporation, agency, authority, department or political subdivision of the Commonwealth or the federal government, to the extent permitted by law, and any officer, employee, or agent of such person.

POINT SOURCE: Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which pollutants are or may be discharged.

POLLUTANT: Any element or property of sewage, agricultural, industrial or commercial waste, runoff, leachate, heated effluent, or other matter, whether originating at a point or nonpoint source, that is or may be introduced into any sewage treatment works, watercourse or Waters of the Commonwealth. Pollutants include, but are not limited to:

- A. Paints, varnishes, and solvents;

- B. Oil and other automotive fluids;
- C. Nonhazardous liquid and solid wastes and yard wastes;
- D. Refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordnance, accumulations and floatables;
- E. Pesticides, herbicides, and fertilizers;
- F. Hazardous materials and wastes;
- G. Sewage, fecal coliform and pathogens;
- H. Dissolved and particulate metals;
- I. Animal wastes;
- J. Rock, sand, salt, soils;
- K. Construction wastes and residues; and
- L. Noxious or offensive matter of any kind.

POST-DEVELOPMENT: The conditions that reasonably may be expected or anticipated to exist after completion of the land development activity on a specific site or tract of land. Post-development refers to the phase of a new development or redevelopment project after completion, and does not refer to the construction phase of a project.

PRE-CONSTRUCTION: All activity in preparation for construction.

PRE-DEVELOPMENT: The conditions that exist at the time that plans for the land development of a tract of land are submitted to the Stormwater Authority. Where phased development or plan approval occurs (preliminary grading, roads and utilities, etc.), the existing conditions at the time prior to the first plan submission shall establish pre-development conditions.

PRIORITY HABITAT OF RARE SPECIES: Habitats delineated for rare plant and animal populations protected pursuant to the Massachusetts Endangered Species Act and its regulations.

REDEVELOPMENT: Any construction, alteration, or improvement resulting in total land disturbances equal to or greater than 1 acre (or activities that are part of a larger common plan of development disturbing greater than 1 acre) that does not meet the definition of new development.

RUNOFF: Rainfall, snowmelt, or irrigation water flowing over the ground surface.

SEDIMENT: Mineral or organic soil material that is transported by wind or water, from its origin to another location; the product of erosion processes.

SEDIMENTATION: The process or act of deposition of sediment.

SITE: Any lot or parcel of land or area of property where activities subject to the Stormwater Management Bylaw and these related regulations have been or will be performed.

SLOPE: The incline of a ground surface expressed as a ratio of horizontal distance to vertical distance.

SOIL: Any earth, sand, rock, gravel, or similar material.

STABILIZATION: The use, singly or in combination, of mechanical, structural, or vegetative methods, to prevent or retard erosion.

STORMWATER: Runoff from precipitation or snow melt and surface water runoff and drainage.

STORMWATER AUTHORITY: The Town of Halifax Conservation Commission OR its authorized agent(s) who will administer, implement and enforce the Stormwater Management Bylaw and these related regulations. The Stormwater Authority is responsible for coordinating the review, approval and permit process as defined in this Bylaw.

STORMWATER MANAGEMENT PERMIT: A permit issued by the Stormwater Authority after review of an application, plans, calculations, and other supporting documents and prior to commencement of land disturbing activities.

STORMWATER MANAGEMENT PLAN: A document containing narrative, drawings, calculations, details, and reporting requirements developed by a qualified professional engineer (PE), which describes structural and non-structural best management practices designed to control the discharge of pollutants from impervious surfaces and onsite activities as well as the volume and peak rate of surface runoff from a site on an ongoing basis after construction has been completed.

STRIP: Any activity which removes the vegetative ground surface cover, including tree removal, clearing, grubbing, and storage or removal of topsoil.

TOTAL MAXIMUM DAILY LOAD (TMDL): The greatest amount of a pollutant that a water body can accept and still meet water quality standards for protecting public health and maintaining the designated beneficial uses of those waters for drinking, swimming, recreation, and fishing. A TMDL is also a plan, adopted under the Clean Water Act, specifying how much of a specific pollutant can come from various sources, including stormwater discharges, and identifies strategies for reducing the pollutant discharges from these sources so as not to violate Massachusetts surface water quality standards. (314 CMR 4.00, et seq.)

TOTAL PHOSPHORUS (TP): All forms of phosphorus, including dissolved and particulate phosphorus.

TOTAL SUSPENDED SOLIDS (TSS): Undissolved organic or inorganic particles in water.

VERNAL POOLS: Temporary bodies of freshwater which provide critical habitat for a number of vertebrate and invertebrate wildlife species.

VIOLATION: A failure by any person, individual, partnership, association, firm, company, corporation, or trust to comply with an order issued by the Stormwater Authority or an agent of said Authority.

WATERCOURSE: A natural or man-made channel through which water flows or a stream of water, including a river, brook or underground stream.

WATERSHED: An area of land that channels rainfall and snowmelt to a particular watercourse or body of water.

WATERS OF THE COMMONWEALTH: All waters within the jurisdiction of the Commonwealth, including, without limitation, rivers, streams, lakes, ponds, springs,

impoundments, estuaries, wetlands, coastal waters, and groundwater and Waters of the United States as defined under the Federal Clean Water Act (33 U.S.C. § 1251, et seq.) as hereafter amended.

WETLAND RESOURCE AREA: Areas specified in the Massachusetts Wetlands Protection Act G.L. c. 131, § 40.

Section 3. Authority

- A. The Stormwater Regulations have been adopted by the Stormwater Authority in accordance with the Halifax Stormwater Management Bylaw (Town of Halifax Chapter 146).
- B. The Stormwater Authority may periodically amend these regulations pursuant to Section 5.C of the Stormwater Management Bylaw.
- C. Nothing in these Regulations is intended to replace or be in derogation of other Town bylaws or regulations adopted thereunder.

Section 4. Applicability

- A. These regulations shall apply to all activities within the Town of Halifax that either:
 - (1) Individually or as part of a common plan of development result in disturbance of land equal to or greater than 1 acre (43,560 square feet), regardless of lot size. Such activities shall require a Stormwater Management Permit from the Stormwater Authority prior to commencement.
 - (2) Result in disturbance of land in the Monponsett Pond watershed equal to or greater than 50 square feet. Such activities shall require a Minor Stormwater Management Permit from the Stormwater Authority prior to commencement. Parcels within the Monponsett Pond watershed can be identified using Figure 1 and/or the following webmap:
<https://vhb.maps.arcgis.com/apps/webappviewer/index.html?id=30ba1992f1744606b530fc81d531d343>
 - (3) Result in the land application of biosolids. Such activities shall require a Biosolids Permit from the Stormwater Authority prior to commencement.
- B. If a proposed activity meets criteria in both Section 4.A(1) and 4.A(2) above, only a Stormwater Management Permit is required.
- C. In addition, the Stormwater Authority may require a permit for a project of any size which has caused or can reasonably be expected to cause or contribute to a violation of State Water Quality Standards.
- D. The following activities are exempt from the provisions of Section 4.A:
 - (1) Maintenance of existing landscaping, gardens or lawn areas associated with a single-family dwelling conducted in such a way as not to cause a nuisance;
 - (2) Construction of fencing that will not substantially alter existing terrain or drainage patterns;

- (3) Construction of utilities other than drainage (gas, water, electric, telephone, etc.) which will not alter terrain or drainage patterns or result in discharge of sediment or other pollutants to the MS4 or, directly or indirectly, to a Watercourse or Waters of the Commonwealth; and
- (4) Normal maintenance and improvement of land in agricultural, forestry, or aquacultural use, as defined by the Massachusetts Wetlands Protection Act regulation 310 CMR 10.04.

Section 5. Administration

- A. Administrative Authority. The Conservation Commission is designated as the Stormwater Authority under the Halifax Stormwater Management Bylaw and shall administer, implement and enforce these regulations. Any powers granted to or duties imposed upon the Stormwater Authority may be delegated in writing by the Stormwater Authority to its employees or agents.
- B. Waiver. Following a public hearing on a written waiver request, the Stormwater Authority may waive strict compliance with any requirement of these regulations, where such action is:
 - (1) allowed by federal, state and local statutes and/or regulations;
 - (2) in the public interest; and
 - (3) not inconsistent with the purpose and intent of the Stormwater Management Bylaw.
- C. Rules and Regulations. The Stormwater Authority may amend rules and regulations after holding a public hearing. Notice of the time, place and subject matter shall be published in a newspaper of general circulation in Halifax once, not less than fourteen (14) days before the day of such a hearing.

Section 6. Permits and Procedure

- A. Permit Required. A permit must be obtained prior to the commencement of any activity applicable to these regulations, as designated in Section 4.A, and must be obtained concurrently with applying for a building, grading or other local development permit.
- B. Application. A completed application for a permit shall be filed with the Stormwater Authority.
 - (1) For all activities requiring a Stormwater Management Permit, the application package shall include one (1) electronic copy and two (2) hard copies of each of the following:
 - (a) A completed Application Form with original signatures of all property owners;
 - (b) A list of abutters, certified by the Assessors' Office;
 - (c) Stormwater Management Plan (Section 7);
 - (d) Erosion and Sedimentation Control Plan (Section 9);

- (e) Operation and Maintenance Plan (Section 10);
 - (f) Payment of the application and review fees; and
 - (g) Application Form (item a above) and the list of abutters (item b above) filed with the Town Clerk.
 - (2) For all activities requiring a Minor Stormwater Management Permit, the application package shall include one (1) electronic copy and two (2) hard copies of each of the following:
 - (a) A completed Application Form with original signatures of all property owners;
 - (b) Minor Stormwater Management Plan (see Section 8);
 - (c) Operation and Maintenance Plan or waiver request for Operation and Maintenance Plan (Section 10);
 - (d) Payment of the application and review fees; and
 - (e) Application Form (item a above) filed with the Town Clerk.
 - (3) For all activities requiring a Biosolids Permit, the application package shall include one (1) electronic copy and two (2) hard copies of each of the following:
 - (a) A completed Application Form with original signatures of all property owners;
 - (b) Documentation that use of biosolids is in compliance with all EPA, MA DEP and MDAR regulations;
 - (c) Payment of the application and review fees; and
 - (d) Application Form (item a above) filed with the Town Clerk.
- C. Information Requests. The applicant shall submit all additional information requested by the Stormwater Authority to issue a decision on the application.
- D. Determination of Completeness. The Stormwater Authority shall make a determination as to the completeness of the application and adequacy of the materials submitted. No review shall take place until the application is determined complete.
- E. Fee Structure.
- (1) Each permit application must be accompanied by a Town filing fee as established by the Stormwater Authority in the table below. These filing fees have been determined to cover any expenses connected with the public hearing and review of the permit application before the review process commences.

Activity Type	Fee Amount
Biosolids Permit	\$25

Minor Stormwater Management Permit	\$25
Stormwater Management Permit	
Single-family dwelling between 1 and 3 acres	\$200
Multiple dwellings between 1 and 3 acres	\$500
Commercial property between 1 and 3 acres	\$700
Other land disturbance between 1 and 3 acres	\$200
Land disturbance of an area greater than 3 acres	\$1,000

- (2) Upon receipt of a permit application, the Stormwater Authority is authorized to require an applicant to pay a fee for the reasonable costs and expenses borne by the Stormwater Authority for specific expert engineering and other consultant services deemed necessary by the Stormwater Authority to come to a final decision on the application. This fee is called a consultant fee.
 - (3) The Stormwater Authority may waive the filing fee, consultant fee and/or costs and expenses for a permit application filed by a government agency.
 - (4) The Stormwater Authority may require the payment of the consultant fee at any point in its deliberations prior to a final decision. The applicant shall pay the fee to be put into a consultant services account of the Stormwater Authority which may be drawn upon by the Stormwater Authority for specific consultant services approved by the Stormwater Authority at one of its public meetings.
 - (5) The exercise of discretion by the Stormwater Authority in making its determination to require the payment of a consultant fee shall be based upon its reasonable finding that additional information acquirable only through outside consultants would be necessary for the making of an objective decision.
- F. Entry. Filing an application for a permit grants the Stormwater Authority, or its agent, permission to enter the site in perpetuity to verify the information in the application and to inspect for compliance with permit conditions.
- G. Other Boards. Any person filing an application with the Stormwater Authority shall provide an electronic copy thereof at the same time to the Planning Board, Board of Health, Highway Department, and Building Inspector. The Stormwater Authority shall not take final action until such boards and officials have had fourteen (14) days from receipt to file written comments and recommendations with the Stormwater Authority, which the Stormwater Authority shall take into account but which shall not be binding on the Stormwater Authority. The applicant shall have the right to receive any such comments and recommendations and to respond to them at a hearing of the Stormwater Authority prior to final action.

- H. **Public Hearing.** The Stormwater Authority shall hold a public hearing within twenty-one (21) days of the receipt of a complete application and shall take final action within twenty-one (21) days from the time of the close of the hearing unless such time is extended by agreement between the applicant and Stormwater Authority.

Notice of the public hearing shall be given by the Stormwater Authority by posting a public hearing notice on the Stormwater Authority's Website, by posting the public hearing notice with the Town Clerk and by the applicant sending a public hearing notice by first-class mailings to abutters at least seven (7) days prior to the hearing. The Stormwater Authority shall make the application available for inspection by the public during business hours at the Stormwater Authority office.

- I. **Action by the Stormwater Authority.** The Stormwater Authority may:
- (1) Approve a permit application and issue a permit if it finds that the proposed plan will protect water resources and meets the objectives and requirements of the Stormwater Management Bylaw and these related regulations;
 - (2) Approve a permit application and issue a permit with conditions, modifications or restrictions that the Stormwater Authority determines are required to ensure that the project will protect water resources and meets the objectives and requirements of the Stormwater Management Bylaw and these related regulations;
 - (3) Disapprove a permit application and deny the permit if it finds that the proposed plan will not protect water resources or fails to meet the objectives and requirements of the Stormwater Management Bylaw and these related regulations.

- J. **Final Approval.** Final approval, if granted, shall be endorsed on a permit by the signature of the majority of the Stormwater Authority (or by the signature of the person officially authorized by the Stormwater Authority).

- K. **Project Changes.** The permittee, or their agent, must notify the Stormwater Authority in writing of any change or alteration of a land disturbing activity authorized in a permit before any change or alteration occurs. In such a case, the permittee, or their agent, must return to the Stormwater Authority for review and shall not commence any land disturbing activity until the Stormwater Authority completes its review. If the Stormwater Authority determines that the change or alteration is significant, the Stormwater Authority may require an amended permit application and a public hearing, along with an updated fee if the change or alteration is a different activity type under Section 6.E. If any change or alteration from the permit occurs during any land disturbing activities, the Stormwater Authority may require the installation of interim erosion and sedimentation control measures before approving the change or alteration.

Section 7. Stormwater Management Plan

- A. The application for a Stormwater Management Permit shall include a Stormwater Management Plan. The Stormwater Management Plan shall contain sufficient information for the Stormwater Authority to evaluate the environmental impact, effectiveness, and acceptability of the site planning process and the measures proposed by the applicant to reduce adverse impacts from stormwater runoff during construction, and post-construction in the long-term.
- B. The Stormwater Management Plan shall fully describe the project in narrative, drawings, and calculations. It shall at a minimum include:
 - (1) Contact Information. The name, address, and telephone number of the applicant, the owner, the engineer, and anyone else having a legal interest in the property and the tax reference number and parcel number of the property or properties affected;
 - (2) Narrative describing:
 - (a) Purpose;
 - (b) Methodologies and assumptions;
 - (c) Existing and proposed uses and conditions;
 - (d) Existing and proposed flow patterns and discharge points, including open and closed drainage conveyance systems;
 - (e) Project impacts and mitigation techniques including:
 - i. Summary of proposed land area to be disturbed, proposed impervious area, work within proximity of regulated wetland resources, aquifer protection zones, earthwork within 4 feet of estimated seasonal high groundwater elevations, and other sensitive environmental areas;
 - ii. Low Impact Development (LID) techniques considered for this project and an explanation as to why they were included or excluded from the project;
 - iii. Proposed best management practices;
 - iv. Identifying downgradient waterbody(s) that stormwater runoff from the project site discharges to, MassDEP's waterbody assessment and TMDL and/or impairment status of the waterbody(s), and the LIDs and BMPs included in the project to address the pollutant(s) of concern;
 - (f) Summary of pre- and post-development peak rates and volumes of stormwater runoff demonstrating no adverse impacts to down-gradient properties, stormwater management systems and wetland resources;

- (g) Summary of post-development TSS and TP annual load reductions from stormwater runoff or summary of retention volumes to meet water quality standards; and
 - (h) Conclusions
- (3) Plans
 - (a) Portion of the USGS Map indicating the site locus and properties within a minimum of 500 feet of project property line;
 - (b) Existing conditions and proposed design plans showing:
 - i. Buildings and/or structures including materials, approximate height;
 - ii. Utilities including size, material and invert data; and
 - iii. Regulated wetland resource areas within proximity of the site
 - iv. Topographical features including existing and proposed contours at intervals no greater than one (1) foot with spot elevations provided when needed;
 - v. Surveyed property lines showing distances and monument locations, all existing and proposed easements, rights-of-way, and other encumbrances, the size of the entire parcel, and the delineation and number of square feet of the land area to be disturbed;
 - (c) Stormwater management design plan(s) and details showing:
 - i. Location, size, material, inverts data and details for all existing and proposed stormwater management system components including structures, pipes, swales, detention, retention, and infiltration systems and any other Low Impact Development techniques or BMPs;
 - ii. Profiles of drainage trunk lines;
 - iii. Locations of test pits; and
 - iv. Drainage easements;
 - (d) Separate Pre- and Post- Development Watershed Plans indicating:
 - i. Structures, pavements, surface vegetation and other ground cover materials;
 - ii. Topography sufficient to delineate watershed areas;
 - iii. Point(s) of analysis;
 - iv. Watershed areas including upgradient areas that contribute stormwater flow onto the project site, labeled to be easily

identified in calculations. Total pre and post watershed areas should be equivalent;

- v. Breakdown summary of various surface conditions by soil hydrologic group rating; and
- vi. Flow path for time of concentration (Tc) calculation.

(4) Calculations

- (a) Hydrologic calculation to determine pre and post peak rates and volumes of stormwater runoff for 2, 10, 25 and 100 year 24 hour storm events;
- (b) Groundwater recharge calculations and BMP drawdown (time to empty);
- (c) TSS and TP removal calculations or retention volumes to meet water quality standards outlined in Section 7.C.(3);
- (d) Hydraulic calculations to size drainage pipes, swales and culverts; and
- (e) Supplemental calculations for sizing LID and BMPs and addressing impairments to water bodies.

(5) Soil mapping and test data;

- (6) MA DEP Checklist for Stormwater Report completed, stamped and signed by a Professional Engineer (PE) licensed in the Commonwealth of Massachusetts to certify that the Stormwater Management Plan is in accordance with the criteria established in the Massachusetts Stormwater Management Regulations, Halifax Stormwater Management Bylaw and these regulations; and

(7) Any other information requested by the Stormwater Authority.

C. General Performance Standards for All Sites

- (1) Low Impact Development and Green Infrastructure site design strategies shall be utilized to preserve existing natural features of the site, minimize the creation of impervious surfaces and manage stormwater in a decentralized fashion, to the maximum extent feasible.
- (2) BMP Performance. The selection, design and construction of all pre-treatment, treatment and infiltration BMPs shall be in accordance with the 2008 Massachusetts Stormwater Handbook and shall be consistent with all elements of the Massachusetts Stormwater Management Regulations including but not limited to those regarding new stormwater conveyances, peak runoff rates, recharge, land uses with higher potential pollutant loads, discharges to Zone II or interim wellhead protection areas, sediment and erosion control, and illicit discharges.

Further, all stormwater management BMPs must be optimized for phosphorus and/or nitrogen removal.

- (3) Water Quality Performance Standards. Stormwater management systems on new development shall be designed (per EPA MS4 Permit requirements) to meet an average annual pollutant removal equivalent to 90% of the average annual load of Total Suspended Solids (TSS) related to the total post-construction impervious area and 60% of the average annual load of Total Phosphorus (TP) related to the total post-construction impervious surface area.

Stormwater management systems on redevelopment shall be designed (per EPA MS4 Permit requirements) to meet an average annual pollutant removal equivalent to 80% of the average annual load of TSS related to the total post-construction impervious area and 50% of the average annual load of TP related to the total post-construction impervious surface area.

These requirements are to be achieved through one of the following methods:

- (a) Installing BMPs that meet the pollutant removal percentages based on calculations developed consistent with EPA Region 1's BMP Accounting and Tracking Tool (BATT; 2016) or other BMP performance evaluation tool provided by EPA Region 1, where available. If EPA Region 1 tools do not address the planned or installed BMP performance, then any federally or state-approved BMP design guidance or performance standards (e.g., state stormwater handbooks and design guidance manuals) may be used to calculate BMP performance; or
- (b) Retaining, through a combination of infiltration, reuse, and/or evaporation, the volume of runoff equivalent to, or greater than, 1.0 inch multiplied by the total post-construction impervious surface area on the new development site or retaining, through a combination of infiltration, reuse, and/or evaporation, the volume of runoff equivalent to, or greater than, 0.8 inch multiplied by the total post-construction impervious surface area on the redevelopment site; or
- (c) Meeting a combination of retention and treatment that achieves the above standards.

D. Stormwater Management Design Standards

- (1) Projects must be designed to collect and dispose of stormwater runoff from the project site in accordance with Massachusetts Stormwater Management Regulations recognized engineering methodologies (see below), and these regulations with an emphasis to include Low Impact Development techniques in the design.

- (2) Projects must manage surface runoff so that no flow is conducted over public ways, nor over land not owned or controlled by the Applicant unless an easement in proper form is obtained permitting such discharge.
- (3) Projects must use Low Impact Development techniques where adequate soil, groundwater and topographic conditions allow. These may include but not be limited to reduction in impervious surfaces, disconnection of impervious surfaces, bioretention (rain gardens) and infiltration systems. The use of one or more Low Impact Development site design measures by the applicant may allow for a reduction in the water quality treatment volume required by these regulations. The applicant may, if approved by the Stormwater Authority, take credit for the use of stormwater Low Impact Development measures to reduce some of the requirements specified in these regulations. The site design practices that qualify for these credits and procedures for applying and calculating credits are identified in the 2008 Massachusetts Stormwater Handbook.
- (4) Projects must use TR-55 and TR-20 methodologies to calculate peak rate and volume of runoff from pre-development to post-development conditions.
- (5) Stormwater management systems shall be designed to avoid disturbance of areas susceptible to erosion and sediment loss, avoiding, to the greatest extent practicable: the damaging of large forest stands; building on steep slopes (15% or greater); and disturbing land in wetland buffer zones and floodplains.
- (6) Watershed area for hydrologic analysis and BMP sizing calculations must include at a minimum the site area and all upgradient areas from which stormwater runoff flows onto the site.
- (7) Length of sheet flow used for times of concentration is to be no more than 100 feet.
- (8) Utilize NOAA Atlas 14 24-hour rainfall data.
- (9) Soils tests to be conducted by a Registered Professional Engineer or Massachusetts Soil Evaluator, performed at the location of all proposed Low Impact Development techniques and BMPs, to identify soil descriptions, depth to estimated seasonal high groundwater, depth to bedrock, and soil texture. Design plans shall include soil log or test pit log documenting soil conditions, types, and depth to groundwater.
- (10) The design infiltration rate shall be determined from the on-site soil texture and published Rawls rates or saturated hydraulic conductivity tests.
- (11) Size drainage pipes to accommodate the 25 year storm event and maintain velocities between 2.5 and 10 feet per second using the Rational Method.
- (12) Size drainage swales to accommodate the 25 year storm event and velocities below 4 feet per second.

- (13) Size culverts to accommodate the 50 year storm event and design adequate erosion protection. Design stream crossing culverts in accordance with the latest addition of the Massachusetts Stream Crossing Handbook.
- (14) Size stormwater basins to accommodate the 10-year storm event with a minimum of one foot of freeboard and analyze the 100-year storm event to ensure there are no downstream impacts.
- (15) All drainage structures are to be able to accommodate HS-20 loading.
- (16) Catch basins structures are to be spaced a maximum of 250 feet apart in roadways.
- (17) Catch basins adjacent to curbing are to be built with a granite curb inlet.
- (18) Catch basins in low points of road and on roads with profile grades greater than 5 percent are to be fitted with double grates (parallel with curb).
- (19) All drain pipes are to be reinforced concrete pipe or High Density Polyethylene pipe and have a minimum diameter of 12 inches. Minimum slope of all drainage pipes shall be 1%.
- (20) Outfalls are to be designed to prevent erosion of soils, and pipes 24 inches or larger are to be fitted with grates or bars to prevent ingress.
- (21) Drainage easements are to provide sufficient access for maintenance and repairs of system components and be at least 20 feet wide.
- (22) Minimize permanently dewatering soils by:
 - (a) Limiting grading within 4 feet of the estimated seasonal high groundwater elevation (ESHGWE);
 - (b) Raising roadways to keep roadway section above ESHGWE; and
 - (c) Setting bottom floor elevation of building(s) a minimum of 2 feet above ESHGWE.

- E. Permittees shall submit as-built drawings no later than one year after completion of construction projects. The as-built drawings must depict all on-site controls, both structural and non-structural, designed to manage stormwater associated with the completed site. As-built drawings shall be stamped by a licensed Massachusetts Professional Engineer.

Section 8. Minor Stormwater Management Plan

- A. The application for a Minor Stormwater Management Permit shall include a Minor Stormwater Management Plan. The Minor Stormwater Management Plan shall contain sufficient information for the Stormwater Authority to evaluate the environmental impact, effectiveness, and acceptability of the site planning process and the measures proposed by the applicant to reduce adverse impacts from stormwater runoff during construction, and post-construction in the long-term.
- B. The Minor Stormwater Management Plan shall at a minimum include:

- (1) A brief narrative describing the proposed work, including existing site conditions, proposed work and methods to mitigate any impacts to stormwater.
- (2) Plans that include:
 - (a) Existing site features including structures, pavements, plantings, and stormwater management systems etc.;
 - (b) Proposed work including proposed stormwater management systems and limits of disturbance; and
 - (c) Basic erosion and sedimentation controls.

C. General Performance Standards for All Sites

Applicants shall meet the requirements below to the maximum extent practicable. When determining whether the requirements have been met, the Stormwater Authority shall consider all stormwater management practices available and capable of being implemented after taking into consideration costs, existing technology, proposed use, logistics and overall project purposes. Applicants shall:

- (1) Implement erosion control measures during construction to ensure no sediment leaves the site.
- (2) Implement at least one new BMP as part of the project to treat stormwater runoff from the site. The applicant may select a BMP type including but not limited to:
 - (a) Rain barrel
 - (b) Rain garden
 - (c) Pervious pavement
 - (d) Dry well
 - (e) Swale with check dams
 - (f) Net addition of two trees compared to pre-development conditions
 - (g) Vegetated filter strip
 - (h) Low mow area
 - (i) Re-vegetate eroded area
 - (j) Till and amend compacted soil
- (3) Contribute to improvement of water quality from the site.
- (4) Avoid disturbance of areas susceptible to erosion and sediment loss.
- (5) Use Low Impact Development techniques where adequate soil, groundwater and topographic conditions allow. These may include but not be limited to reduction in impervious surfaces, disconnection of impervious surfaces, bioretention (rain gardens), and infiltration systems.

- D. At the discretion of the Stormwater Authority, permittees shall either submit as-built drawings, present photo evidence of the completed project, or conduct a site walk with a representative of the Stormwater Authority no later than one year after completion of construction projects. As-built drawings and photos must depict all on-site controls, both structural and non-structural, designed to manage stormwater associated with the completed site. As-built drawings shall be stamped by a licensed Massachusetts Professional Engineer.

Section 9. Erosion and Sedimentation Control Plan

- A. The application for a Stormwater Management Permit shall include an Erosion and Sedimentation Control Plan. The Erosion and Sedimentation Control Plan shall be designed to ensure compliance with these regulations, the MS4, and if applicable, the NPDES General Permit for Storm Water Discharges from Construction Activities. In addition, the plan shall ensure that the Massachusetts Surface Water Quality Standards (314 CMR 4.00) are met in all seasons.
- B. If a project requires a Stormwater Pollution Prevention Plan (SWPPP) per the NPDES General Permit for Storm Water Discharges from Construction Activities (and as amended), then the applicant is required to submit a complete copy of the SWPPP (including the signed Notice of Intent and approval letter). If the SWPPP meets the requirements of the General Permit, it will be considered equivalent to the Erosion and Sedimentation Control Plan described in this section.
- C. The Erosion and Sedimentation Control Plan shall remain on file with the Stormwater Authority. Refer to the latest version of the Massachusetts Erosion and Sediment Control Guidelines for Urban & Suburban Areas for detailed guidance.
- D. Erosion and Sedimentation Control Plan Content. The Plan shall contain the following information:
 - (1) Names, addresses, and telephone numbers of the owner, applicant, and person(s) or firm(s) preparing the plan (including the name of the CPESC in charge of the Erosion and Sedimentation Control Plan and their 24-hour contact information);
 - (2) Title, date, north arrow, names of abutters, scale, legend, and locus map;
 - (3) Location and description of natural features including:
 - (a) Watercourses and water bodies, wetland resource areas and all floodplain information, including the 100-year flood elevation based upon the most recent Flood Insurance Rate Map, or as calculated by a professional engineer for areas not assessed on these maps;
 - (b) Existing vegetation including tree lines, canopy layer, shrub layer, and ground cover, and trees with a caliper twelve (12) inches or larger, noting specimen trees and forest communities; and

- (c) Habitats mapped by the Massachusetts Natural Heritage & Endangered Species Program as Endangered, Threatened or of Special Concern, Estimated Habitats of Rare Wildlife and Certified Vernal Pools, and Priority Habitats of Rare Species within five hundred (500) feet of any construction activity.
- (4) Lines of existing abutting streets showing drainage and driveway locations and curb cuts;
- (5) Existing soils, volume and nature of imported soil materials;
- (6) Topographical features including existing and proposed contours at intervals no greater than one (1) foot with spot elevations provided when needed;
- (7) Surveyed property lines showing distances and monument locations, all existing and proposed easements, rights-of-way, and other encumbrances, the size of the entire parcel, and the delineation and number of square feet of the land area to be disturbed;
- (8) Drainage patterns and approximate slopes anticipated after major grading activities (Construction Phase Grading Plans);
- (9) Location and details of erosion and sediment control measures with a narrative of the construction sequence/phasing of the project, including both operation and maintenance for structural and non-structural measures, interim grading, and material stockpiling areas;
- (10) Path and mechanism to divert uncontaminated water around disturbed areas, to the maximum extent practicable.
- (11) Location and description of industrial discharges, including industrial stormwater discharges;
- (12) Stormwater runoff calculations in accordance with the MA DEP's Stormwater Management Regulation;
- (13) Location and description of and implementation schedule for temporary and permanent seeding, vegetative controls, and other stabilization measures;
- (14) A description of construction and waste materials expected to be stored on-site. The Plan shall include a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response;
- (15) A description of provisions for phasing the project where one acre of area or greater is to be altered or disturbed;
- (16) Plans must be stamped and certified by a qualified Professional Engineer registered in Massachusetts or a Certified Professional in Erosion and Sediment Control; and

- (17) Such other information as is required by the Stormwater Authority.
- E. Erosion Controls Design Standards. The Erosion and Sedimentation Control Plan shall be developed to comply with the MS4 and shall meet the following standards:
- (1) Minimize total area of disturbance;
 - (2) Sequence activities to minimize simultaneous areas of disturbance;
 - (3) Minimize peak rate of runoff in accordance with the MA DEP Stormwater Management Regulations;
 - (4) Minimize soil erosion and control sedimentation during construction;
 - (5) Divert uncontaminated water around disturbed areas;
 - (6) Maximize groundwater recharge;
 - (7) Install and maintain all Erosion and Sedimentation Control measures in accordance with the Massachusetts Erosion and Sedimentation Control Guidelines for Urban and Suburban Areas, manufacturers specifications and good engineering practices;
 - (8) Prevent off-site transport of sediment;
 - (9) Protect and manage on and off-site material storage areas (overburden and stockpiles of dirt, borrow areas, or other areas used solely by the permitted project are considered a part of the project);
 - (10) Comply with applicable Federal, State and local laws and regulations including waste disposal, sanitary sewer or septic system regulations, and air quality requirements, including dust control;
 - (11) Protect natural resources and prevent significant alteration of habitats mapped by the Massachusetts Natural Heritage & Endangered Species Program as Endangered, Threatened or Of Special Concern, Estimated Habitats of Rare Wildlife and Certified Vernal Pools, and Priority Habitats of Rare Species from the proposed activities;
 - (12) Institute interim and permanent stabilization measures, which shall be instituted on a disturbed area as soon as practicable but no more than fourteen (14) days after construction activity has temporarily or permanently ceased on that portion of the site;
 - (13) Properly manage on-site construction and waste materials, including truck washing and cement concrete washout facilities;
 - (14) Prevent off-site vehicle tracking of sediments; and
 - (15) Incorporate appropriate BMPs designed to comply with the 2008 Massachusetts Stormwater Handbook.
- F. The Stormwater Authority or its designated agent shall make inspections as described in Section 11.

Section 10. Operation and Maintenance Plan

- A. The application for a Stormwater Management Permit and Minor Stormwater Management Permit shall include a stand-alone Operation and Maintenance Plan (O&M Plan) at the time of application for all projects that include structural and non-structural stormwater BMPs. The Stormwater Authority may waive the requirement for an O&M Plan for Minor Stormwater Management Permit applications. The O&M Plan shall specify procedures to ensure that BMPs function as designed, are maintained, and pose no threat to public health and safety throughout the life of the system. The O&M Plan shall remain on file with the Stormwater Authority and shall be an ongoing and perpetual requirement of the owner, who shall provide copies of the O&M Plan to all persons responsible for maintenance and repairs.
- B. The Operation and Maintenance Plan shall include:
- (1) The name(s) of the owner(s) for all components of the system;
 - (2) A map showing the location of the systems and facilities including all structural and non-structural stormwater best management practices (BMPs), catch basins, manholes/access lids, pipes, and other stormwater devices. The plan showing such systems and facilities to be privately maintained, including associated easements shall be recorded with the Plymouth County Registry of Deeds prior to issuance of a Certificate of Completion by the Stormwater Authority pursuant to Section 14.
 - (3) Maintenance Agreement with the Stormwater Authority that specifies:
 - (a) The names and addresses of the person(s) responsible for operation and maintenance;
 - (b) The person(s) financially responsible for maintenance and emergency repairs;
 - (c) An Inspection and Maintenance Schedule for all stormwater management facilities including routine and non-routine maintenance tasks to be performed. Where applicable, this schedule shall refer to the Maintenance Criteria provided in the 2008 Stormwater Handbook or the EPA National Menu of Stormwater Best Management Practices or equivalent;
 - (d) Instructions for routine and long-term operation and maintenance shall have sufficient detail for responsible parties to perform necessary maintenance activities and prevent actions that may adversely affect the performance of each structural and/or nonstructural stormwater BMP.
 - (e) A list of easements with the purpose and location of each; and
 - (f) The signature(s) of the owner(s) and all persons responsible for operation and maintenance, financing, and emergency repairs, as

defined in the Maintenance Agreement, if maintenance is to be performed by an entity other than the owner.

- (4) Stormwater Management Easement(s)
 - (a) Stormwater Management easements shall be provided by the property owner(s) as necessary for:
 - i. Access for facility inspections and maintenance;
 - ii. Preservation of stormwater runoff conveyance, infiltration, and detention areas and facilities, including flood routes for the 100-year storm event; and
 - iii. Direct maintenance access by heavy equipment to structures requiring maintenance.
 - (b) The purpose of each easement shall be specified in the Maintenance Agreement signed by the property owner.
 - (c) Stormwater Management easements are required for all areas used for permanent stormwater control, unless a waiver is granted by the Stormwater Authority pursuant to Section 5.B.
 - (d) Easements shall be recorded with the Plymouth County Registry of Deeds prior to issuance of a Certificate of Completion by the Stormwater Authority pursuant to Section 14.
- (5) Changes to Operation and Maintenance Plans
 - (a) The owner(s) of record of the Stormwater Management system must notify the Stormwater Authority of changes in ownership, assignment of Operation and Maintenance responsibilities, or assignment of financial responsibility within thirty (30) days of the change in ownership. The owner of record shall be responsible for Operation and Maintenance activities until a copy of the updated Operation and Maintenance Plan has been furnished to the Stormwater Authority signed by the new owner or any new responsible person.
 - (b) The maintenance schedule in the Maintenance Agreement may be amended to achieve the purposes of the Stormwater Management Bylaw by mutual agreement of the Stormwater Authority and the Responsible Parties. Amendments must be in writing and signed by all Responsible Parties. Responsible Parties shall include owner(s), persons with financial responsibility, and persons with operational and/or maintenance responsibility.
- (6) Enforcement. The Stormwater Authority or its authorized agent has the authority to enforce these regulations, as indicated in the Halifax Stormwater Management Bylaw. To ensure adequate long-term operation and maintenance of stormwater management practices, applicants are

required to implement the following procedures, as directed by the Stormwater Authority:

- (a) Submission by the applicant of an annual certification documenting the work that has been done over the last 12 months to properly operate and maintain the stormwater control measures. The certification shall be signed by the person(s) or authorized agent of the person(s) named in the permit as being responsible for ongoing operation and management;
- (b) Recording of Operation and Maintenance Plans at the appropriate Registry of Deeds, which must take place prior to the issuance of a Certificate of Completion by the Stormwater Authority, pursuant to Section 14.

Section 11. Inspection and Site Supervision

- A. Pre-construction Meeting. Prior to starting the clearing, excavation, construction, redevelopment or land disturbing activity, the applicant, the applicant's technical representative, the general contractor or any other person with authority to make changes to the project, may be required to meet with the Stormwater Authority, to review the approved plans and their proposed implementation. The need for a pre-construction meeting shall be determined by the Stormwater Authority based on the project scope at the time of application approval.
- B. Stormwater Authority Inspection. For projects that receive a Stormwater Management Permit, the Stormwater Authority or its designated agent shall make inspections as herein required and shall either approve that portion of the work completed or shall notify the applicant wherein the work fails to comply with the Erosion and Sedimentation Control Plan or the Stormwater Management Plan as approved. The Stormwater Authority or its authorized agent has the enforcement authorities, as indicated in the Halifax Stormwater Management Bylaw. The approved Erosion and Sedimentation Control Plan and associated plans for grading, stripping, excavating, and filling work, bearing the signature of approval of the Stormwater Authority, shall be maintained at the site during the progress of the work. In order to obtain inspections, the applicant shall notify the Stormwater Authority at least two (2) working days before each of the following events (for the active phase of the project, for phased projects):
 - (1) Erosion and sedimentation control measures are in place and stabilized;
 - (2) Site clearing has been substantially completed;
 - (3) Rough grading has been substantially completed;
 - (4) Final grading has been substantially completed;
 - (5) Close of the construction season; and,
 - (6) Final landscaping (permanent stabilization) and project final completion.
- C. Permittee Inspections. For projects that receive a Stormwater Management Permit, the permittee or his/her agent shall conduct and document inspections of

all control measures no less than weekly or as specified in the permit, and prior to and following anticipated storm events. The purpose of such inspections will be to determine the overall effectiveness of the Erosion and Sedimentation Control Plan, and the need for maintenance or additional control measures as well as verifying compliance with the Stormwater Management Plan. The applicant or his/her agent shall submit monthly reports to the Stormwater Authority or designated agent in a format approved by the Stormwater Authority.

- D. Access Permission. To the extent permitted by state law, or if authorized by the owner or other party in control of the property, the Stormwater Authority its agents, officers, and employees may enter upon privately owned property for the purpose of performing their duties under the Halifax Stormwater Management Bylaw and may make or cause to be made such examinations, surveys or sampling as the Stormwater Authority deems reasonably necessary to determine compliance with the permit.

Section 12. Surety

The Stormwater Authority may require the permittee to post before the start of land disturbance activity, a surety bond, irrevocable letter of credit, cash, or other acceptable security. The form of the bond shall be approved by the Stormwater Authority and be in an amount deemed sufficient by the Stormwater Authority to ensure that the work will be completed in accordance with the permit. If the project is phased, the Stormwater Authority may release part of the bond as each phase is completed in compliance with the permit but the bond may not be fully released until the Stormwater Authority has received the final report as required by Section 13 and issued a Certificate of Completion pursuant to Section 14.

Section 13. Final Reports

Upon completion of the work, holders of Stormwater Management Permits, Minor Stormwater Management Permits, and Biosolids Permits shall submit a report (including certified as-built construction plans if required), certifying that all erosion and sediment control devices, and approved changes and modifications, have been completed in accordance with the conditions of the approved permit. Any discrepancies should be noted in the cover letter.

Section 14. Certificate of Completion

The Stormwater Authority shall issue a letter certifying completion upon receipt and approval of the final reports and/or upon otherwise determining that all work has been conducted in conformance with these regulations and the permit conditions.

Figure 1.

Monponsett Pond Watershed

