



# Post-Construction Stormwater Model Ordinance

This is one of several tools designed to assist local stormwater managers with the development of their post-construction stormwater program. The tools are a companion to the Post-Construction Guidance Manual ([www.cwp.org/postconstruction](http://www.cwp.org/postconstruction)). The following tools are available:

For more information on the Post-Construction Guidance Manual, contact the Center for Watershed Protection, 8390 Main Street, 2<sup>nd</sup> floor, Ellicott City, MD 21046, 410-461-8323  
[center@cwp.org](mailto:center@cwp.org)  
[www.cwp.org](http://www.cwp.org).

**Tool 1: Post-Construction Stormwater Program Self-Assessment**

**Tool 2: Program & Budget Planning Tool**

**Tool 3: Post-Construction Stormwater Model Ordinance**

**Tool 4: Codes & Ordinance Worksheet (COW)**

**Tool 5: Stormwater Manual Builder**

**Tool 6: Plan Review, BMP Construction, and Maintenance Checklists**

**Tool 7: Performance Bonds**

**Tool 8: BMP Evaluation Tool**

# Post-Construction Stormwater Model Ordinance

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## Introduction

This Post-Construction Model Ordinance provides a MENU of code language for local, regional, and/or state stormwater programs to use to craft or update their ordinances. The ordinance is written so that individual sections can be lifted out and modified to suit individual program needs.

Guidance for using the Model Ordinance is provided below:

1. The Ordinance is designed to complement the Post-Construction Program Self-Assessment. Completing the Self-Assessment will assist a stormwater manager in determining which sections of the Model Ordinance to include in his or her new or revised post-construction code.
2. The text in the Model Ordinance has different styles applied to it based on each section's relevance to programs that are at different stages or levels of sophistication. This system parallels the Post-Construction Program Self-Assessment, where the columns represent actions taken by local programs as they evolve and develop. The text styles in the Model Ordinance reflect the following:
  - a. Standard text represents fundamental language that all programs should strive to include in some form as part of a "basic" program (generally corresponding to "Group A" in the Self-Assessment). Programs that creating an ordinance from scratch (e.g., no pre-existing stormwater code) should begin with this language. Other programs should confirm that, at a minimum, these elements are addressed in the existing code.
  - b. Text in *italics* represents program enhancements that most programs should strive to incorporate within the near future (for example, by the second permit cycle for programs subject to MS4 requirements). These program elements allow for more flexibility in compliance and also incorporate enhanced criteria to protect water resources.
  - c. Text that is underlined represents advanced or alternative program elements that either require a fairly high degree of program sophistication and watershed information OR support alternative program elements that can save time and money for local programs (such as the use of certified private inspectors). In general, these elements also provide more flexibility for both applicants and reviewers and promote a watershed-based approach to stormwater, rather than relying solely on site-by-site compliance.
3. While these text styles provide some guidance, it should be considered fluid. Each program is unique, and may incorporate elements from all three types of text.
4. The Model Ordinance contains language in brackets to indicate where a local program should insert its particular information. An example is the [STORMWATER AUTHORITY], which, at the local level, is the department charged with operating the stormwater program. Other terms, such as

**Stormwater Design Manual**, are in bold because a locality may wish to substitute another term or reference.

5. Many model ordinances are currently available from local, regional, and state agencies and organizations. A local program should consult any models that are “close to home” and then compare sections with this Model Ordinance to see if other elements should be added.
6. Text boxes are provided throughout the ordinance to provide clarification or to present various options for developing code language. **These boxes should be removed when developing an actual code document.**

Table 1 lists some critical decisions to make while developing a post-construction ordinance. Chapter 5 of the Post-Construction Guidance provides more information on many of the topics to consider when crafting an ordinance.

TABLE 1: POST-CONSTRUCTION ORDINANCE DECISIONS		
Decision	Rationale	More Guidance
Should post-construction ordinance be combined with erosion and sediment control (construction stormwater) and/or illicit discharge detection and elimination ordinances	Creates a comprehensive code, but can end up being a massive overwhelming document	Chapter 5
Develop a separate Stormwater Design Manual to keep technical details and specifications out of the ordinance	Having a separate manual is the recommended approach, and there are likely state and local manuals to reference	Chapter 6 Tool 5: Manual Builder
Include credits for Low-Impact Development, non-structural measures, and Smart Growth techniques	These are recommended program tools. The program should develop the technical and program capabilities to include these as the program matures.	Chapters 3, 4, 6 Tool 6: Checklists
Include special stormwater criteria for important resources, such as drinking water supplies, coastal areas, wetlands, cold-water fisheries, impaired streams	Special criteria can provide extra protection for locally-important resources. The technical criteria for meeting the standards should be in the Design Manual.	Chapter 4
Determine the number and types of sites that will be subject to stormwater requirements, plan review, and site inspections	The ordinance can apply to nearly all development and redevelopment sites, or only those of a certain size, disturbed area, or impervious threshold. Applicability is a critical program decision	Chapter 5

# Post-Construction Stormwater MODEL Ordinance

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## Section 1. General Provisions

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### 1.1. Findings of Fact

It is hereby determined that:

- (1) Land development activities and associated increases in site impervious cover often alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, flooding, stream channel erosion, or sediment transport and deposition;
- (2) This stormwater runoff contributes to increased quantities of water-borne pollutants, including siltation of aquatic habitat for fish and other desirable species;
- (3) *Improper design and construction of stormwater best management practices (BMPs) can increase the velocity of stormwater runoff thereby increasing stream bank erosion and sedimentation;*
- (4) *Impervious surfaces allow less water to percolate into the soil, thereby decreasing groundwater recharge and stream baseflow;*
- (5) Substantial economic losses can result from these adverse impacts on the waters of the municipality;
- (6) Stormwater runoff, soil erosion and nonpoint source pollution can be controlled and minimized through the regulation of stormwater runoff from land development activities;
- (7) The regulation of stormwater runoff discharges from land development activities in order to control and minimize increases in stormwater runoff rates and volumes, stream channel erosion, and nonpoint source pollution associated with stormwater runoff is in the public interest and will minimize threats to public health and safety.
- (8) Regulation of land development activities by means of performance standards governing stormwater management and site design will produce development compatible with the natural functions of a particular site or an entire watershed and thereby mitigate the adverse effects of stormwater runoff from development.
- (9) *Clearing and grading during construction tends to increase soil erosion and add to the loss of native vegetation necessary for terrestrial and aquatic habitat;*
- (10) *Illicit and non-stormwater discharges to the storm drain system can contribute a wide variety of pollutants to waterways, and the control of these discharges is necessary to protect public health and safety and water quality.*

## 1.2. Purpose

### **Purpose**

- Most local codes do have a purposes section that establishes the reasons that the locality is regulating stormwater.
- The Purpose section is usually tied to protection of public health and safety and may also refer to regulatory requirements (e.g., MS4 requirements).
- If the ordinance addresses construction stormwater and/or illicit discharge detection & elimination, then the “Purpose” section should include references to these activities.
- Optional “add-ons” to the section are indicated in italics at the end of the section.

The purpose of this ordinance is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within the [JURISDICTION]. This ordinance seeks to meet that purpose through the following objectives:

- (1) To inhibit the deterioration of water resources resulting from development.
- (2) To protect the safety and welfare of citizens, property owners, and businesses by minimizing the negative impacts of increased stormwater discharges from new land development and redevelopment.
- (3) To control the rate, quality and volume of stormwater originating from development and redevelopment sites so that surface water and groundwater are protected and flooding and erosion potential are not increased.
- (4) To control nonpoint source pollution and stream channel erosion.
- (5) To maintain the integrity of stream channels and networks for their biological functions, drainage, and natural recharge of groundwater.
- (6) To protect the condition of state (and U.S.) waters for all reasonable public uses and ecological functions.
- (7) To provide long-term responsibility for and maintenance of stormwater BMPs.
- (8) To facilitate the integration of stormwater management and pollution control with other ordinances, programs, policies, and the comprehensive plan of [JURISDICTION].
- (9) To establish legal authority to carry out all the inspection and monitoring procedures necessary to ensure compliance with this ordinance.

### ***Specific to the MS4***

- (1) To regulate the contribution of pollutants to the MS4 by stormwater discharges from development, redevelopment.*
- (2) To enable [JURISDICTION] to comply with the National Pollution Discharge Elimination System permit and applicable federal and state regulations.*
- (3) To facilitate compliance with state and federal standards and permits by owners of construction sites, developments, and permanent stormwater BMPs with [JURISDICTION].*

### ***Other Special Resources***

- *To preserve the natural infiltration of groundwater to maintain the quantity and quality of groundwater resources.*
- *To protect against and minimize the pollution of public drinking water supplies resulting from development and redevelopment.*
- *Impaired Waters*
- *Lakes*
- *Cold-Water Fisheries*
- *Coastal Areas*
- *Wetlands*



### 1.3. Applicability

#### Applicability

- The Applicability section establishes the “mesh size” for the post-construction ordinance; that is, the site size or site characteristics that trigger application of the post-construction standards.
- Applicability can be based on site impervious cover, a land disturbance threshold, overall site size, number of lots, and/or the type of development (e.g., hotspots).
- The most common threshold is 1-acre disturbed. The advantage of this threshold is that it is consistent with the NPDES threshold for construction sites. However, impervious cover may be a more precise trigger for a post-construction ordinance.
- The following table outlines choices for the applicability section based on program sophistication. **Choices should be substituted for the area size in brackets in the ordinance language.**

Table 1. Applicability Choices Based on Program Sophistication		
Increasing Program Sophistication →		
1 acre or more of land disturbance	<ul style="list-style-type: none"><li>• 5,000 square feet or more of new impervious cover</li><li>• 5,000 square feet or more of impervious cover created, added or replaced for redevelopment</li></ul> AND <ul style="list-style-type: none"><li>• Any new development or redevelopment, regardless of size, that is identified by the <b>[STORMWATER AUTHORITY]</b> to be an area where the land use has the potential to generate highly contaminated runoff</li></ul>	<ul style="list-style-type: none"><li>• 2,500 square feet of new impervious cover</li><li>• Any redevelopment</li></ul> OR <ul style="list-style-type: none"><li>• All land development and redevelopment activities</li></ul>

- Some local ordinances will have a variable trigger for new development versus redevelopment, especially if redevelopment is a critical component to an overall land use policy that encourages infill.
- The “Applicability” section must be clear in its terminology. It is important to define and be consistent with terms such as “land disturbing activity,” “development,” “land development,” or “agricultural land uses.” These terms should be provided in the definitions section and should also be used consistently with applicable state regulations.

This ordinance shall be applicable to all land development, including, but not limited to, site plan applications, subdivision applications, and grading applications, unless exempt pursuant to Section 1.4. These provisions apply to any new development or redevelopment site within **[JURISDICTION]** that meets one or more of the following criteria:

- (1) Land development that creates [**FIVE-THOUSAND (5,000) SQUARE FEET OR MORE**] of impervious cover.
- (2) Redevelopment that creates, adds, or replaces [**FIVE-THOUSAND (5,000) SQUARE FEET OR MORE**] of impervious cover.
- (3) Land development activities that are smaller than the minimum applicability criteria set forth above if such activities are part of a larger common plan of development, even though multiple, separate and distinct land development activities may take place at different times on different schedules.

#### 1.4. Exemptions

##### Exemptions

- The most important consideration in the Exemptions section is to catch land uses activities that should be regulated. Exemptions can easily turn into loopholes if the ordinance language is not precise.
- There is some debate about some exemptions, such as state and federal projects (that may also be subject to other regulatory requirements) and temporary projects, such as road and utility maintenance.
- Exemption 3b is provided as an incentive for conservation plans.

The following activities are exempt from this ordinance:

- (1) Individual single-family or duplex residential lots that are not part of a subdivision or phased development project that is otherwise subject to this ordinance.
  - (2) Additions or modifications to existing single-family or duplex residential structures.
  - (3a) Projects that are exclusively for agricultural and silvicultural uses. Agricultural or silvicultural roads that are used to access other land uses subject to this ordinance are not exempt. Agricultural structures that are also used for other uses subject to this ordinance are not exempt.
- OR**
- (3b) Any agricultural or silvicultural activity that is conducted according to an approved farm conservation plan or timber management plan prepared or approved by [APPROPRIATE STATE AGENCIES].*
- (4) Maintenance and repair to any stormwater BMP deemed necessary by the [**STORMWATER AUTHORITY**].
  - (5) Any emergency project that is immediately necessary for the protection of life, property, or natural resources.
  - (6) Linear construction projects, such as pipeline or utility line installation, that do not result in the installation of any impervious cover, as determined by the

**[STORMWATER AUTHORITY]**. Such projects must be designed to minimize the number of stream crossings and width of disturbance, and are subject to **[APPLICABLE CONSTRUCTION STORMWATER OR EROSION & SEDIMENT CONTROL ORDINANCE]**.

- (7) Any part of a land development that was approved by **[JURISDICTION'S PLAN APPROVING AUTHORITY]** prior to the effective date of this ordinance.

**Legal Authority, Compatibility, Severability, Liability, Designation of Stormwater Authority Sections**

- These Administrative sections appear in some, but not all, ordinances for various legal reasons.
- Check with legal staff to determine the applicability of these sections to your situation.

### **1.5. Legal Authority**

This ordinance is adopted pursuant to authority conferred by and in accordance with **[APPLICABLE STATE AND/OR FEDERAL REGULATIONS]**.

### **1.6. Compatibility with Other Permit and Ordinance Requirements**

This ordinance is not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provision of law. The requirements of this ordinance should be considered minimum requirements, and where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health or the environment shall be considered to take precedence.

### **1.7. Severability**

If the provisions of any article, section, subsection, paragraph, subdivision or clause of this ordinance shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision or clause of this ordinance.

### **1.8. Liability**

Any person who undertakes or causes to be undertaken any land development shall ensure that soil erosion, sedimentation, increased pollutant loads and changed water flow characteristics resulting from the activity are controlled so as to minimize pollution of receiving waters. The requirements of this ordinance are minimum standards and a person's compliance with the same shall not relieve such person from the duty of enacting all measures necessary to minimize pollution of receiving waters.

By approving a plan under this regulation, [JURISDICTION] does not accept responsibility for the design, installation, and operation and maintenance of stormwater BMPs.

### 1.9. Designation of Stormwater Authority: Powers and Duties

*The [STORMWATER AUTHORITY] shall administer and enforce this ordinance, and may furnish additional policy, criteria and information including specifications and standards, for the proper implementation of the requirements of this ordinance and may provide such information in the form of a Stormwater Design Manual.*

*The Stormwater Design Manual may be updated and expanded from time to time, at the discretion of the [STORMWATER AUTHORITY], based on improvements in engineering, science, monitoring and local maintenance experience.*

Representatives of the [STORMWATER AUTHORITY] shall have the right to enter upon any land for the purposes of making an inspection or acquiring information to determine whether or not the property conforms to the requirements of this ordinance.

## Section 2. Definitions

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### Definitions

Ensure that terms are defined consistently across other related guidance and regulatory documents.

**"Applicant"** means a property owner or agent of a property owner who has filed an application for a stormwater management permit.

**"Building"** means any structure, either temporary or permanent, having walls and a roof, designed for the shelter of any person, animal, or property, and occupying more than 100 square feet of area.

**"Channel"** means a natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water.

**"Dedication"** means the deliberate appropriation of property by its owner for general public use.

**"Detention"** means the temporary storage of storm runoff in a stormwater BMP with the goals of controlling peak discharge rates and providing gravity settling of pollutants.

**"Easement"** means a legal right granted by a landowner to a grantee allowing the use of private land for conveyance or treatment of stormwater runoff and access to stormwater practices.

**"Erosion and Sediment Control Plan"** means a plan that is designed to minimize the accelerated erosion and sediment runoff at a site during construction activities.

**"Fee in Lieu Contribution"** means a payment of money in place of meeting all or part of the stormwater performance standards required by this ordinance.

**"Groundwater Management Area"** means a geographically defined area that may be particularly sensitive in terms of groundwater quantity and/or quality by nature of the use or movement of groundwater, or the relationship between groundwater and surface water, and where special management measures are deemed necessary to protect groundwater and surface water resources.

**"Groundwater Recharge Volume (Rev)"** – The portion of the water quality volume (WQv) used to maintain groundwater recharge rates at development sites.

**"Impaired Waters"** means those streams, rivers and lakes that currently do not meet their designated use classification and associated water quality standards under the Clean Water Act.

**"Impervious Cover"** means those surfaces that cannot effectively infiltrate rainfall (e.g., building rooftops, pavement, sidewalks, driveways, etc).

**"Industrial Stormwater Permit"** means a National Pollutant Discharge Elimination System permit issued to a commercial industry or group of industries that regulates the pollutant levels associated with industrial stormwater discharges or specifies on-site pollution control strategies.

**"Infill Development"** means land development that occurs within designated areas based on local land use, watershed, and/or utility plans where the surrounding area is generally developed, and where the site or area is either vacant or has previously been used for another purpose.

**"Infiltration"** means the process of percolating stormwater into the subsoil.

**"Infiltration Facility"** means any structure or device designed to infiltrate retained water to the subsurface. These facilities may be above grade or below grade.

**"Jurisdictional Wetland"** means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

**"Land Development"** means a human-made change to, or construction on, the land surface that changes its runoff characteristics.

**"Land Disturbing Activity"** means any activity that changes the volume or peak flow discharge rate of rainfall runoff from the land surface. This may include the grading, digging, cutting, scraping, or excavating of soil, placement of fill materials, paving, construction, substantial removal of vegetation, or any activity that bares soil or rock or involves the diversion or piping of any natural or man-made watercourse.

**"Landowner"** means the legal or beneficial owner of land, including those holding the right to purchase or lease the land, or any other person holding proprietary rights in the land.

**"Maintenance Agreement"** means a legally recorded document that acts as a property deed restriction, and that provides for long-term maintenance of stormwater BMPs.

**"Municipal Separate Storm Sewer System (MS4)"** means publicly-owned facilities by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, catch basins, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage ditches/channels, reservoirs, and other drainage structures.

**"National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit"** means a permit issued by the EPA, or by a State under authority delegated pursuant to 33 USC § 1342(b), that authorizes the discharge of pollutants to waters of the State, whether the permit is applicable on an individual, group, or general area-wide basis.

**"Non-Stormwater Discharge"** means any discharge to the storm drain system that is not composed entirely of stormwater.

**"Non-Structural Measure"** means a stormwater control and treatment technique that uses natural processes, restoration or enhancement of natural systems, or design approaches to control runoff and/or reduce pollutant levels. Such measures are used in lieu of or to supplement structural practices on a land development site. Non-structural measures include, but are not limited to: minimization and/or disconnection of impervious surfaces; development design that reduces the rate and volume of runoff; restoration or enhancement of natural areas such as riparian areas, wetlands, and forests; and on-lot practices such as rain barrels, cisterns, and vegetated areas that intercept roof and driveway runoff.

**"Nonpoint Source Pollution"** means pollution from any source other than from any discernible, confined, and discrete conveyances, and shall include, but not be limited to, pollutants from agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

**"Off-Site Facility"** means a stormwater BMP located outside the subject property boundary described in the permit application for land development activity.

**"On-Site Facility"** means a stormwater BMP located within the subject property boundary described in the permit application for land development activity.

**"Owner"** means the owner or owners of the freehold of the premises or lesser estate therein, a mortgagee or vendee in possession, assignee of rents, receiver, executor, trustee, lessee or other person, firm or corporation in control of a piece of land. As used herein, owner also refers to, in the appropriate context: (i) any other person authorized to act as the agent for the owner; (ii) any person who submits a stormwater management concept or design plan for approval or requests issuance of a permit, when required, authorizing land development to commence; and (iii) any person responsible for complying with an approved stormwater management design plan.

**"Permanent Stormwater BMP"** means a stormwater best management practice (BMP) that will be operational after the construction phase of a project and that is designed to become a permanent part of the site for the purposes of managing stormwater runoff.

**"Private Inspector"** means an independent agency or private entity that is retained by the applicant to conduct inspections and submit documentation to the [STORMWATER AUTHORITY] in accordance with this ordinance, and that is certified by the [STORMWATER AUTHORITY] to conduct such inspections.

**"Pro-Rata Share"** means the proportional amount to be paid by an applicant to contribute to the construction of a regional stormwater BMP, as determined by the [STORMWATER AUTHORITY].

**"Receiving Stream or Channel"** means the body of water or conveyance into which stormwater runoff is discharged.

**"Recharge"** means the replenishment of underground water reserves.

**"Redevelopment"** means a change to previously existing, improved property, including but not limited to the demolition or building of structures, filling, grading, paving, or excavating, but excluding ordinary maintenance activities, remodeling of buildings on the existing footprint, resurfacing of paved areas, and exterior changes or improvements that do not materially increase or concentrate stormwater runoff or cause additional nonpoint source pollution.

**"Regional Stormwater"** means stormwater BMPs designed to control stormwater runoff from multiple properties or a particular land use district, and where the owners or developers of the individual properties may participate in the provision of land, financing, design, construction, and/or maintenance of the facility.

**"Responsible Party"** means any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or any other legal entity; or their legal representatives, agents, or assigns that is named on a stormwater maintenance agreement as responsible for long-term operation and maintenance of one or more stormwater BMPs.

**"Stop Work Order"** means an order issued that requires that all construction activity on a site be stopped.

**"Stormwater Authority"** means the department or agency, and its authorized agents, which is responsible for coordinating the review, approval, and permit process as defined by this ordinance.

**"Stormwater Design Manual"** means an engineering and/or project review document maintained by the [STORMWATER AUTHORITY] containing technical standards and specifications, policies, procedures, and other materials deemed appropriate by [STORMWATER AUTHORITY] to assist with compliance with the provisions of this ordinance.

**"Stormwater Hotspot"** means an area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater.

**"Stormwater Management"** means the use of structural or non-structural practices that are designed to reduce stormwater runoff pollutant loads, discharge volumes, peak flow discharge rates and detrimental changes in stream temperature that affect water quality and habitat.

**"Stormwater Pollution Prevention Plan"** means a plan, usually required by a permit, to manage stormwater associated with industrial, commercial, institutional, or other land use activities, including construction. The Plan commonly describes and ensures the implementation of practices that are to be used to reduce pollutants in stormwater and non-stormwater discharges.

**"Stormwater Best Management Practice (BMP)"** means a measure, either structural or nonstructural, that is determined to be the most effective, practical means of preventing or reducing point source or nonpoint source pollution inputs to stormwater runoff and water bodies.

**"Stormwater Retrofit"** means a stormwater BMP designed for an existing development site that previously had either no stormwater BMP in place or a practice inadequate to meet the stormwater management requirements of the site.

**"Stormwater Runoff"** means flow on the surface of the ground, resulting from precipitation.

**"Stream Buffer"** means an area of land at or near a streambank, wetland, or waterbody that has intrinsic water quality value due to the ecological and biological processes it performs or is otherwise sensitive to changes which may result in significant degradation to water quality.



**"Water Quality Volume (WQv)"** means the storage needed to capture and treat 90% of the average annual stormwater runoff volume. Numerically (WQv) will vary as a function of long term rainfall statistical data.

**"Watercourse"** means a permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water.

**"Watershed or Subwatershed Management Plan"** means a document, usually developed cooperatively by government agencies and other stakeholders, to protect, restore, and/or otherwise manage the water resources within a particular watershed or subwatershed. The plan commonly identifies threats, sources of impairment, institutional issues, and technical and programmatic solutions or projects to protect and/or restore water resources.

**"Wetland Hydroperiod"** means the pattern of fluctuating water levels within a wetland caused by the complex interaction of flow, topography, soils, geology, and groundwater conditions in the wetland.

## Section 3. Permit Procedures and Requirements

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### **Permit Procedures & Requirements**

- This section outlines the requirements for plans to be submitted, the schedule for review, and general conditions for approval.
- Plan approval can be a locality's last chance to influence several important issues, such as ensuring long-term access to stormwater BMPs and assigning maintenance responsibility.
- The ordinance should establish the plan approval process as a mechanism to secure needed documents for the long-term viability of a site's stormwater BMPs.

### **3.1. Stormwater Management Concept Plan and Consultation Meeting**

*Each owner subject to this ordinance shall submit to the [STORMWATER AUTHORITY] for review and approval a stormwater management concept plan as provided herein:*

- (1) **Stormwater Management Concept Plan:** All preliminary plans of subdivision and site plans shall provide a stormwater management concept plan describing, in general, how stormwater runoff through and from the development will be treated and conveyed. The concept plan shall also identify important natural features identified though a Natural Resources Inventory conducted in accordance with Section 4.1(17). All other land development projects subject to this ordinance shall submit a stormwater management concept plan prior to preparation of the stormwater management design plan.*
- (2) **Application Requirements:** The stormwater management concept plan submittal shall contain a completed application form provided by the [STORMWATER AUTHORITY], the fee required by Section 3.10, and a stormwater management concept plan that satisfies the requirements of this section and the Stormwater Design Manual.*
- (3) **Concept Plan Prior to Design Plan:** The stormwater management concept plan must be approved prior to submission of a stormwater management design plan (as part of the construction or final site plan) for the entire development, or portions thereof.*
- (4) **Meetings with [STORMWATER AUTHORITY]:** All applicants are encouraged to hold a pre-submittal consultation meeting with the [STORMWATER AUTHORITY] to discuss potential approaches for stormwater design and opportunities to use design techniques to reduce runoff rates, volumes, and pollutant loads. In addition, the applicant or his representative shall meet on-site with a designee of the [STORMWATER AUTHORITY] prior to approval of the stormwater management concept plan for the purposes of verifying the conditions of the site and all receiving channels.*

- (5) **Maximize Use of Techniques to Reduce Runoff by Design:** *The stormwater management concept plan shall utilize to the maximum extent practicable site planning and design technique that reduce runoff rates, volumes, and pollutant loads. Such techniques include, but are not limited to, minimization and/or disconnection of impervious surfaces; development design that reduces the rate and volume of runoff; restoration or enhancement of natural areas such as riparian areas, wetlands, and forests; and distributed practices that intercept and treat runoff from developed areas.*

### **3.2. Stormwater Management Design Plan**

Each owner subject to this ordinance shall submit to the [STORMWATER AUTHORITY] for review and approval a stormwater management design plan as provided herein:

**Stormwater Management Design Plan:** A stormwater management design plan containing all appropriate information as specified in this Ordinance shall be submitted to the [STORMWATER AUTHORITY] in conjunction with the final subdivision plat, final site plan, construction plan, or any other land development plan subject to this ordinance.

**Application Requirements:** The stormwater management design plan submittal shall contain a completed application form provided by the [STORMWATER AUTHORITY], the fee required by Section 3.10, a stormwater management design plan that satisfies the requirements of this section and the Stormwater Design Manual, a stormwater maintenance plan, and a certification stating that all requirements of the approved plan will be complied with. Failure of the owner to demonstrate that the project meets these requirements, as determined by the [STORMWATER AUTHORITY], shall be reason to deny approval of the plan.

**Consistency between Concept & Design Plans:** A copy of the approved stormwater management concept plan shall be submitted with the stormwater management design plan. The [STORMWATER AUTHORITY] shall check the design plan for consistency with the concept plan and may require a revised stormwater management concept plan if changes in the site development proposal have been made.

**Stormwater Management Design Plan Content:** The stormwater management design plan shall contain maps, charts, graphs, tables, photographs, narrative descriptions, explanations, citations to supporting references, a record of all major permit decisions, and other information as may be necessary for a complete review of the plan, and as specified in the latest version of the Stormwater Design Manual.

### **3.3. Stormwater Management Design Plan: Review Procedures**

**Preliminary Review for Completeness of Plan:** The [STORMWATER AUTHORITY] shall have a maximum of ten (10) calendar days from the receipt of an application for preliminary review to determine if the application is complete. During this period, the application will be accepted for review, which will begin the thirty (30) day review period, or rejected for incompleteness. The applicant will be informed in writing of the information necessary to complete the application.

**Review Period:** The thirty (30) day review period begins on the day the complete stormwater management design plan is accepted for review by the [STORMWATER AUTHORITY]. During the thirty (30) day review period, the [STORMWATER AUTHORITY] shall either approve or disapprove the plan and communicate the decision to the applicant in writing. Approval or denial shall be based on the plan's compliance with this Ordinance and the Stormwater Design Manual.

**Modifications Needed for Approval:** In cases where modifications are required to approve the plan, the [STORMWATER AUTHORITY] shall have an additional thirty (30) days to review the revised plan from the initial and any subsequent resubmission dates. If the plan is approved, one copy bearing certification of such approval shall be returned to the applicant. If the plan is disapproved, the applicant shall be notified in writing of the reasons.

**Appeal Decisions of [STORMWATER AUTHORITY]:** The applicant or any aggrieved party authorized by law may appeal the [STORMWATER AUTHORITY'S] decision of approval or disapproval of a stormwater management design plan. The appeal shall be made to the [GOVERNING BOARD OF JURISDICTION], must be in writing, and must be submitted within thirty (30) days after the [STORMWATER AUTHORITY] renders its decision to approve or disapprove the plan.

**Substantive Changes to Plan:** No substantive changes shall be made to an approved plan without review and written approval by the [STORMWATER AUTHORITY]. The [STORMWATER AUTHORITY] may request additional data with a plan amendment as may be necessary for a complete review of the plan and to ensure that changes to the plan will comply with the requirements of this ordinance.

**Expiration of Plan Approval:** The stormwater management design plan's approval expires in one year from the date of approval unless a final plat is recorded or unless work has actually begun on the site. The recordation of a final plat for a section of a subdivision (or initiation of construction in a section) does not vest the approval of the stormwater management design plan for the remainder of the subdivision. If the stormwater management design plan expires, the applicant shall file with the [STORMWATER AUTHORITY] for reapproval of the stormwater management design plan.

### 3.4. Plan Preparation and Certification

- (1) **Certification by Plan Preparer:** The stormwater management design plan shall be prepared by a licensed landscape architect, certified professional surveyor, or professional engineer and must be signed by the professional preparing the plan, who shall certify that the design of all stormwater BMPs meet the requirements in this local law.
- (2) **Certification by Owner:** The owner shall certify that all land clearing, construction, land development and drainage will be done according to the approved plan.

### 3.5. Coordination with Other Approvals and Permits

- (1) **Approval of Other Permits:** *No grading or building permit shall be issued for land development without approval of a stormwater management design plan.*
- (2) **Coordination with Other Plans:** *Approval of the stormwater management design plan shall be coordinated by the [STORMWATER AUTHORITY] with approval of an erosion and sediment control or construction stormwater plan with regard to the location, schedule, and/or phasing for temporary and permanent stormwater management measures. If natural drainage features or other natural areas are to be preserved, then these areas must be shown and measures provided for their protection on both the erosion and sediment control plan and the stormwater management design plan. If other elements of the stormwater management design plan utilize soils, vegetation, or other natural features for infiltration or treatment, then these areas must be shown on the erosion and sediment control plan and measures provided for their protection during construction*
- (3) **Other Permits or Approvals May Be Needed:** *Approvals issued in accordance with this ordinance do not relieve the applicant of responsibility for obtaining all other necessary permits and/or approvals from other federal, state, and/or local agencies. If requirements vary, the most restrictive shall prevail. These permits may include, but are not limited to: construction stormwater discharge permits, applicable state and federal permits for stream and wetland impacts, and applicable dam safety permits. Applicants are required to show proof of compliance with these regulations before the [JURISDICTION'S PLAN APPROVING AUTHORITY] will issue a grading, building, or zoning permit.*
- (4) **Stormwater Measures within Flood Plain:** *Construction of stormwater measures or facilities within a Federal Emergency Management Agency (FEMA) designated floodplain shall be avoided to the extent possible. When this is unavoidable, all stormwater BMP construction shall be in compliance with all applicable requirements of the [JURISDICTION'S FLOOD PLAIN CODE].*

### 3.6. Maintenance Agreement and Plan

#### **Maintenance Agreement and Plan**

This section is intended to ensure long-term maintenance. The approval and review procedures should include the following:

- Ensure maintenance agreements are recorded.
- Ensure the easements for maintenance and access are platted.
- Establish maintenance inspection and reporting requirements.

Prior to approval by the [STORMWATER AUTHORITY] of a stormwater management design plan, each owner shall submit a maintenance agreement and maintenance plan in accordance with the following:

- (1) **Responsible Party:** The owner shall be responsible for the operation and maintenance of such measures and shall pass such responsibility to any successor owner, unless such responsibility is transferred to [JURISDICTION] or to another governmental entity in accordance with Section 3.12.
- (2) **Requirement for Maintenance Agreement & Plan:** If a stormwater management design plan requires structural or nonstructural measures, the owner shall execute a stormwater maintenance agreement prior to the [STORMWATER AUTHORITY] granting final approval for the plan, or any plan of development or other development for which a permit is required under this Ordinance. The agreement shall be recorded in the office of the clerk of the circuit court for [JURISDICTION] and shall run with the land.
- (3) **Required Elements for Maintenance Agreement & Plan:** The stormwater maintenance agreement shall be in a form approved by [JURISDICTION], and shall, at a minimum:
  - (a) **Designate Responsible Party:** Designate for the land development the owner, governmental agency, or other legally established entity (responsible party) which shall be permanently responsible for maintenance of the structural or non-structural measures required by the plan.
  - (b) **Pass Responsibility to Successors:** Pass the responsibility for such maintenance to successors in title.
  - (c) **Right of Entry for Stormwater Authority:** Grant the [STORMWATER AUTHORITY] and its representatives the right of entry for the purposes of inspecting all stormwater BMPs at reasonable times and in a reasonable manner. This includes the right to enter a property when the [STORMWATER AUTHORITY] has a reasonable basis to believe that a violation of this Ordinance is occurring or has occurred and to enter when necessary for abatement of a public nuisance or correction of a violation of this Ordinance.

- (d) **Maintenance Plan:** *Ensure the continued performance of the maintenance obligations required by the plan and this ordinance through a maintenance plan (which may be an attachment to the actual maintenance agreement). The plan shall include a list of inspection and maintenance tasks, a schedule for routine inspection and maintenance, actions to be taken when maintenance is required, and other items listed in the Stormwater Design Manual.*

### **3.7. Easements**

*Storm drainage easements shall be required where the conveyance, storage, or treatment of stormwater is identified on the stormwater management design plan, or where access is needed to structural or non-structural stormwater measures.*

*The following conditions shall apply to all easements:*

- (1) *Dimensions: Easements shall be of a width and location specified in the Stormwater Design Manual.*
- (2) *Easements Approved Before Plat Approval: Easements shall be approved by the [JURISDICTION'S PLAN APPROVING AUTHORITY] prior to approval of a final plat and shall be recorded with the [JURISDICTION] and on all property deeds.*
- (3) *Deeds of Easement: A deed of easement shall be recorded along with the final plat specifying the rights and responsibilities of each party to the easement.*

### **3.8. Performance Bond or Guarantee**

- (1) **Performance Bond or Guarantee Required:** *No permits shall be issued unless the applicant furnishes a performance bond or guarantee. This is to ensure that action can be taken by [JURISDICTION], at the applicant's expense, should the applicant fail to initiate or maintain those measures identified in the approved stormwater management design plan (after being given proper notice and within the time specified by the [STORMWATER AUTHORITY]). If [JURISDICTION] takes such action upon such failure by the applicant, [JURISDICTION] shall collect from the applicant the difference should the amount of reasonable cost of such action exceed the amount of the security held.*
- (2) **Term of Performance Bond or Guarantee:** *The performance bond or guarantee furnished pursuant to this section, or the unexpended or unobligated portion thereof, shall be returned to the applicant within sixty (60) days of issuance by the [STORMWATER AUTHORITY] of a Stormwater Certificate of Completion in accordance with Section 5, OR the final acceptance of the permanent stormwater BMP by the [STORMWATER AUTHORITY].*

(3) ***Term Extended for Initial Maintenance:*** *At the discretion of the [STORMWATER AUTHORITY], the performance bond or guarantee may be extended beyond the time period specified above to cover a reasonable period of time for testing the practices during storm events and for initial maintenance activities. For the purposes of this section, the time shall not exceed 2 years.*

(4) ***Partial Release of Bond:*** *The [STORMWATER AUTHORITY] shall have the discretion to adopt provisions for a partial pro-rata release of the performance bond or guarantee on the completion of various stages or phases of development.*

### **3.9. As-Built Plans**

*All applicants are required to submit as-built plans for any permanent stormwater management facilities located on-site after final construction is completed. The plan must show the final design specifications for all stormwater management facilities, meet the criteria for as-built plans in the Stormwater Design Manual, and be sealed by a registered professional engineer. A final inspection by the [STORMWATER AUTHORITY] is required before any performance bond or guarantee will be released.*

### **3.10. Fees**

#### **Fees**

- The jurisdiction should insert the applicable fee schedule in **Section 3.10**.
- If a local program does not currently charge fees for plan review, waivers, and inspections, then it should consider fees as a possible revenue source for the program.

The [STORMWATER AUTHORITY] has the ability to require a fee to support local plan review, inspection and program administration. Each owner seeking approval of a stormwater management concept plan or stormwater management design plan shall pay a fee upon submittal of such plan, and shall pay a fee for each inspection, in amounts according to the schedule set forth below.

- (1) *Stormwater Management Concept Plan:* \$
- (2) *Stormwater Management Design Plan:* \$
- (3) *Amendment to a Stormwater Management Concept or Design Plan:* \$
- (4) *Request for a Waiver:* \$
- (5) *Each Inspection:* \$

### **3.11. Fee-In-Lieu Payment**

The [STORMWATER AUTHORITY] may maintain a Fee-In-Lieu and/or Pro-Rata Share program in accordance with an approved watershed or subwatershed plan or



stormwater master plan. Such a program shall follow the general conditions of **Section 4.9.**

### **3.12. Dedication of Stormwater BMPs**

The owner of a stormwater practice required by this Ordinance may offer for dedication any such stormwater practice, together with such easements and appurtenances as may be reasonably necessary, as provided herein:

- (1) **Preliminary Determination by [STORMWATER AUTHORITY]:** Upon receipt of such offer of dedication by [JURISDICTION], the [STORMWATER AUTHORITY] shall make a preliminary determination that the dedication of the practice is appropriate to protect the public health, safety and general welfare, and furthers the goals of [JURISDICTION'S] stormwater management program and/or associated watershed plans. The [STORMWATER AUTHORITY] shall forward its determination to [GOVERNING BOARD OF JURISDICTION]. Prior to making its determination, the [STORMWATER AUTHORITY] shall inspect the practice to determine whether it has been properly maintained and is in good repair.
- (2) **Acceptance by [GOVERNING BOARD]: [GOVERNING BOARD OF JURISDICTION]** may accept the offer of dedication by adoption of a resolution. The document dedicating the stormwater BMP shall be recorded in the office of the clerk of the circuit court for the [JURISDICTION].
- (3) **Owner to Provide Documentation:** The owner, at his sole expense, shall provide any document or information requested by the [STORMWATER AUTHORITY] or the [GOVERNING BOARD OF JURISDICTION] in order for a decision to be reached on accepting the practice.

## Section 4. Post-Construction Performance Criteria for Stormwater Management

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### Post-Construction Criteria

- Criteria are the core of the stormwater ordinance. They establish the design objectives for stormwater BMPs, and will influence the types and sizes of these practices.
- Criteria in the ordinance should remain fairly simple, with technical detail relegated to the design manual.

### 4.1. General Post-Construction Stormwater Management Criteria

- (1) **Stormwater BMP Maintenance:** All stormwater BMPs shall be maintained in accordance with the approved and deeded stormwater maintenance agreement and stormwater maintenance plan. The design of stormwater facilities shall incorporate maintenance accommodation and long-term maintenance reduction features in accordance with the latest version of the Stormwater Design Manual.
- (2) **Overland Flood Routes:** Overland flood routing paths shall be used to convey stormwater runoff from the 100-year, 24-hour storm event to an adequate receiving water resource or stormwater BMP such that the runoff is contained within the drainage easement for the flood routing path and does not cause flooding of buildings or related structures. The peak 100-year water surface elevation along flood routing paths shall be at least one foot below the finished grade elevation at the structure. When designing the flood routing paths, the conveyance capacity of the site's storm sewers shall be taken into consideration.
- (3) **Velocity Dissipation:** Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall to provide non-erosive flow velocity from the structure to an adequate receiving stream or channel so that the natural physical and biological characteristics and functions of the receiving stream are maintained and protected.
- (4) **Discharges to Adjacent Property:** Concentrated discharges from land development, including from stormwater practices, shall not be discharged onto adjacent developed property without adequate conveyance in a natural stream or storm sewer system. The [STORMWATER AUTHORITY] may require drainage easements where stormwater discharges must cross an adjacent or off-site property before reaching an adequate conveyance.
- (5) **Individual Lots Not Separate Land Development:** Residential, commercial or industrial developments shall apply these stormwater management criteria to land development as a whole. Individual residential lots in new subdivisions shall not be

considered separate land development projects, but rather the entire subdivision shall be considered a single land development project.

- (6) **Location of Stormwater Facilities on Lots:** Stormwater facilities within residential subdivisions that serve multiple lots and/or a combination of lots and roadways shall be on a lot owned and maintained by an entity of common ownership, unless an alternative arrangement is approved by the [STORMWATER AUTHORITY]. Stormwater practices located on individual lots shall be maintained by the lot owner, or, at the discretion of the [STORMWATER AUTHORITY], be placed within an easement and maintained by an entity of common ownership.
- (7) **Hydrologic Computation Assumptions:** Hydrologic parameters shall reflect the ultimate land development and shall be used in all engineering calculations. All pre-development calculations shall consider woods and fields to be in good condition, regardless of actual conditions at the time of application.
- (8) **Authorization to Discharge to MS4:** If runoff from a land development will flow to a municipal separate storm sewer system (MS4) or other publicly-owned storm sewer system, then the applicant shall obtain authorization from the system's owner to discharge into the system. The [STORMWATER AUTHORITY] may require the applicant to demonstrate that the system has adequate capacity for any increases in peak flow rates and volumes.
- (9) **Compliance with Federal & State Regulations:** All stormwater facilities and conveyance systems shall be designed in compliance with all applicable state and federal laws and regulations, including the Federal Clean Water Act and all applicable erosion and sediment control and flood plain regulations. To the extent practical, stormwater facilities shall not be located in areas determined to be jurisdictional waters through Section 404 of the Federal Clean Water Act and/or applicable state regulations.
- (10) **Protect Public Health, Safety & General Welfare:** The design of stormwater BMPs shall consider public health, safety, and general welfare. These considerations include, but are not limited to: preventing flooding of structures and travelways; preventing standing water in facilities, manholes, inlets, and other structures in a manner that promotes breeding of mosquitoes; preventing attractive nuisance conditions and dangerous conditions due to velocity or depth of water and/or access to orifices and drops; and preventing aesthetic nuisances due to excessive slopes, cuts and fills, and other conditions.
- (11) **Adherence to Stormwater Design Manual:** *All stormwater BMPs shall be designed to the standards of the most current version of the Stormwater Design Manual, unless the [STORMWATER AUTHORITY] grants the applicant a waiver or the applicant is exempt from such requirements.*

- (12) ***Treat Entire Land Development:*** *The stormwater design shall provide for treatment of runoff from the entire land development, to the extent practical.*
- (13) ***Landscape Plan:*** *The design of stormwater BMPs shall include a landscape plan detailing both the vegetation to be in the practice and how and who will manage and maintain the vegetation. The landscape plan shall be prepared in accordance with the Stormwater Design Manual.*
- (14) ***Pretreatment:*** *Each stormwater BMP shall have an acceptable form of water quality pretreatment, in accordance with the pretreatment requirements found in the current Stormwater Design Manual.*
- (15) ***Stormwater Authority Discretion:*** *If hydrologic, geologic, topographic, or land use conditions warrant greater control than that provided by the minimum control requirements, the [STORMWATER AUTHORITY] may impose additional requirements deemed reasonable and necessary to control the volume, timing, rate and/or quality of runoff. The [STORMWATER AUTHORITY] may restrict the use of certain stormwater BMPs, require pretreatment above the minimum standards in the Stormwater Design Manual, and/or require a stormwater pollution prevention plan in certain circumstances. These include, but are not limited to: stormwater generated from stormwater hotspots, stormwater discharges that are conveyed with non-stormwater discharges, and stormwater discharged in important groundwater management areas or areas where geologic conditions are conducive to groundwater contamination (e.g., karst).*
- (16) ***Replicating Pre-Development Hydrology:*** *Stormwater management designs shall preserve the natural hydrologic functions, stream channel characteristics, and groundwater recharge of the pre-developed site, to the extent practical. This shall be accomplished by treating runoff at the source, disconnecting impervious surfaces, preserving or enhancing natural flow paths and vegetative cover, preserving or enhancing natural open spaces and riparian areas, and other measures that replicate pre-development hydrologic conditions. The [STORMWATER AUTHORITY] shall exercise discretion in the application of this standard, especially in cases of infill development, redevelopment, or other unique circumstances.*
- (17) ***Natural Resources Inventory:*** *Stormwater management designs shall include an inventory of important natural resources features on the site, and these features shall be shown on the Stormwater Management Concept Plan that may be prepared in accordance with Section 3.1. Protection and/or conservation of the site's natural features may, at the discretion of the [STORMWATER AUTHORITY], be used and given credit as "Non-Structural Measures" in accordance with Section 4.8. The natural resources inventory shall include, but not be limited to the following: natural drainage features, riparian buffers, wetlands, steep slopes, soils with high infiltration capacity, significant forest or prairie patches, and significant trees and natural communities.*

- (18) ***Treatment of Off-Site Stormwater:*** *Off-site stormwater conveyed through a land development shall be placed within an easement and conveyed in a manner that does not increase upstream or downstream flooding. Off-site stormwater shall be conveyed around on-site stormwater BMPs, unless the facilities are designed to manage the off-site stormwater. The [STORMWATER AUTHORITY] may allow credits for treating off-site stormwater.*
- (19) ***Stream & Wetland Crossings:*** *All stream and wetland crossings subject to Section 404 and/or state stream and wetland regulations shall minimize impacts on streams and wetlands, to the extent practical and achievable, by crossing streams and wetlands at a right-angle, reducing the footprint of grading and fill, and utilizing bridges, open bottom arches, spans, or other structures that do not restrict or alter stream or wetland hydrology. If culverts are placed within stream and wetlands, at least one culvert shall be countersunk or otherwise placed to allow the formation of a natural channel or wetland bottom to allow movement of aquatic organisms.*

#### **4.2 Runoff Reduction Criteria**

##### **Runoff Reduction Criteria**

- Runoff Reduction is a relatively recent criterion that seeks to tailor stormwater treatment to meet more specific resource objectives, such as promoting groundwater recharge, enhancing protection for locally-important resources, or providing better overall protection for water quality and downstream channel impacts.
- These criteria can apply jurisdiction-wide or to specifically-designated zones where stormwater management is more critical, such as drinking water source areas, wetlands, cold-water fisheries, impaired waters, and others.
- When using these criteria, programs should stress the use of non-structural measures (see **Section 4.8**) to complement structural practices.
- The Runoff Reduction criteria in the model ordinance give three basic options. The first focuses on groundwater recharge, and is a good choice for programs where recharge is an important objective. The second and third options are for the more generalized goal of reducing post-development runoff volumes. While these three options are provided in the model ordinance, the local program should select the one that best meets local objectives. This will simplify the application of this criterion.

*In order to replicate pre-development hydrologic conditions, and to promote baseflow to streams and wetlands, some portion of the post-development runoff shall be permanently reduced by disconnecting impervious areas, maintaining sheetflow to areas of natural vegetation, infiltration practices, and/or collection and reuse of runoff. The applicant shall use either (1) (2) or (3) below to comply with these criteria:*

##### **(1) Groundwater Recharge/Infiltration**

*Replicate the pre-development recharge volume, based on regional average recharge rates for hydrologic soil groups*

- *Residential Sites:* *Post-development recharge = 90% of pre-development recharge*
- *Non-Residential Sites:* *Post-development recharge = 60% of pre-development recharge*

*(2) Overall Runoff Reduction (Option 1)*

*No increase in the overall runoff volume compared to the pre-development condition for all storms less than or equal to the 2-year, 24-hour storm.*

*(3) Overall Runoff Reduction (Option 2)*

*Capture and remove from the site hydrograph the volume of water associated with the 80<sup>th</sup> percentile storm event (or other storm event deemed appropriate by the STORMWATER AUTHORITY).*

*(4) This criterion shall be met using practices outlined in the **Stormwater Design Manual** that provide for the infiltration, evapotranspiration, and/or storage and reuse of runoff.*

*(5) The volume of water needed for Runoff Reduction shall be considered part of the overall Water Quality Volume (WQv) required in Section 4.3, and shall not be in addition to the Water Quality Volume.*

*The [STORMWATER AUTHORITY] may waive some or all of the requirements of this section as specified in (6) and (7) below:*

*(6) **Risk of Groundwater Contamination:** Stormwater hotspots, contaminated soils, and sites in close proximity to karst or drinking water supply wells may not be subject to groundwater recharge/infiltration requirements, as determined by the [STORMWATER AUTHORITY]. The [STORMWATER AUTHORITY] may impose reasonable conditions in granting such a waiver.*

*(7) **Site Constraints:** Areas characterized by high water table, shallow bedrock, clay soils, contaminated soils, and other constraints may be subject to reduced volume control requirements, as determined by the [STORMWATER AUTHORITY]. The [STORMWATER AUTHORITY] may impose reasonable conditions in granting such a waiver.*

*(8) **Documentation for Waiver:** When seeking a waiver in accordance with either (6) or (7) above, the applicant shall demonstrate that no reasonable alternatives for compliance exist through site and stormwater management design, and that stormwater discharges will not unreasonably increase the extent, frequency, or duration of flooding at downstream properties and structures or have an unreasonable adverse effect on streams, aquatic habitats, and channel stability.*

*In making its determination to allow full or partial waivers, the [STORMWATER AUTHORITY] shall consider cumulative impacts and also the land development's adherence to the land use plans and policies of [JURISDICTION], including the promotion of infill and redevelopment in particular areas.*

#### 4.3. Water Quality Criteria

Post-development runoff that is not permanently removed through the application of the runoff reduction criterion shall be captured and treated in a water quality BMP to prevent or minimize water quality impacts from land development. The applicant shall use (1) below to comply with this criterion:

- (1) **Water Quality Volume Standard:** Structural and non-structural practices shall be designed to capture and treat the Water Quality Volume (WQv). The WQv shall be computed as follows, unless another volume is specified in the **Stormwater Design Manual**.

$WQv = [P \times Rv \times A]/12$ , where:

P = rainfall depth generated by the 90% storm event (inches)

$Rv = \text{Site Runoff Coefficient} = Rv_I \times \%I + Rv_T \times \%T + Rv_F \times \%F$

Where:

$Rv_I$  = runoff coefficient for impervious cover

$\%I$  = percent of site with impervious cover (fraction)

$Rv_T$  = runoff coefficient for turf cover and disturbed soils

$\%T$  = percent of site with turf cover or disturbed soils (fraction)

$Rv_F$  = runoff coefficient for forest cover or natural open space

$\%F$  = percent of site with forest cover or natural open space (fraction)

A = Area draining to stormwater BMP (acres)

Value for  $Rv_I$ ,  $Rv_T$ , and  $Rv_F$  shall be determined from the following table based on hydrologic soil groups present on the site.

<b>Rv Coefficients</b>	<b>A soils</b>	<b>B Soils</b>	<b>C Soils</b>	<b>D Soils</b>
Forest Cover & Natural Open Space	0.02	0.03	0.04	0.05
Turf Cover & Disturbed Soils	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

- (2) This criterion shall be met using practices from the Stormwater Technology Table in the **Stormwater Design Manual**. BMPs or combinations of BMPs should be selected that achieve the highest pollutant load reduction for the pollutants of concern.
- (3) All runoff removed through the runoff reduction criterion counts towards treating the WQv.
- (4) ***Additional Criteria for Stormwater Hotspots:*** *In addition, stormwater discharges from stormwater hotspots may require the use of specific structural, non-structural, and/or pollution prevention practices, including enhanced pre-treatment. Discharges from a stormwater hotspot shall not be infiltrated without enhanced pre-treatment, as approved by the [STORMWATER AUTHORITY].*

#### **4.4. Channel Protection Criteria**

*The stormwater system shall be designed so that post-development discharges will not erode natural channels or steep slopes. This will protect in-stream habitats and reduce in-channel erosion. The applicant shall use Tier 1 or Tier 2 performance standards, as applicable, to meet this criterion.*

- (1) *At each discharge point from the site, if the on-site drainage area is **less** than 10% of the total contributing drainage area to the receiving channel or waterbody, the following Tier 1 performance standards shall apply:*

##### **Tier 1 Performance Standards**

- (a) *Wherever practical, maintain sheetflow to riparian buffers or vegetated filter strips. Vegetation in buffers or filter strips must be preserved or restored where existing conditions do not include dense vegetation (or adequately sized rock in arid climates).*
  - (b) *Energy dissipaters and level spreaders must be used to spread flow at outfalls.*
  - (c) *On-site conveyances must be designed to reduce velocity through a combination of sizing, vegetation, check dams, and filtering media (e.g., sand) in the channel bottom and sides.*
  - (d) *If flows cannot be converted to sheetflow, they must be discharged at an elevation that will not cause erosion or require discharge across any constructed slope or natural steep slopes.*
  - (e) *Outfall velocities must be non-erosive from the point of discharge to the receiving channel or waterbody where the discharge point is calculated.*
- (2) *At each discharge point from the site, if the on-site drainage area is **greater** than 10% of the total contributing drainage area to the receiving channel or waterbody, then the Tier 1 performance standards in subsection (1) shall apply in addition to the following Tier 2 performance standards:*



Tier 2 Performance Standards

- (a) *Sites greater than 10 acres (or a site size deemed appropriate by the [STORMWATER AUTHORITY]) must perform a detailed downstream (hydrologic and hydraulic) analysis based on post-development discharges. The downstream analysis shall extend to the point where post-development discharges have no significant impact, and do not create erosive conditions, on receiving channels, waterbodies, or storm sewer systems.*
- (b) *If the downstream analysis confirms that post-development discharges will have an impact on receiving channels, waterbodies, or storm sewer systems, then the site must incorporate some or all of the following to mitigate downstream impacts:*
- *Site design techniques that decrease runoff volumes and peak flows.*
  - *Downstream stream restoration or channel stabilization techniques, as permitted through local, state, and federal agencies.*
  - *24-hour detention of the volume from the post-development 1-year, 24-hour storm. The [STORMWATER AUTHORITY] may give credit for the application of Runoff Reduction (Section 4.2) and WQv measures (Section 4.3) toward meeting storage requirements. Discharges to cold water fisheries should be limited to 12-hour detention.*
- (c) *Sites less than 10 acres (or a site size deemed appropriate by the [STORMWATER AUTHORITY]) shall verify that stormwater measures provide 12- to 24-hour detention of the volume from post-development 1-year, 24-hour storm. The [STORMWATER AUTHORITY] may give credit for the application of Runoff Reduction (Section 4.2) and WQv measures (Section 4.3) toward meeting storage requirements. A detailed downstream analysis is not required unless the local program identifies existing downstream conditions that warrant such an analysis.*

## 4.5. Flood Control Criteria

### Flood Control Criteria

The Flood Control criterion depends on where a property is situated within a watershed and the design storms that typically cause flooding in the community. This criterion can address one or both of the following, depending on community priorities:

- Overbank Flood Protection: Prevent nuisance flooding that damages downstream property and infrastructure.
- Extreme Flood Control: Maintain boundaries of the pre-development 100-year flood plain and reduce risk to life and property from infrequent but extreme storms

Most local reviewing authorities establish an overbank design storm that is matched with the same design storm used for open channels, culverts, bridges, and storm drain systems. Therefore, most localities require that post-development peak discharge rates from the 10-year and/or 25-year, 24-hour design storm event be controlled to pre-development rates.

The choice of what design storm(s) to target for overbank flood protection is a local decision, unless these design storms are specified in state regulations or handbooks. In making this determination, a local program should investigate which storm frequencies lead to nuisance or more serious flooding problems for properties, roads, bridges, culverts, and other infrastructure elements.

Some flood-prone communities require a more rigorous standard to detain the 100-year storm. Even if this standard is not applied, local programs should require that all stormwater structures that impound water can safely pass the 100-year storm without overtopping or creating damaging downstream conditions, as stated in **Section 4.5**.

Downstream overbank flood and property protection shall be provided by controlling the post-development peak discharge rate to the pre-development rate. This criterion shall be met for the 10-year, 24-hour storm event, or other design storm(s) listed in the **Stormwater Design Manual**.

Stormwater BMPs that impound water shall demonstrate that the 100-year storm can safely pass through the structure without overtopping or creating damaging conditions downstream.

The [STORMWATER AUTHORITY] may waive some or all of the requirements of this section as specified in (1), (2), (3) and (4) below:

- (1) **Discharge to Large Waterbody**: The land development discharges directly to a flood plain, ocean, or major river or waterbody, and the [STORMWATER AUTHORITY] determines that waiving the flooding criteria will not harm public health and safety. The applicant shall secure drainage easements from any downstream property owners across whose property the runoff must flow to reach the

flood plain, ocean, or major river or waterbody. The applicant shall also demonstrate that any piped or open-channel system in which the runoff will flow has adequate capacity and stability to receive the project's runoff plus any off-site runoff also passing through the system.

- (2) **Insignificant Increases in Peak Flow:** The land development results in insignificant increases in peak flow rates, as determined by the [STORMWATER AUTHORITY].
- (3) **Alternative Criteria Provided:** The land development is subject to a floodplain study that recommends alternative criteria for flood control.
- (4) **Increases in Downstream Peak Flows or Flood Elevations:** The [STORMWATER AUTHORITY] determines that complying with the requirements of this section will result increases in peak flows or downstream flooding conditions due to coincident peaks from the site and the contributing watershed or another factor.
- (5) **Documentation for Waiver:** When seeking a waiver in accordance with either (1), (2), (3) or (4) above, the applicant shall demonstrate that stormwater discharges will not unreasonably increase the extent, frequency, or duration of flooding at downstream properties and structures or have an unreasonable adverse effect on streams, aquatic habitats, and channel stability. In making its determination to allow full or partial waivers, the [STORMWATER AUTHORITY] shall consider cumulative impacts and also the land development's adherence to the land use plans and policies of [JURISDICTION], including the promotion of infill and redevelopment in particular areas.

#### ***4.6. Redevelopment Criteria***

##### **Redevelopment Criteria**

Redevelopment projects can present unique stormwater challenges due to existing hydrologic impacts, compacted soils, generally small size and intensive use, and other factors.

Local programs should examine flexible standards for redevelopment, so that stormwater requirements do not act as a disincentive for desirable redevelopment projects. This is especially important within designated redevelopment zones, downtown revitalization zones, enterprise zones, brownfield sites, and other areas where infill and redevelopment is promoted through local policies and incentive programs. At the same time, redevelopment offers a unique opportunity to achieve incremental water quality and/or drainage improvements in previously developed areas where stormwater controls might be few or nonexistent. Redevelopment is one of the few chances to address existing impairments.

*Land development that qualifies as redevelopment shall meet one of the following criteria:*

- (1) **Reduce Impervious Cover:** Reduce existing site impervious cover by at least 20%.*
- (2) **Provide Treatment:** Provide Runoff Reduction and water quality treatment for at least 30% of the site's pre-development impervious cover and any new impervious cover through stormwater BMPs designed in accordance with the criteria in **Sections 4.2 through 4.3** and the **Stormwater Design Manual**.*
- (3) **Apply Innovative Approaches:** Utilize innovative approaches to reduce stormwater impacts across the site. Examples include green roofs and pervious parking materials. The local program can exercise flexibility with regard to sizing and design standards for sites that are fitting practices into existing drainage infrastructure.*
- (4) **Provide Off-Site Treatment:** Provide equivalent stormwater treatment at an off-site facility*
- (5) **Address Downstream Issues:** Address downstream channel and flooding issues through channel restoration and/or off-site remedies*
- (6) **Contribute to Watershed Project:** Contribute to a watershed project in accordance with **Section 4.9**.*
- (7) **Combination of Measures:** Any combination of (1) through (6) above that is acceptable to the [STORMWATER AUTHORITY].*

#### **4.7. Sensitive Waters and Wetlands: Enhanced Criteria**

*Land development that discharges to sensitive waters and wetlands, as designated in the **Stormwater Design Manual**, shall meet enhanced criteria. These may include, but are not limited to:*

- (1) **Nutrient-Sensitive Waters:** Enhanced control of nutrients and sediment for discharges to drinking water reservoirs, lakes, estuaries, and/or coastal waters.*
- (2) **Cold-Water Fisheries:** Control of temperature increases for discharges to designated cold-water fisheries.*
- (3) **Groundwater:** Enhanced recharge and pre-treatment requirements to protect groundwater supply.*
- (4) **Wetlands:** The control of impacts to wetland hydrology, including limiting fluctuations to the natural or pre-development wetland hydrology.*

- (5) **Impaired Waters:** Enhanced bacteriological or pollutant controls for discharges to impaired waters, as designated in the most recent 303(d) list produced by EPA or the appropriate State agency.

*In these cases, the [STORMWATER AUTHORITY] may require additional storage, treatment, filtering, infiltration, or other techniques. The use of non-structural practices shall be used to the maximum extent practical to meet enhanced criteria.*

*In making its determination to apply enhanced criteria, the [STORMWATER AUTHORITY] shall consider cumulative impacts and also the land development's adherence to the land use plans and policies of [JURISDICTION], including the promotion of infill and redevelopment in particular areas.*

#### **4.8. Non-Structural Measures**

*The use of nonstructural measures is encouraged to reduce sole reliance on structural stormwater management measures. The applicant may, if approved by the [STORMWATER AUTHORITY], take credit for the use of nonstructural measures as a means to comply with the criteria in **Sections 4.2 through 4.7**. For each potential credit, there is a minimum set of design criteria that identify the conditions or circumstances under which the credit may be applied. The site design practices that qualify for this credit and the criteria and procedures for applying and calculating the credits shall be included in the **Stormwater Design Manual**.*

#### **4.9. Contribution to a Watershed Project: Fee-in-Lieu & Pro-Rata Share**

##### **Compliance Through Off-Site or Watershed Projects**

A local program may want to dictate the conditions under which an off-site or watershed project can be used to comply with stormwater criteria. Such conditions may include:

- **Site Size:** Small sites (less than ½ acre impervious cover) may not be able to provide as effective or comprehensive on-site treatment compared to larger sites. Off-site or watershed solutions may make sense for small sites, especially in areas designated for infill and redevelopment.
- **Condition of Receiving Stream or Watershed:** If a site discharges to a degraded or impaired stream, even effective on-site treatment will not correct past problems. In these cases, contribution to restoration project may be suitable for partial compliance. The Stormwater Authority must assure, however, that the site development does not make conditions in the receiving stream even worse. In this regard, adherence to on-site channel protection criteria may be advisable.
- **Watershed or Subwatershed Management Plan:** As noted in **Section 4.9**, projects identified in an adopted watershed or stormwater management plan can be implemented through the site development process – either through on-site implementation or contribution to or implementation of off-site projects.

If a jurisdiction opts to collect offset fees, specific provisions relating to the collection and expenditure of the fees should be included in the ordinance. Jurisdictions should verify that the fees collected can fully recover the cost of stormwater management. For example, the Maryland Critical Areas Commission set the offset fee to recover the cost to remove phosphorus from one acre of impervious cover (CWP, 2003).

The [STORMWATER AUTHORITY] shall establish the criteria and conditions by which a project is eligible for a fee-in-lieu payment for off-site and watershed enhancements. The [STORMWATER AUTHORITY] may allow a fee-in-lieu payment, according to the established criteria and conditions, in lieu of partial or full on-site compliance with the requirements of this Ordinance.

Provided that the [STORMWATER AUTHORITY] implements a program in accordance with **Section 3.11**, land development projects that are within the target or drainage area of a watershed or subwatershed management plan adopted by the [STORMWATER AUTHORITY], [JURISDICTION], and/or another appropriate local, regional, or state agency or program, shall comply with the following:

- (1) **On-Site Projects:** If the watershed or subwatershed management plan identifies specific projects on the applicant's property, the [STORMWATER AUTHORITY] may allow implementation of some or all of these projects as part of the stormwater management design plan to satisfy, in part or in whole, the criteria in Sections 4.2 through 4.7.

- (2) **Fee-in-Lieu Contribution for Off-Site Projects:** The **[STORMWATER AUTHORITY]** may allow a fee-in-lieu contribution to off-site watershed project(s) identified in the management plan to satisfy, in part or in whole, the criteria in Sections 4.2 through 4.7. The fee-in-lieu contribution shall be in accordance with the fee schedule adopted by **[JURISDICTION]** and maintained by the **[STORMWATER AUTHORITY]**.
- (3) **Regional Stormwater Management:** If the land development is within the drainage area of an existing or planned regional stormwater BMP identified in the management plan, the applicant shall pay a pro-rata share of the cost of implementing the practice. The pro-rata share contribution shall be in accordance with the fee schedule adopted by **[JURISDICTION]** and maintained by the **[STORMWATER AUTHORITY]**. If a project is eligible for a fee-in-lieu and pro-rata share contribution, then the **[STORMWATER AUTHORITY]** shall determine one or the other fee or contribution for the project to pay.
- (4) **Other Off-Site Projects:** In certain circumstances dictated by the **[STORMWATER AUTHORITY]**, the applicant may propose an off-site watershed solution as a means to comply, in part or in whole, with the criteria in **Sections 4.2 through 4.7**. In these cases, the **[STORMWATER AUTHORITY]** shall require submission of a comprehensive watershed study that includes sufficient information to evaluate impacts of the proposed solution on runoff rates, water quality, volumes and velocities, and environmental characteristics of the affected areas. The **[STORMWATER AUTHORITY]** may approve the watershed solution as a means to comply with **Sections 4.2 through 4.7**, in part or in whole, if the watershed solution provides better overall protection for water resources than strict application of the on-site criteria. In all cases, land rights, access agreements or easements, and a maintenance agreement and plan shall be provided to ensure long-term maintenance of any off-site watershed project.

Nothing in the subsection shall compel the **[STORMWATER AUTHORITY]** to approve a plan that, in its determination, may pose a threat to public health, safety, or the environment. In approving a contribution to a watershed project, the **[STORMWATER AUTHORITY]** may apply conditions necessary to protect downstream property and environmental resources.

#### **4.10. Waivers**

Every applicant shall provide for stormwater management as required by this Ordinance, unless a written request for a waiver is filed and approved by the **[STORMWATER AUTHORITY]**. Prior to applying for a waiver request, the applicant must demonstrate that all reasonable options to comply with Ordinance have been exhausted, including the use of non-structural measures (**Section 4.8**) and/or construction or contribution to a watershed project (**Section 4.9**).

The request for a waiver must be in writing and must include waiver fee specified in **Section 3.10**. The [STORMWATER AUTHORITY] shall respond in writing by granting or denying the waiver in full, or granting the waiver with any necessary conditions or mitigation measures to protect public health, safety, and the environment. The applicant shall note any full or partial waivers, and conditions imposed by the [STORMWATER AUTHORITY], on the stormwater management design plan.



## Section 5. Construction Inspection for Permanent Stormwater BMPs

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### **Construction Inspection for Permanent BMPs**

- The inspection section of the ordinance outlines the regulatory requirements for inspecting and reporting on permanent stormwater controls.
- The ordinance should be clear about who is responsible for conduction inspections (the responsible party, a local government department or a combination), and the type and frequency of reporting that must be submitted.

### **5.1. Notice of Construction Commencement**

The applicant must notify the [STORMWATER AUTHORITY] before the commencement of construction. In addition, the applicant must notify the [STORMWATER AUTHORITY] in advance of construction of critical components of the stormwater practices on the approved stormwater management design plan. The [STORMWATER AUTHORITY] may, at its discretion, issue verbal or written authorization to proceed with critical construction steps, such as installation of permanent stormwater practices based on stabilization of the drainage area and other factors.

### **5.2. Construction Inspections by [STORMWATER AUTHORITY] or its Representatives**

The [STORMWATER AUTHORITY] or its representatives shall conduct periodic inspections of the stormwater practices shown on the approved stormwater management design plan, and especially during critical installation and stabilization steps. All inspections shall be documented in writing. The inspection shall document any variations or discrepancies from the approved plan, and the resolution of such issues. Additional information regarding inspections can be found in the **Stormwater Design Manual**. A final inspection by the Stormwater Authority is required before any performance bond or guarantee, or portion thereof, shall be released.

### **5.3. Inspection by Certified Inspector**

At its discretion, the [STORMWATER AUTHORITY] may authorize the use of private inspectors to conduct and document inspections during construction. Such private inspectors shall submit all inspection documentation in writing to the [STORMWATER AUTHORITY]. All costs and fees associated with the use of private inspectors shall be the responsibility of the applicant.

If the use of private inspectors is authorized, the [STORMWATER AUTHORITY] shall maintain a training and certification program, or authorize another entity to maintain

such a program. All private inspectors shall be certified prior to conducting any inspections or submitting any inspection documentation to the [STORMWATER AUTHORITY].

If private inspectors are utilized, then inspections by the [STORMWATER AUTHORITY] or its representatives, as provided in Section 6.2, may be reduced in frequency. However, the [STORMWATER AUTHORITY] shall remain the responsible entity for ultimate inspection, approval, and acceptance of all stormwater BMPs, and for issuance of the Certificate of Completion in accordance with Section 5.5.

#### **5.4. Stormwater Certificate of Completion**

Subsequent to final installation and stabilization of all stormwater BMPs shown on the stormwater management design plan, submission of all necessary as-built plans, and final inspection and approval by the [STORMWATER AUTHORITY], the [STORMWATER AUTHORITY] shall issue a Stormwater Certificate of Completion for the project. In issuing such a certificate, the [STORMWATER AUTHORITY] shall determine that all work has been satisfactorily completed in conformance with this Ordinance.

## **Section 6. Ongoing Maintenance for Stormwater BMPs**

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### **6.1. Maintenance Responsibility**

The responsible party named in the recorded stormwater maintenance agreement (**Section 3.6**) shall maintain in good condition and promptly repair and restore all structural and non-structural stormwater BMPs and all necessary access routes and appurtenances (grade surfaces, walls, drains, dams and structures, vegetation, erosion and sedimentation controls, and other protective devices). Such repairs or restoration and maintenance shall be in accordance with the approved stormwater management design plan, the stormwater maintenance agreement, and the stormwater maintenance plan.

### **6.2. Maintenance Inspection by [STORMWATER AUTHORITY] or its Representatives**

The [STORMWATER AUTHORITY] or its representatives shall conduct periodic inspections for all stormwater practices for which a Stormwater Certificate of Completion has been issued in accordance with Section 5.5. All inspections shall be documented in writing. The inspection shall document any maintenance and repair needs and any discrepancies from the stormwater maintenance agreement and stormwater maintenance plans.

### **6.3. Maintenance Inspection by Certified Inspector**

At its discretion, the [STORMWATER AUTHORITY] may authorize the use of private inspectors to conduct and document ongoing maintenance inspections. Such private inspectors shall submit all inspection documentation in writing to the [STORMWATER AUTHORITY]. All costs and fees associated with the use of private inspectors shall be the responsibility of the responsible party.

If the use of private inspectors is authorized, the [STORMWATER AUTHORITY] shall maintain a training and certification program, or authorize another entity to maintain such a program. All private inspectors shall be certified prior to conducting any inspections or submitting any inspection documentation to the [STORMWATER AUTHORITY].

If private inspectors are utilized, then inspections by the [STORMWATER AUTHORITY] or its representatives, as provided in **Section 6.2**, may be reduced in frequency. However, the [STORMWATER AUTHORITY] shall remain the responsible entity for ultimate inspection of stormwater practices and any enforcement actions necessary under **Section 7 of this Ordinance**.

#### **6.4. Records of Maintenance Activities**

The responsible party shall make records of the installation and of all maintenance and repairs, and shall retain the records for at least five (5) years. These records shall be made available to the [STORMWATER AUTHORITY] during inspection of the practice and at other reasonable times upon request.

#### **6.5. Failure to Provide Adequate Maintenance**

In the event that the stormwater BMP has not been maintained and/or becomes a danger to public safety or public health, the [STORMWATER AUTHORITY] shall notify the responsible party by registered or certified mail. The notice shall specify the measures needed to comply with the maintenance agreement and the maintenance plan and shall specify that the responsible party has thirty (30) days or other time frame mutually agreed to between the [STORMWATER AUTHORITY] and the responsible party, within which such measures shall be completed. If such measures are not completed, then the [STORMWATER AUTHORITY] shall pursue enforcement procedures pursuant to Section 7 of this Ordinance.

If a responsible person fails or refuses to meet the requirements of an inspection report, maintenance agreement, or maintenance plan the [STORMWATER AUTHORITY], after thirty (30) days written notice (except, that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient), may correct a violation of the design standards or maintenance requirements by performing the necessary work to place the practice in proper working condition. The [STORMWATER AUTHORITY] may assess the responsible party of the practice for the cost of repair work which shall be a lien on the property, or prorated against the beneficial users of the property, and may be placed on the tax bill and collected as ordinary taxes by [JURISDICTION].

## Section 7. Violations, Enforcement and Penalties

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### 7.1. Violations

Any action or inaction which violates the provisions of this Ordinance, the requirements of an approved stormwater management design plan or permit, and/or the requirements of a recorded stormwater maintenance agreement may be subject to the enforcement actions outlined in this Section. Any such action or inaction is deemed to be a public nuisance and may be abated by injunctive or other equitable relief. The imposition of any of the penalties described below shall not prevent such equitable relief.

### 7.2. Notice of Violation

If the **[STORMWATER AUTHORITY]** or **[JURISDICTION]** determines that an applicant or other responsible person has failed to comply with the terms and conditions of a permit, an approved stormwater management design plan, a recorded stormwater management maintenance agreement, or the provisions of this ordinance, it shall issue a written notice of violation to such applicant or other responsible person. Where a person is engaged in activity covered by this ordinance without having first secured a permit therefore, the notice of violation shall be served on the owner or the responsible person in charge of the activity being conducted on the site.

The notice of violation shall contain:

- (1) The name and address of the owner or the applicant or the responsible person;
- (2) The address or other description of the site upon which the violation is occurring;
- (3) A statement specifying the nature of the violation;
- (4) A description of the remedial measures necessary to bring the action or inaction into compliance with the permit, the stormwater management design plan, the stormwater maintenance agreement, or this ordinance and the date for the completion of such remedial action;
- (5) A statement of the penalty or penalties that may be assessed against the person to whom the notice of violation is directed; and,
- (6) A statement that the determination of violation may be appealed to **[GOVERNING BOARD OF JURISDICTION]** by filing a written notice of appeal within thirty (30) days after the notice of violation (except, that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient).

### 7.3. Penalties

#### Penalties (Civil)

- Most post-construction ordinances do not have a schedule of civil penalties as laid out in **Section 7.3(4)**. The advantage of having such a schedule is that it makes administering the civil penalties more predictable and easier for the jurisdiction to apply. For a particular jurisdiction, the specific violations tied to civil penalties and the penalty amounts can be modified.
- Check with legal staff before including a schedule of civil penalties. State or local codes may specify how these can apply.

In the event the remedial measures described in the notice of violation have not been completed by the date set forth for such completion in the notice of violation, any one or more of the following actions or penalties may be taken or assessed against the person to whom the notice of violation was directed.

- (1) **Stop Work Order:** The [STORMWATER AUTHORITY] or [JURISDICTION] may issue a stop work order which shall be served on the applicant or other responsible person. The stop work order shall remain in effect until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violation or violations described therein, provided the stop work order may be withdrawn or modified to enable the applicant or other responsible person to take the necessary remedial measures to cure such violation or violations.
- (2) **Withhold Certificate of Occupancy:** The [STORMWATER AUTHORITY], [JURISDICTION'S PERMIT ISSUING AUTHORITY], or [JURISDICTION] may refuse to issue a certificate of occupancy for the building or other improvements constructed or being constructed on the site until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein.
- (3) **Suspension, Revocation or Modification of Permit:** The [STORMWATER AUTHORITY] or [JURISDICTION] may suspend, revoke or modify the permit authorizing the land development project. A suspended, revoked or modified permit may be reinstated after the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein, provided such permit may be reinstated upon such conditions as the [STORMWATER AUTHORITY] or [JURISDICTION] may deem necessary to enable the applicant or other responsible person to take the necessary remedial measures to cure such violations.
- (4) **Civil Penalties:** *In the event the applicant or other responsible person fails to take the remedial measures set forth in the notice of violation, the [STORMWATER AUTHORITY] or [JURISDICTION] may impose a penalty not to exceed \$1,000 (depending on the severity of the violation) for each day the violation remains*

*unremedied after receipt of the notice of violation. A schedule of civic penalties is outlined in the table below.*

Violation	Penalty
Failure to submit and receive approval of a stormwater management design plan prior to construction	<b>[\$ 1,000]</b>
Failure to submit and receive approval of a stormwater maintenance agreement and plan prior to construction	<b>[\$ 500]</b>
Failure to install stormwater BMP(s) as indicated on the approved stormwater management design plan	<b>[\$ 750]</b>
Failure to notify Stormwater Authority before commencement of construction	<b>[\$ 500]</b>
Failure to maintain stormwater BMP within 30 days of notification (See Section 6.5 for more detail)	<b>[\$ 750]</b>

- (5) **Criminal Penalties:** For intentional and flagrant violations of this ordinance, the **[STORMWATER AUTHORITY]** or **[JURISDICTION]** may issue a citation to the applicant or other responsible person, requiring such person to appear in **[APPROPRIATE MUNICIPAL, MAGISTRATE, OR RECORDERS]** court to answer charges for such violation. Upon conviction, such person shall be punished by a fine not to exceed \$1,000 or imprisonment for 60 days or both. Each act of violation and each day upon which any violation shall occur shall constitute a separate offense.

#### **7.4. Appeals**

The decisions or orders of the **[STORMWATER AUTHORITY]** or **[JURISDICTION]** shall be final. Further relief shall be to a court of competent jurisdiction.

#### **7.5. Remedies Not Exclusive**

The remedies listed in this Ordinance are not exclusive of any other remedies available under any applicable federal, state or local law.

Approved by: \_\_\_\_\_ Date \_\_\_\_\_

## References

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