

# City of Providence

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

## CHAPTER 2005-54

**No. 567**      **AN ORDINANCE**      AMENDING THE CODE OF  
ORDINANCES TO ADD AN ORDINANCE RELATING  
TO POST CONSTRUCTION – STORM WATER  
CONTROL

*Approved* December 8, 2005

***Be it ordained by the City of Providence:***

SECTION 1: The Code of Ordinances of the City of Providence is hereby amended by adding the following provisions:

**Article 1.      Purpose**

Unmitigated storm water from areas altered by development may pose public health and safety threats. Potential contaminants in storm water runoff may include suspended solids, nitrogen, phosphorus, hydrocarbons, heavy metals, pathogenic organisms (bacteria and viruses), and road salts.

This Ordinance establishes the administrative mechanisms necessary for Providence to ensure proper storm water management. The Ordinance is written to work in conjunction with current state regulations.

**Article 2.      Applicability**

This Ordinance shall apply to all development and redevelopment occurring within Providence. No person shall engage in land development activities without receiving approval from the Building Official or his/her designee, unless specifically exempted by Article 3 of this Ordinance.

**Article 3.      Exemptions**

The following activities do not require written approval pursuant to this Ordinance, unless the developer or redeveloper is within three hundred (300) feet of a watercourse, as defined in the Soil Erosion and Sediment Control Ordinance:

No.

CHAPTER  
AN ORDINANCE

CITY COUNCIL  
APR 28 2005

FIRST READING  
REFERRED TO COMMITTEE ON  
ORDINANCES

*Michael P. Clement*  
CLERK

THE COMMITTEE ON  
ORDINANCES

Approves Passage of  
The Within Ordinance, As Amended

*Ann M. Steln*  
11-2-05  
Clerk

*Councilman Williams, By Request*

- A. Any development or redevelopment on lots less than twenty thousand (20,000) square feet in size located in C1, C2, C4, D1, D2, M1, M2, W1, W2, and W3 Zoning Districts.
- B. Any complete project that disturbs less than one (1) acre not including projects less than one (1) acre that are part of a larger common plan of development or sale that propose more than once (1) acre of disturbance.

#### **Article 4. Submissions and Approvals**

In accordance with Article 2 of this Ordinance, all persons must obtain approval from the Building Official or his/her designee prior to engaging in any land development activities, unless exempted by Article 3 of this Ordinance. To obtain approval applicants must demonstrate compliance with all policy, standards and requirements of this Ordinance to the satisfaction of the Building Official or his/her designee. Applicants may demonstrate compliance via submission of materials and documentation including but not limited to a Storm Water Management Plan, site plan, and maintenance agreement in accordance with this Ordinance. Plans will be reviewed in conjunction with site plan review by the Planning Board.

#### **Section 5. Technical Standards**

All applicants are required to develop and submit a Storm Water Management Plan. All Storm Water Management Plans must address storm water management on a site-by-site basis and all requirements of this Ordinance. All storm water management practices shall be consistent with the *Rhode Island Stormwater Design and Installation Standards Manual* and the *Rhode Island Soil Erosion and Sediment Control Handbook*, as amended.

##### **A. Performance Standards**

Storm Water Management Plans shall incorporate Best Management Practices (BMPs) for water quality control, which in combination are demonstrated to reduce the average annual total suspended solids in post-development runoff by eighty percent (80%). Development in drinking water supply watersheds or watersheds where impaired waters as defined by the State's 303(d) list exist may be held to higher standards.

##### **B. Disallowed Storm Water Best Management Practices (BMPs)**

The placement of detention basins and other storm water structures within a floodplain shall be avoided. If there is no alternative, the applicant must show what effects, if any, the tailwaters created by the floodplain will have on the outflow and effective storage capacity of the detention facility.

**C. Facilitation of Maintenance**

Facilities that require maintenance shall be designed to minimize the need for regular maintenance, facilitate required maintenance, and ensure accessibility of components that require maintenance. At a minimum, all Storm Water Management Plans must incorporate BMPs with appropriate maintenance design in accordance with the *Rhode Island Stormwater Design and Installation Standards Manual*, as amended; or the *Rhode Island Soil Erosion and Sediment Control Handbook*, as amended.

**D. Flood Protection**

Storm Water Management Plans shall demonstrate that a proposed project provides for protection of life and property from flooding and flood flows. Water quantities must be controlled in accordance with the *Rhode Island Stormwater Design and Installation Standards Manual*, as amended, or a municipally approved regional Storm Water Management Plan for the watershed in which the project site is located. Storm Water Management Plans shall demonstrate incorporation of the following standards into the proposed project:

1. Control and maintenance of post-development peak discharge rates from the 2-year, 10-year, 25-year, and 100-year storm events and predevelopment levels.
2. Downstream analysis of the 100-year storm event and control of the peak discharge rate for the 100-year storm to mitigate significant downstream impacts.
3. Discharge from any storm water facility must be conveyed through properly constructed conveyance system to provide for non-erosive flows during all storm events. The proposed storm water conveyance system consisting of open channels, pipes, and other conveyance devices shall at a minimum accommodate the runoff from a 25- year storm event. The storm

water conveyance system must provide for non-erosive flows to receiving waters.

#### **E. Surface Water and Groundwater**

Storm Water Management Plans shall demonstrate that during development and post-development, all receiving waters will be recharged in a manner closely resembling predevelopment conditions and that the developed site will retain hydrologic conditions that closely resemble those prior to disturbance. Predevelopment conditions are defined as those conditions existing at the site [precursor to the currently proposed development] at the time of adoption of this Ordinance. For redevelopment of previously developed sites, every effort shall be made to model the conditions prior to the presence of non-permeable surfaces (building or infrastructure) and/or fill.

### **Section 6. Maintenance Requirements for Best Management Practices (BMPs)**

#### **A. Routine Maintenance and Repair Procedures**

Preventative maintenance procedures are required to maintain the intended operation and safe condition of the storm water management facility by greatly reducing the occurrence of problems and malfunctions. To be effective, preventative maintenance shall be performed on a regular basis and include such routine procedures as training of staff, periodic inspections, grass cutting elimination of mosquito breeding habitats, and pond maintenance. Disposal of sediment and debris must occur on a regular basis (unless otherwise specified within an approved plan), at suitable disposal sites or recycling sites and shall comply with applicable local, state and federal regulations.

Corrective maintenance procedures are required to correct a problem or malfunction at a storm water management facility and to restore the facility's intended operation and safe condition. Based upon the severity of the problem, corrective maintenance must be performed on an as-needed or emergency basis and include such procedures as structural repairs, removal of debris, sediment and trash removal, erosion repair, snow and ice removal, fence repair, mosquito extermination, and restoration of vegetated and non-vegetated linings.

#### **B. General Maintenance Standards for Storm Water Best Management Practices (BMPs).**

Maintenance design and maintenance procedures for all storm water BMPs shall be in accordance with the *Rhode Island Stormwater Design and Installation Standards*

*Manual*, as amended, or the *Rhode Island Soil Erosion and Sediment Control Handbook*, as amended as well as in accordance with manufacturer's recommendations. Storm Water Management Plans shall demonstrate appropriate maintenance design and procedures for each proposed best management practice.

A maintenance schedule for each type of BMP must be included in the Storm Water Management Plan. These schedules shall list the frequency and type of maintenance operations necessary along with the legally responsible party's name, address, and telephone number. If the storm water drainage facility is to be deeded to the City of Providence the applicant must obtain a letter from the City of Providence or its designee acknowledging maintenance responsibility and intent of ownership.

## **Section 7. Storm Water Management Plans**

### **A. Calculations**

In addition to the information required for the site plan the following information must also be included with the application, where applicable.

1. The area of each sub-watershed as identified on final site plans.
2. The area of impervious surfaces (including all roads, driveways, rooftops, sidewalks, etc.) for each sub-watershed as identified in the *Rhode Island Stormwater Design and Installation Standards Manual*, as amended.
3. Weighted curve numbers, (CN) as determined by the SCS TR-55 method, for each sub-watershed as identified in the *Rhode Island Stormwater Design and Installation Standards Manual*, as amended.
4. Invert elevations for all applicable BMPs. In addition, the elevations for permanent and/or flood pool stages, including peak discharge rates for each stage, within all basins are required.
5. The total volume capacity for all flood control and water quality BMPs (e.g., infiltration basin, detention basins, wet ponds, etc.). Volumes must be segregated into permanent and flood pool stage volumes where applicable. Furthermore, the volumes of all sediment storage (basins, forebays, etc.) areas must also be provided.
6. Predevelopment and post-development peak discharge rates and runoff volumes for the 2-year, 10-year, 25-year, and 100-year frequency storm

events for each sub-watershed. The water quality volume must also be calculated for each sub-watershed. All relevant variables such as curve numbers and time of concentration, along with the supporting computations and worksheets must be included.

#### **B. Narrative Description**

As part of the Storm Water Management Plan, the applicant shall include a discussion of the protection of environmental resource functions and values. The following outline is provided as guidance for preparing a narrative description for the Storm Water Management Plan. Depending on the size and scope of the proposed project, the amount of information required by the permitting agency may vary, therefore, it is advised to consult the appropriate permitting agency for specific requirements.

1. Site description – general topography, soil types, current vegetative composition and relative abundance, existing infrastructure, and/or adjacent properties, identification of major resources (e.g., wetlands, groundwater, surface waters, etc.), name of receiving water(s), potential water quality and/or hydrologic impacts on resources.
2. Site input data – watershed characteristics, area of all impervious surfaces, total area of site, annual mean rainfall, runoff coefficients, curve numbers for various land uses, peak discharge rates.
3. Land use planning and source control plan.
4. Best Management Practices (BMPs) – identify the type of BMP(s) employed both during and post construction and justification for selection, including any deviation from the *Rhode Island Stormwater Design and Installation Standards Manual*, as amended, and the potential effect on pollutant removal efficiency.
5. Technical feasibility – of BMPs including sizing, location, hydraulic and environmental impacts. Alternatives, which were considered but determined not to be feasible, should also be discussed.
6. Maintenance schedule – of BMPs to be used, both during and post construction including the frequency of inspections and maintenance.

#### **Section 8. Maintenance Agreements**

Maintenance agreements shall provide written, contractual documentation, which demonstrates compliance with this Ordinance and legal arrangements for the upkeep of storm water facilities to assure their functionality and safety in accordance with this Ordinance.

The Owner or responsible person shall maintain “as-built” plans of any stormwater management practices located on-site after final construction is completed. The plans must show the final design specifications for all stormwater management facilities and must be certified by a professional engineer.

Maintenance agreements, which describe all maintenance schedules and requirements, must be developed for each storm water management facility unless the facility is dedicated to and accepted by the City of Providence.

**A. Recognition of Municipal Inspection Requirements**

Maintenance agreements shall include a reasonable and regular schedule for the City of Providence, or designee, to conduct on-site inspection of the functionality and safety of the storm water management facilities. Inspection schedules shall be based on the complexity and frequency of maintenance needs and shall be subject to the approval of the City of Providence. At a minimum, the maintenance frequency should be in accordance with the *Rhode Island Stormwater Design and Installation Standards Manual*, as amended.

**B. Record Keeping for Maintenance Activities**

Maintenance agreements shall include provisions for maintenance record keeping. All activities conducted in accordance with a maintenance agreement must be recorded in a work order and inspection log. Timely updates of the log shall be the responsibility of the storm water management facility owner or other responsible party pursuant to this Ordinance. Review of the maintenance and inspection log shall be completed by the City of Providence, or designee, to determine the effectiveness of operation, maintenance and safety activities. Reviews shall occur as part of each on-site inspection. Additional reviews may be made as deemed appropriate by the City of Providence or designee.



**C. Responsibility for Maintenance to Assure Functionality and Safety**

Appropriate maintenance to assure functionality and safety of storm water management facilities shall be the responsibility the owner or may be assumed by another party via a written contractual arrangement in accordance with this Ordinance.

**D. Alterations to Maintenance Agreements**

Any alterations in maintenance responsibility or alterations to maintenance agreements must be reviewed and approved by the Building Official or his/her designee. If portions of the land serviced by a storm water management facility are to be sold, written contractual arrangements shall be made to pass all responsibility of the maintenance agreement to the purchaser and shall be subject to review and approval of the Building Official or his/her designee. All alterations to maintenance agreements shall be recorded in accordance with this Ordinance.

**E. Recordation of Maintenance Agreements**

All maintenance agreements and alterations to maintenance agreements shall be recorded in the land evidence records of the City of Providence. Copies of all maintenance agreements and alterations to maintenance agreements shall be included in Storm Water Management Plans. Recordation of maintenance agreements in accordance with this Ordinance shall be the responsibility of the owner.

**Section 9. Application Fees**

The City of Providence shall be empowered to collect fees from permit applicants, which are commensurate with the cost of administering this Ordinance.

**Section 10. Enforcement**

The City of Providence shall have the authority and discretion to invoke penalties and/or impose a lien whenever a storm water management facility is not implemented, operated, and/or maintained in accordance with its approval and this Ordinance. Any penalty invoked shall be in accordance with this Section.

**A. Notification of Violation**

In the event that the storm water management facility becomes a danger to public safety or public health, is in need of maintenance, or has not been maintained in accordance with the Maintenance Agreement, the City of Providence shall notify the responsible person in writing by certified mail. Upon receipt of that notice, the

responsible person shall have five (5) calendar days to temporarily correct the violations and thirty (30) calendar days to complete maintenance and permanently repair the facility in a manner that is approved by the municipality. If the responsible person fails or refuses to perform such maintenance and repair, the municipality may immediately proceed to do so and enforce penalties and/or liens as described herein.

#### **B. Enforcement of Penalties and Liens**

Any applicant/owner who fails and/or refuses to temporarily correct the violation within five (5) calendar days from notice and/or to permanently correct a violation within thirty (30) calendar days from notice shall be fined up to seventy five dollars (\$75), and each day following notice during which the violation continues shall constitute a separate offense. The City also may charge the applicant/owner any costs associated with the removal or repair of damage resulting from the violation. In addition, any violation continuing thirty (30) calendar days after notice shall be deemed, and is hereby declared to be, a public nuisance and the City Solicitor is hereby empowered to institute an action for an injunction, abatement or any other appropriate action to prevent, enjoin or abate such nuisance. The remedies provided for herein shall be cumulative and not exclusive and shall be in addition to any other remedies provided by law.

#### **C. Hearing**

Any owner or responsible party, receiving a written notice of violation, shall be given an opportunity, within a reasonable time frame, for a hearing before the Zoning Board of Review to state their case. If evidence indicates that a violation has not occurred, the Zoning Board of Review shall revoke the notice of violation.

IN CITY COUNCIL

NOV 17 2005

FIRST READING  
READ AND PASSED

*Craig E. Bestine*  
Clerk

APPROVED

*[Signature]* 12/9/05

MAYOR

IN CITY  
COUNCIL

DEC 1 2005

FINAL READING  
READ AND PASSED

*John J. [Signature]*  
PRESIDENT  
*Craig E. Bestine*  
Clerk