TOWNSHIP OF MOORESTOWN

ORDINANCE NO. 6-2006

AN ORDINANCE AMENDING CHAPTER 158 (SUBDIVISION OF LAND) OF THE CODE OF THE TOWNSHIP OF MOORESTOWN REGARDING STORMWATER MANAGEMENT REQUIREMENTS AND PROVISIONS FOR VIOLATION PENALTIES

WHEREAS, the State of New Jersey has promulgated mandatory regulations at N.J.A.C. 7:8-1 *et seq*., for stormwater management, which became effective on February 2, 2004, and

WHEREAS, the Township of Moorestown has since been enforcing these regulations under its existing Code by reference, and

WHEREAS, the State of New Jersey now requires that all municipalities adopt amendments to their codes explicitly setting forth the regulations within those codes,

NOW, THEREFORE BE IT ORDAINED by the Township Council of the Township of Moorestown, in the County of Burlington, State of New Jersey, the following:

Section 1. §158-25 shall be deleted in its entirety and the following language inserted in its place:

§158-25. Stormwater management.

A. Scope and Purpose

1. Policy Statement

Flood control, groundwater recharge, and pollutant reduction through nonstructural or low impact techniques shall be explored before relying on structural BMPs. Structural BMPs should be integrated with nonstructural stormwater management strategies and proper maintenance plans. Nonstructural strategies include both environmentally sensitive site design and source controls that prevent pollutants from being placed on the site or from being exposed to stormwater. Source control plans should be developed based upon physical site conditions and the origin, nature, and the anticipated quantity or amount of potential pollutants. Multiple stormwater management BMPs may be necessary to achieve the established performance standards for water quality, quantity, and groundwater recharge.

2. Purpose

It is the purpose of this section to establish minimum stormwater management requirements and controls for certain development occurring within the Township of Moorestown.

3. Applicability

a. This section shall be applicable to all developments and/or land development applications.

b. This section shall also be applicable to all major developments undertaken by the Township of Moorestown.

4. Compatibility with Other Permit and Section Requirements

Development approvals issued for subdivisions and site plans pursuant to this section are to be considered an integral part of development approvals under the subdivision and site plan review process and do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or section. In their interpretation and application, the provisions of this section shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare. This section is not intended to interfere with, abrogate, or annul any other sections, rule or regulation, statute, or other provision of law except that, where any provision of this section imposes restrictions different from those imposed by any other section, rule or regulation, or other provision of law, the more restrictive provisions, or higher standards shall control.

B. General Standards

1. Design and Performance Standards for Stormwater Management Measures

a. Stormwater management measures for all development shall be developed to meet the erosion control, groundwater recharge, stormwater runoff quantity, and stormwater runoff quality standards in Subsection C. To the maximum extent practicable, these standards shall be met by incorporating nonstructural stormwater management strategies into the design. If these strategies alone are not sufficient to meet these standards, structural stormwater management measures necessary to meet these standards shall be incorporated into the design.

b. The standards in this section apply to all development and are intended to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge.

C. Stormwater Management Requirements for Development

1. The development shall incorporate a maintenance plan for the stormwater management measures incorporated into the design of a development in accordance with Subsection I.

2. Stormwater management measures shall avoid adverse impacts of concentrated flow on habitat for threatened and endangered species as documented in the Department' Landscape Project or Natural Heritage Database established under N.J.S.A. 13:1B-15.147 through 15.150, particularly *Helonias bullata* (swamp pink) and/or *Clemmys muhlnebergi* (bog turtle).

3. The following linear development projects are exempt from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements of Subsections C.6 and C.7:

   a. The construction of an underground utility line provided that the disturbed areas are revegetated upon completion;

   b. The construction of an aboveground utility line provided that the existing conditions are maintained to the maximum extent practicable; and

   c. The construction of a public pedestrian access, such as a sidewalk or trail with a maximum width of 14 feet, provided that the access is made of permeable material.

4. A waiver from strict compliance from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements of Subsections C.6 and C.7 may be obtained for the enlargement of an existing public roadway or railroad; or the construction or enlargement of a public pedestrian access, provided that the following conditions are met:

   a. The applicant demonstrates that there is a public need for the project that cannot be accomplished by any other means;

   b. The applicant demonstrates through an alternatives analysis, that through the use of nonstructural and structural stormwater management strategies and measures, the option selected complies with the requirements of Subsections C.6 and C.7 to the maximum extent practicable;

   c. The applicant demonstrates that, in order to meet the requirements of Subsections C.6 and C.7, existing structures currently in use, such as homes and buildings, would need to be condemned; and

   d. The applicant demonstrates that it does not own or have other rights to areas not falling under 4.c above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate the requirements of Subsections C.6 and C.7 that were not achievable on-site.

5. Nonstructural Stormwater Management Strategies

   a. To the maximum extent practicable, the standards in Subsections C.6 and C.7 shall be met by incorporating nonstructural stormwater management strategies set forth at Subsection C.5 into the design. The applicant shall identify the nonstructural measures incorporated into the design of the project. If the applicant contends that it is not feasible for engineering, environmental, or safety reasons to incorporate any nonstructural stormwater management measures identified in Paragraph ‘b’ below into the design of a particular project, the applicant shall identify the strategy considered and provide a basis for the contention.

   b. Nonstructural stormwater management strategies incorporated into site design shall:

      1. Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;

2. Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;

3. Maximize the protection of natural drainage features and vegetation;

4. Minimize the decrease in the "time of concentration" from pre-construction to post construction. "Time of concentration" is defined as the time it takes for runoff to travel from the hydraulically most distant point of the watershed to the point of interest within a watershed;

5. Minimize land disturbance including clearing and grading;

6. Minimize soil compaction;

7. Provide low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers and pesticides;

8. Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas;

9. Provide other source controls to prevent or minimize the use or exposure of pollutants at the site, in order to prevent or minimize the release of those pollutants into stormwater runoff. Such source controls include, but are not limited to:

   (a) Site design features that help to prevent accumulation of trash and debris in drainage systems, including features that satisfy Subsection C.5.c. below;

   (b) Site design features that help to prevent discharge of trash and debris from drainage systems;

   (c) Site design features that help to prevent and/or contain spills or other harmful accumulations of pollutants at industrial or commercial developments; and

   (d) When establishing vegetation after land disturbance, applying fertilizer in accordance with the requirements established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules.

c. Site design features identified under Subsection C.5.b.9(b) above shall comply with the following standard to control passage of solid and floatable materials through storm drain inlets. For purposes of this paragraph, “solid and floatable materials” means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard see Subsection C.5.c.3 below.

1. Design engineers shall use bicycle safe grates whenever they use a grate in pavement or another ground surface to collect stormwater from that surface into a storm drain or surface water body under that grate.

2. Whenever design engineers use a curb-opening inlet, they shall be Type P2 – ECO Curb Piece or equivalent.

3. This standard does not apply:

(a) Where the Township determines that this standard would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets that meet these standards;

(b) Where flows from the water quality design storm as specified in Subsection C.7.a are conveyed through any device (e.g., end of pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:

(1) A rectangular space four and five-eighths inches long and one and one-half inches wide (this option does not apply for outfall netting facilities); or

(2) A bar screen having a bar spacing of 0.5 inches.

(c) Where flows are conveyed through a trash rack that has parallel bars with one-inch (1") spacing between the bars, to the elevation of the water quality design storm as specified in Subsection C.7.a; or

(d) Where the New Jersey Department of Environmental Protection determines, pursuant to the New Jersey Register of Historic Places Rules at N.J.A.C. 7:4-7.2(c), that action to meet this standard is an undertaking that constitutes an encroachment or will damage or destroy the New Jersey Register listed historic property.

d. Any land area used as a nonstructural stormwater management measure to meet the performance standards in Subsections C.6 and C.7 shall either be dedicated to a government agency, private ownership subjected to a conservation restriction filed with the Burlington County Clerk's office, or subject to an approved equivalent restriction that ensures that measure or an equivalent stormwater management measure approved by the Township is maintained in perpetuity.

e. Guidance for nonstructural stormwater management strategies is available in the New Jersey Stormwater Best Management Practices Manual.

6. Erosion Control, Groundwater Recharge, and Runoff Quantity Standards

a. This subsection contains minimum design and performance standards to control erosion, encourage and control infiltration and groundwater recharge, and control stormwater runoff quantity impacts of major development.

1. The minimum design and performance standards for erosion control are those established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq. and implementing rules.

2. The minimum design and performance standards for groundwater recharge are as follows:

(a) The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at Subsection D, either:

(1) Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100 percent of the average annual pre-construction groundwater recharge volume for the site; or

(2) Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from pre-construction to post-construction for the 2-year storm is infiltrated.

(b) The following types of stormwater shall not be recharged:

(1) Stormwater from areas of high pollutant loading. High pollutant loading areas are areas in industrial and commercial developments where solvents and/or petroleum products are loaded/unloaded, stored, or applied, areas where pesticides are loaded/unloaded or stored; areas where hazardous materials are expected to be present in greater than "reportable quantities" as defined by the United States Environmental Protection Agency (EPA) at 40 CFR 302.4; areas where recharge would be inconsistent with Department approved remedial action work plan or landfill closure plan and areas with high risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and

(2) Industrial stormwater exposed to "source material". "Source material" means any material(s) or machinery, located at an industrial facility, that is directly or indirectly related to process, manufacturing, or other industrial activities, which could be a source of pollutants in any industrial stormwater discharge to groundwater. Source materials include, but are not limited to, raw materials; intermediate products; final products; waste materials; by-products; industrial machinery and fuels, and lubricants, solvents, and detergents that are related to process, manufacturing, or other industrial activities that are exposed to stormwater.

(c) The design engineer shall assess the hydraulic impact on the groundwater table and design the site so as to avoid adverse hydraulic impacts. Potential adverse hydraulic impacts include, but are not limited to, exacerbating a naturally or seasonally high water table so as to cause surficial ponding, flooding of basements, or interference with the proper operation of subsurface sewage disposal systems and other subsurface structures in the vicinity or down gradient of the groundwater recharge area.

3. In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at Subsection D, complete one of the following:

(a) Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the two, 10, and 100-year storm events do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events;

(b) Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construction condition, in the peak runoff rates of stormwater

leaving the site for the two, 10, and 100-year storm events and that the increased volume or change in timing of stormwater runoff will not increase flood damage at or downstream of the site. This analysis shall include the analysis of impacts of existing land uses and projected land uses assuming full development under existing zoning and land use sections in the drainage area;

(c) Design stormwater management measures so that the post-construction peak runoff rates for the 2, 10 and 100 year storm events are 50, 75 and 80 percent, respectively, of the pre-construction peak runoff rates. The percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed. The percentages shall not be applied to post-construction stormwater runoff into tidal flood hazard areas if the increased volume of stormwater runoff will not increase flood damages below the point of discharge; or

(d) In tidal flood hazard areas, stormwater runoff quantity analysis in accordance with (a), (b) and (c) above shall only be applied if the increased volume of stormwater runoff could increase flood damages below the point of discharge.

b. Any application for a new agricultural development that meets the definition of major site plan or major subdivision shall be submitted to the Burlington County Soil Conservation District for review and approval in accordance with the requirements of this Subsection and any applicable Soil Conservation District guidelines for stormwater runoff quantity and erosion control. For the purposes of this Subsection, "agricultural development" means land uses normally associated with the production of food, fiber, and livestock for sale. Such uses do not include the development of land for the processing or sale of food and the manufacturing of agriculturally related products.

7. Stormwater Runoff Quality Standards

a. Stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff by 80 percent of the anticipated load from the developed site, expressed as an annual average. Stormwater management measures shall only be required for water quality control if an additional 1/4 acre of impervious surface is being proposed on a development site. The requirement to reduce TSS does not apply to any stormwater runoff in a discharge regulated under a numeric effluent limitation for TSS imposed under the New Jersey Pollution Discharge Elimination System (NJPDES) rules, N.J.A.C. 7:14A, or in a discharge specifically exempt under a NJPDES permit from this requirement. The water quality design storm is 1.25 inches of rainfall in two hours. Water quality calculations shall take into account the distribution of rain from the water quality design storm, as reflected in Table 1. The calculation of the volume of runoff may take into account the implementation of non-structural and structural stormwater management measures.

Table 1: Water Quality Design Storm Distribution			
Time (Minutes)	Cumulative Rainfall (Inches)	Time (Minutes)	Cumulative Rainfall (Inches)
0	0.0000	65	0.8917
5	0.0083	70	0.9917
10	0.0166	75	1.0500
15	0.0250	80	1.0840
20	0.0500	85	1.1170
25	0.0750	90	1.1500
30	0.1000	95	1.1750
35	0.1330	100	1.2000
40	0.1660	105	1.2250
45	0.2000	110	1.2334
50	0.2583	115	1.2417
55	0.3583	120	1.2500
60	0.6250		

b. For purposes of TSS reduction calculations, Table 2 below presents the presumed removal rates for certain BMPs designed in accordance with the New Jersey Stormwater Best Management Practices Manual. The BMP Manual and other sources of technical guidance are listed in Subsection F. TSS reduction shall be calculated based on the removal rates for the BMPs in Table 2 below.

c. If more than one BMP in series is necessary to achieve the required 80 percent TSS reduction for a site, the applicant shall utilize the following formula to calculate TSS reduction:

$$R = A + B - (AXB)/100$$

Where

R = total TSS percent load removal from application of both BMPs, and

A = the TSS percent removal rate applicable to the first BMP

B = the TSS percent removal rate applicable to the second BMP

Table 2: TSS Removal Rates for BMPs	
Best Management Practice	TSS Percent Removal Rate
Bioretention Systems	90
Constructed Stormwater Wetland	90
Extended Detention Basin	40-60
Infiltration Structure	80
Manufactured Treatment Device	See Subsection E.3
Sand Filter	80
Vegetative Filter Strip	60-80
Wet Pond	50-90

d. If there is more than one onsite drainage area, the 80 percent TSS removal rate shall apply to each drainage area, unless the runoff from the subareas converge on site in which case the removal rate can be demonstrated through a calculation using a weighted average.

e. Stormwater management measures shall also be designed to reduce, to the maximum extent feasible, the post-construction nutrient load of the anticipated load from the developed site in stormwater runoff generated from the water quality design storm. In achieving reduction of nutrients to the maximum extent feasible, the design of the site shall include nonstructural strategies and structural measures that optimize nutrient removal while still achieving the performance standards in Subsections C.6 and C.7.

f. Additional information and examples are contained in the New Jersey Stormwater Best Management Practices Manual.

D. Calculation of Stormwater Runoff and Groundwater Recharge

1. Stormwater runoff shall be calculated in accordance with the following:

a. The design engineer shall calculate runoff using one of the following methods:

1. The USDA Natural Resources Conservation Service (NRCS) methodology, including the NRCS Runoff Equation and Dimensionless Unit Hydrograph, as described in the

NRCS National Engineering Handbook Subsection 4 – Hydrology and Technical Release 55 – Urban Hydrology for Small Watersheds; or

2. The Rational Method for peak flow and the Modified Rational Method for hydrograph computations.

b. For the purpose of calculating runoff coefficients and groundwater recharge, there is a presumption that the pre-construction condition of a site or portion thereof is a wooded land use with good hydrologic condition. The term "runoff coefficient" applies to both the NRCS methodology at Subsection 5.A.1.a and the Rational and Modified Rational Methods at Subsection 5.A.1.b. A runoff coefficient or a groundwater recharge land cover for an existing condition may be used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the site or portion of the site for at least five years without interruption prior to the time of application. If more than one land cover have existed on the site during the five years immediately prior to the time of application, the land cover with the lowest runoff potential shall be used for the computations. In addition, there is the presumption that the site is in good hydrologic condition (if the land use type is pasture, lawn, or park), with good cover (if the land use type is woods), or with good hydrologic condition and conservation treatment (if the land use type is cultivation).

c. In computing pre-construction stormwater runoff, the design engineer shall account for all significant land features and structures, such as ponds, wetlands, depressions, hedgerows, or culverts, that may reduce pre-construction stormwater runoff rates and volumes.

d. In computing stormwater runoff from all design storms, the design engineer shall consider the relative stormwater runoff rates and/or volumes of pervious and impervious surfaces separately to accurately compute the rates and volume of stormwater runoff from the site. To calculate runoff from unconnected impervious cover, urban impervious area modifications as described in the NRCS Technical Release 55 – Urban Hydrology for Small Watersheds and other methods may be employed.

e. If the invert of the outlet structure of a stormwater management measure is below the flood hazard design flood elevation as defined at N.J.A.C. 7:13, the design engineer shall take into account the effects of tailwater in the design of structural stormwater management measures.

2. Groundwater recharge shall be calculated in accordance with the New Jersey Geological Survey Report GSR-32 A Method for Evaluating Ground-Water Recharge Areas in New Jersey, incorporated herein by reference as amended and supplemented.

E. Standards for Structural Stormwater Management Measures

1. Standards for structural stormwater management measures are as follows:

a. Structural stormwater management measures shall be designed to take into account the existing site conditions, including, for example, environmentally critical areas, wetlands;

flood-prone areas; slopes; depth to seasonal high water table; soil type, permeability and texture; drainage area and drainage patterns; and the presence of solution-prone carbonate rocks (limestone).

b. Structural stormwater management measures shall be designed to minimize maintenance, facilitate maintenance and repairs, and ensure proper functioning. Trash racks shall be installed at the intake to the outlet structure as appropriate, and shall have parallel bars with one-inch (1") spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the parallel bars at the outlet structure shall be spaced no greater than one-third (1/3) the width of the diameter of the orifice or one-third (1/3) the width of the weir, with a maximum spacing between bars of six inches. In addition, the design of trash racks must comply with the requirements of Subsection G.4.

c. Structural stormwater management measures shall be designed, constructed, and installed to be strong, durable, and corrosion resistant. Measures that are consistent with the relevant portions of the Residential Site Improvement Standards at N.J.A.C. 5:21-7.3, 7.4, and 7.5 shall be deemed to meet this requirement.

d. At the intake to the outlet from the stormwater management basin, the orifice size shall be a minimum of two and one-half inches in diameter.

e. Stormwater management basins shall be designed to meet the minimum safety standards for stormwater management basins at Subsection G.

2. Stormwater management measure guidelines are available in the New Jersey Stormwater Best Management Practices Manual. Other stormwater management measures may be utilized provided the design engineer demonstrates that the proposed measure and its design will accomplish the required water quantity, groundwater recharge and water quality design and performance standards established by Subsection C of this section.

3. Manufactured treatment devices may be used to meet the requirements of Subsection C of this section, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department.

F. Sources for Technical Guidance

1. Technical guidance for stormwater management measures can be found in the documents listed below, which are available from Maps and Publications, New Jersey Department of Environmental Protection, 428 East State Street, P.O. Box 420, Trenton, New Jersey 08625; telephone 609-777-1038.

a. Guidelines for stormwater management measures are contained in the NJDEP New Jersey Stormwater Best Management Practices Manual, as amended. Information is provided on stormwater management measures such as: bioretention systems, constructed stormwater wetlands, dry wells, extended detention basins, infiltration structures, manufactured treatment devices, pervious paving, sand filters, vegetative filter strips, and wet ponds.

b. The NJDEP Stormwater Management Facilities Maintenance Manual, as amended.

2. Additional technical guidance for stormwater management measures can be obtained from the following:

   a. The "Standards for Soil Erosion and Sediment Control in New Jersey" promulgated by the State Soil Conservation Committee and incorporated into N.J.A.C. 2:90. Copies of these standards may be obtained by contacting the State Soil Conservation Committee or any of the Soil Conservation Districts listed in N.J.A.C. 2:90-1.3(a)4. The location, address and telephone number of each District may be obtained from the State Soil Conservation Committee, P.O. Box 330, Trenton, New Jersey 08625; telephone 609-292-5540.

   b. The Rutgers Cooperative Extension Service; telephone 732-932-9306.

G. Safety Standards for Stormwater Management Basins

1. This Subsection sets forth requirements to protect public safety through the proper design and operation of stormwater management basins. This Subsection applies to any new stormwater management basin.

2. Requirements for Trash Racks, Overflow Grates, and Escape Provisions

   a. A trash rack is a device designed to catch trash and prevent access to the system. Trash racks shall be installed at all intakes and outlets from the stormwater management basin to ensure proper functioning of the basin outlets in accordance with the following:

      1. The trash rack shall have parallel bars, with no greater than six inch spacing between the bars.

      2. The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure.

      3. The average velocity of flow through a clean trash rack is not to exceed 2.5 feet per second under the full range of stage and discharge. Velocity is to be computed on the basis of the net area of opening through the rack.

      4. The trash rack shall be constructed of stainless steel and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs/ft sq.

   b. An overflow grate is designed to prevent obstruction of the overflow structure. If an outlet structure has an overflow grate, such grate shall meet the following requirements:

      1. The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance.

      2. The overflow grate spacing shall be no less than two inches across the smallest dimension.

      3. The overflow grate shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs./ft sq.

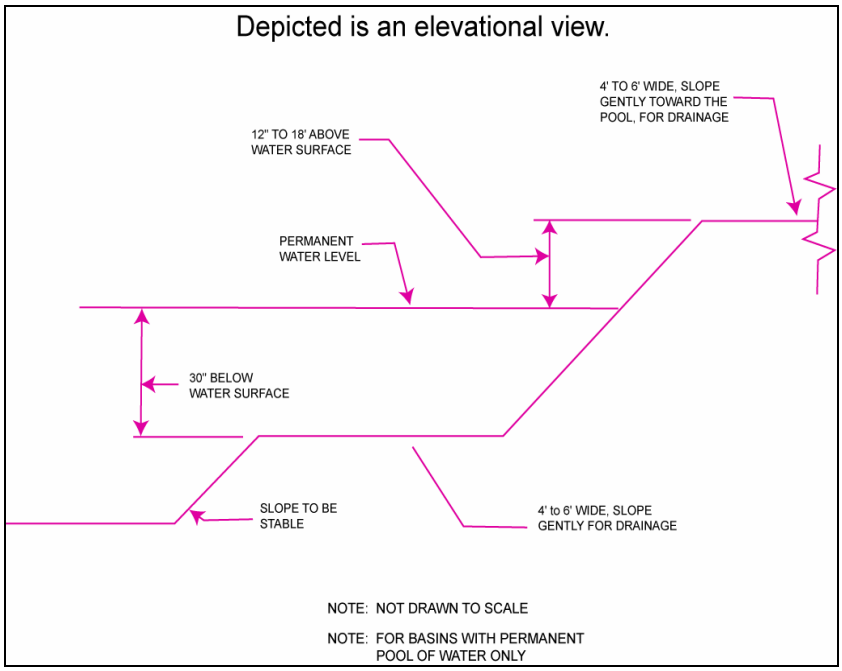
c. For purposes of this paragraph, escape provisions means the permanent installation of ladders, steps, rungs, or other features that provide easily accessible means of egress from stormwater management basins. Stormwater management basins shall include escape provisions as follows:

1. If a stormwater management basin has an outlet structure, escape provisions shall be incorporated in or on the structure.

2. Safety ledges shall be constructed on the slopes of all new stormwater management basins having a permanent pool of water deeper than two and one-half feet. Such safety ledges shall be comprised of two steps. Each step shall be four to six feet in width. One step shall be located approximately two and one-half feet below the permanent water surface, and the second step shall be located one to one and one-half feet above the permanent water surface. See Subsection G.4 for an illustration of safety ledges in a stormwater management basin.

3. In new stormwater management basins, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than 3 horizontal to 1 vertical.

3. Illustration of Safety Ledges in a New Stormwater Management Basin



H. Requirements for a Site Development Stormwater Plan

1. Submission of Site Development Stormwater Plan

a. Whenever an applicant seeks municipal approval of a development subject to this section, the applicant shall submit all of the required components of the Checklist for the Site Development Stormwater Plan at Subsection H.3 below as part of the submission of the applicant's application for subdivision or site plan approval.

b. The applicant shall demonstrate that the project meets the standards set forth in this section.

2. Site Development Stormwater Plan Approval

The applicant's Site Development Stormwater plan shall be reviewed as a part of the subdivision or site plan review process. The Board's Engineer shall determine if all of the checklist requirements have been satisfied and to determine if the project meets the standards set forth in this section.

3. Checklist Requirements

The following information shall be required:

a. Topographic Base Map conforming to §158-16 or §158-37 as appropriate. The reviewing engineer may require upstream tributary drainage system information as necessary.

b. Environmental Site Analysis conforming to §158-15.1 and §160.

c. A written description including completion of the checklists provided by the Township of the site plan and justification of proposed changes in natural conditions shall also be provided.

d. Land Use Planning and Source Control Plan

This plan shall provide a demonstration of how the goals and standards of Subsections B through E are being met. The focus of this plan shall be to describe how the site is being developed to meet the objective of controlling groundwater recharge, stormwater quality and stormwater quantity problems at the source by land management and source controls whenever possible.

e. Stormwater Management Facilities Map

The following information, illustrated on a map of the same scale as the topographic base map, shall be included:

1. Total area to be paved or built upon, proposed surface contours, land area to be occupied by the stormwater management facilities and the type of vegetation thereon, and details of the proposed plan to control and dispose of stormwater.

2. Details of all stormwater management facility designs, during and after construction, including discharge provisions, discharge capacity for each outlet at different levels of

detention and emergency spillway provisions with maximum discharge capacity of each spillway.

f. Calculations

a. Comprehensive hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in Subsection C of this section.

b. When the proposed stormwater management control measure (e.g., infiltration basins) depends on the hydrologic properties of soils, then a soils report shall be submitted. The soils report shall be based on onsite boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soils present at the location of the control measure.

g. Maintenance and Repair Plan

The design and planning of the stormwater management facility shall meet the maintenance requirements of Subsection I.

h. Waiver from Submission Requirements

The Board reviewing an application under this section may, in consultation with the municipal engineer, waive submission of any of the requirements in Subsections H.3.a through H.3.f of this section when it can be demonstrated that the information requested is impossible to obtain or it would create a hardship on the applicant to obtain and its absence will not materially affect the review process.

I. Maintenance and Repair

1. Applicability

a. Projects subject to review as in Subsection A.3 of this section shall comply with the requirements of this subsection.

2. General Maintenance

a. The design engineer shall prepare a maintenance plan for the stormwater management measures incorporated into the design of a major development.

b. The maintenance plan shall contain specific preventative maintenance tasks and schedules; cost estimates, including estimated cost of sediment, debris, or trash removal; and the name, address, and telephone number of the person or persons responsible for preventative and corrective maintenance (including replacement). Maintenance guidelines for stormwater management measures are available in the New Jersey Stormwater Best Management Practices Manual. If the maintenance plan identifies a person other than the developer (for example, a public agency or homeowners' association) as having the responsibility for maintenance, the plan shall include documentation of such person's agreement to assume this responsibility, or of the

developer's obligation to dedicate a stormwater management facility to such person under an applicable section or regulation.

c. Responsibility for maintenance shall not be assigned or transferred to the owner or tenant of an individual property in a residential development or project, unless such owner or tenant owns or leases the entire residential development or project.

d. If the person responsible for maintenance identified under Subsection I.2.b above is not a public agency, the maintenance plan and any future revisions based on Subsection I.2.g below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.

e. Preventative and corrective maintenance shall be performed to maintain the function of the stormwater management measure, including repairs or replacement to the structure; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; and repair or replacement of nonvegetated linings.

f. The person responsible for maintenance identified under Subsection I.2.b above shall maintain a detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders.

g. The person responsible for maintenance identified under Subsection I.2.b above shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.

h. The person responsible for maintenance identified under Subsection I.2.b above shall retain and make available, upon request by any public entity with administrative, health, environmental, or safety authority over the site, the maintenance plan, and the documentation required by Subsections I.2.f and I.2.g above.

i. The requirements of Subsections I.2.c and I.2.d do not apply to stormwater management facilities that are dedicated to and accepted by the municipality or another governmental agency.

j. In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance or repair, the municipality shall so notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have fourteen (14) days to effect maintenance and repair of the facility in a manner that is approved by the municipal engineer or his designee. The municipality, in its discretion, may extend the time allowed for effecting maintenance and repair for good cause. If the responsible person fails or refuses to perform such maintenance and repair, the municipality or County may immediately proceed to do so and shall bill the cost thereof to the responsible person.

3. Nothing in this Subsection shall preclude the municipality in which the development is located from requiring the posting of a performance or maintenance guarantee in accordance with N.J.S.A. 40:55D-53.

J. Enforcement.

The Moorestown Township Engineer, Planning Board Engineer, the Zoning Board Engineer and the Zoning Officer shall be the enforcement agents of this Chapter.

Section 2. §158-12 shall be deleted in its entirety and the following shall be substituted in its place:

Violations and Penalties. Unless specifically set forth within any subsection of this Chapter, penalties shall be in accordance with Chapter 66 of the Code of the Township of Moorestown.

Section 3. Effective Date

This ordinance shall take effect immediately upon the approval by the Burlington County Planning Board Stormwater Management Committee, or sixty (60) days from the receipt of the ordinance by the County if the County should fail to act.

Section 4. Severability

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

Section 5. Repealer

Any and all ordinances, inconsistent with any of the terms and provisions of this ordinance are hereby repealed to the extent of such inconsistencies.

Section 6. Short Title

This ordinance shall be known as Ordinance No. 6-2006.

CERTIFICATION

I hereby certify that Ordinance No. 6-2006 was introduced and adopted on first reading by the Township Council at a meeting held on March 20, 2006. This ordinance was duly adopted by the Township Council of the Township of Moorestown, County of Burlington, State of New Jersey at a meeting of the Township Council held on April 3, 2006.

VOTE:	
ABERANT	YES
ROCCATO	YES
MILLER	YES
SEGAL	YES
ERON	YES

PATRICIA L. HUNT, RMC
Township Clerk