# Appendix A

## Pennsylvania Comprehensive Stormwater Management Policy

**EXECUTIVE SUMMARY**
**COMPREHENSIVE STORMWATER MANAGEMENT POLICY**
**DOCUMENT NUMBER: 392-0300-002**

At the 15 water forums held throughout the Commonwealth in 2001, stormwater management was a consistent issue identified by the forum participants. In addition, stormwater management is a priority issue identified in the Environmental Futures Planning process throughout the 34 watershed planning areas within the Commonwealth. Stormwater runoff has also been identified as one of the top three causes of water quality impairment in the Department's Clean Water Act Section 303(d) listing process. Finally, DEP must implement the federal Clean Water Act Phase II NPDES stormwater permit program by December 2002.

In response to the forums, the Environmental Futures Planning process, stream impairment listings and federal program requirements, on October 27, 2001, the Department published a proposed comprehensive stormwater management policy to more fully integrate post construction stormwater planning requirements, emphasizing the use of ground water infiltration and volume and rate control best management practices (BMPs), into the existing and proposed NPDES permitting programs and the Stormwater Management Act ("Act 167") Planning Program. Specifically, the Department proposed the following:

- The consistent application of existing legal requirements to protect water quality in all stormwater programs, including the protection and maintenance of existing uses and the physical, chemical and biological characteristics of surface waters.

- The integration of the municipally implemented Act 167 stormwater management programs into the NPDES permitting process for urbanized areas requiring Municipal Separate Storm Sewer System (MS4) NPDES Permits for Stormwater Discharges.

- The integration of consistent post construction stormwater management planning processes emphasizing, and sometimes requiring, water quality and quantity infiltration and volume and rate control BMPs into the permit process for NPDES Stormwater Discharges Associated with Construction Activity.

- The use of a Chapter 91 Water Quality Management Part II Permit to ensure the maintenance and operation of the post construction stormwater BMPs after the earth disturbance activities are completed.

More than 600 comments were received from 234 individuals and organizations during the public comment period on the draft policy. Comments ranged from strong support to strong opposition. The major comments focused on the following areas:

**Use of existing authority**: Many commentators support the use of exiting authority. Others object to portions of the policy asserting that the Department should instead undertake a formal rulemaking subject to public review and comment, as well as review and approval by the Environmental Quality Board and the Independent Regulatory Review Commission.

**Use of the Part II WQM permit for post construction stormwater:** While many commentators generally support this approach, there are numerous requests for more clarification on the administration of this proposed permit requirement. Others question the legal authority for the permit. A few commentators suggest the existing NPDES permit process should be used because it is already in place and also provides federal EPA oversight.

**Best Management Practice Manual:** Many commentators suggest that the Department develop a technical manual accompanied by training to ensure consistent program administration and implementation.

**Consistency with the Department's Antidegradation Policy:** Many commentators suggest that the use of current regulations prohibiting degradation of existing uses of waterways needs to be emphasized and clarified.

**Funding and Staffing:** Some commentators question the absence of an analysis relative to the costs of implementing the suggested BMPs. Many commentators express concerns relative to costs and staffing within the Department and County Conservation Districts to support the implementation of the policy. Commentators also request clarification regarding various funding resources such as PennVEST and Act 167 to support the policy.

**Science, Foundation, and Technical Feasibility for the Policy:** Many commentators raise concerns that the objectives stated in the policy relative to infiltration BMPs, and groundwater recharge were not fully developed, practical or in some cases feasible. Some commentators question the Department's scientific foundation for the development of the policy while many other commentators clearly believe that streams have been severely impacted by poor or inadequate stormwater management practices and support the proposed policy.

**Compensation (mitigation) for stormwater impacts:** Several commentators question the proposed compensation option for sites in EV wetlands where infiltration cannot be achieved. Some express concerns that compensation provides a way out for persons affected by the policy and may be abused. Others are concerned about the lack of guidance in determining how someone compensates for potential impacts.

**Expand the Policy:** Many commentators suggest that the requirement to infiltrate stormwater should be expanded to all waterways regardless of their designated or existing use. Many are concerned that waters other than special protection receive no or limited protection under the proposed policy.

## SUMMARY OF RELATED ACTIONS

Since announcement of the Proposed Comprehensive Stormwater Management Policy in October 2001, the Department has proposed, revised or otherwise finalized the following related documents:

- Renewal of NPDES Stormwater Construction General Permit (5 acres or greater)
- Proposed NPDES Stormwater Construction General Permit (1-5 acres)
- Proposed MS4 General Permit

- Renewal of NPDES Industrial General Permit
- Revised Act 167 Model Ordinance
- EPA has approved funding to support the development of a Post Construction Stormwater Technical BMP Manual

## SUMMARY OF THE FINAL POLICY

The final policy sets forth the Department's general framework for implementing its stormwater management programs, using existing legal authority. In particular, the policy promotes and integrates the following into the Department's existing stormwater management programs:

- A clarification of the application of existing antidegradation provisions in 25 Pa. Code Section 93.4a to the BMP-based stormwater programs to protect and maintain existing uses and maintain water quality necessary to support those uses in all streams and to protect and maintain water quality in special protection streams.

- A uniform approach to post construction stormwater management that emphasizes ground water recharge through infiltration, water quality treatment and discharge volume and rate control with a goal of replicating infiltration and runoff characteristics of the site prior to development.

- The proposed Part II Water Quality Management permit is not included in the final policy. Instead, post construction stormwater management planning has been integrated into the NPDES stormwater permitting programs.

- The promotion of a comprehensive watershed approach to stormwater management through the Act 167 stormwater management planning program.

- The final policy clarifies that existing Department policies and programs related to flood protection and combined sewer overflows are not affected by this policy.

Fundamentally, the policy emphasizes the reduction of stormwater runoff generated by development and other activities by encouraging the minimization of impervious cover, use of low impact development designs, and the use of innovative stormwater BMPs that provide infiltration, water quality treatment, and otherwise more effectively manage the volume and rate of stormwater discharges. These stormwater BMPs and planning practices will be advanced through increased emphasis on the Department's Act 167 stormwater management planning program and implementation of the new (Phase II) and existing (Phase I) NPDES Stormwater Discharge Associated with Construction Activity Permit programs, and the new NPDES MS4 permits.

Administratively the Department is advancing a consistent approach to stormwater management in all NPDES stormwater permits and in the Act 167 stormwater planning processes. Department-approved Act 167 stormwater management plans and NPDES permits required under the federal Clean Water Act will include the same planning objectives to protect and maintain existing uses and maintain the level of water quality necessary to protect those uses in all streams, and to protect and maintain water quality in special protection streams. For instance,

municipalities who follow the recommended stormwater planning protocol in the MS4 General Permit described in this policy can satisfy those planning objectives in both the applicable NPDES permits and the Act 167 stormwater planning requirements. In addition, persons implementing post construction stormwater plans under Act 167 that emphasize infiltration, water quality treatment and other volume and rate controls can also satisfy the post construction stormwater management planning requirements of the NPDES Stormwater Discharge Associated with Construction Activity Permit and the MS4 Permit.

The terms stormwater and stormwater management as utilized throughout the policy refer to increased volumes and rates of runoff resulting from construction and land development activities. Stormwater management as recommended in this policy is not intended to address over bank flooding resulting from major storm events. Stream and river flooding from major storm events is addressed through the Department's Flood Protection and Stream Improvement Programs.

# COMMONWEALTH OF PENNSYLVANIA
# DEPARTMENT OF ENVIRONMENTAL PROTECTION

# COMPREHENSIVE
# STORMWATER MANAGEMENT
# POLICY

Document ID # 392-0300-002

**September 28, 2002**

**DOCUMENT NUMBER:** 392-0300-002

**TITLE:** Comprehensive Stormwater Management Policy

**EFFECTIVE DATE:** September 28, 2002

**AUTHORITY:**

Pennsylvania Clean Streams Law (35 P.S. §§ 691.1-691.1001); Pennsylvania Stormwater Management Act (32 P.S. §§ 680.1-680.17); Federal Clean Water Act (33 U.S.C.A § 1342), 40 CFR Part 122 and 25 Pa Code Chapters 92, 93, 96, 102, 105, and 111.

**POLICY:**

The Department will ensure activities and plans approved under its authority will employ stormwater management plans utilizing best management practices to protect and maintain ground water resources, preserve ground water supplies, maintain stream base flows, and protect, preserve, and maintain the physical stability, and environmental integrity of waters of the Commonwealth.

**PURPOSE:**

Clean, reliable ground water and surface water resources are critical for sustaining the environmental health of our natural resources, protecting the public's health and safety, and maintaining the economic vitality of the Commonwealth. The purpose of this policy is to ensure effective stormwater management to minimize the adverse impacts of stormwater on ground water and surface water resources to support and sustain the social, economic and environmental quality of the Commonwealth, and to integrate federal Clean Water Act Stormwater Management requirements.

**APPLICABILITY:**

This policy applies to all Department programs implementing stormwater management.

**DISCLAIMER:**

The policies and procedures outlined in this guidance document are intended to supplement existing requirements. Nothing in the policies or procedures shall affect regulatory requirements. The policies and procedures herein are not adjudications or regulations. There is no intent on the part of DEP to give the rules in these policies that weight or deference. This document establishes the framework within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

**PAGE LENGTH:** 8 pages

**LOCATION:** Volume 15, Tab 21

# COMPREHENSIVE STORMWATER MANAGEMENT POLICY

This policy document describes the Department's update of its stormwater management programs, using existing authority, to improve water quality, sustain water quantity including ground water recharge and stream base flow, and to implement federal stormwater management obligations.

This policy provides a framework for the integration of all Department stormwater management programs and promotes a comprehensive watershed approach to stormwater management in the Commonwealth. This policy identifies and integrates existing legal requirements and post construction stormwater management planning goals, objectives, and recommended procedures into the various Department stormwater management programs.

Unmanaged or poorly managed stormwater can result in stream bank scour, stream destabilization, sedimentation, loss of groundwater recharge, loss of base flow, localized flooding, habitat modification and water quality and quantity impairment. Conversely, properly managed stormwater through properly constructed and maintained best management practices (BMPs) can remove pollutants, facilitate ground water recharge through retention and infiltration, provide base flow for surface waters, and maintain the stability and the environmental integrity of waterways and wetlands. To provide long-term protection and sustainability of ground and surface water resources, stormwater should be managed at the source or origin as an environmental resource to be protected rather than as a waste to be quickly discharged and moved downstream.

Fundamentally, the goals of the policy are to improve and sustain ground and surface water quality and quantity through the use of planning practices and BMPs that minimize the generation of stormwater runoff, provide ground water recharge and minimize the adverse effects of stormwater discharges on ground and surface water resources. This policy also supports the fulfillment of the state's obligation under 25 Pa. Code Section 93.4a to protect and maintain existing uses and the level of water quality necessary to protect those uses in all surface waters and to protect and maintain water quality in "special protection" waters. Special protection waters are Pennsylvania's highest quality surface waters and include Exceptional Value (EV) and High Quality (HQ) waters.

## RECOMMENDED POST CONSTRUCTION STORMWATER MANAGEMENT PROCESS TO MEET REGULATORY STANDARDS

Procedurally, post construction stormwater management plans required under the NPDES Stormwater Discharges Associated with Construction Activities permit program and the NPDES Municipal Separate Storm Sewer System (MS4) permit program, as well as stormwater management plans developed under the Act 167 program, must demonstrate compliance with the antidegradation requirements at 25 Pa. Code Section 93.4a to protect and maintain existing uses and the level of water quality necessary to protect those uses in all surface waters and protect and maintain water quality in special protection waters.

This policy recommends that in order to meet the regulatory requirements of 25 Pa. Code Section 93.4a, persons involved in the development of post construction stormwater management plans should prepare a comparative pre and post construction stormwater management analysis.

In watersheds other than special protection, based upon the comparative stormwater management analysis, planners and applicants should evaluate and utilize infiltration BMPs to manage the net change in stormwater generated or otherwise replicate to the maximum extent possible preconstruction stormwater infiltration and runoff conditions so that post construction stormwater discharges do not degrade the physical, chemical or biological characteristics of the receiving waters. Additionally, water quality treatment BMPs must be employed where necessary to ensure protection of existing uses and the level of water quality necessary to protect those existing uses. Finally, the volume and rate of stormwater discharges must be managed to prevent the physical degradation of receiving waters, such as scour and streambank destabilization.

In special protection watersheds, based upon the comparative stormwater management analysis, planners and applicants can ensure that existing water quality will be protected and maintained by demonstrating that post construction infiltration equals or exceeds preconstruction infiltration and that any post construction discharge will not degrade the physical, chemical or biological characteristics of the special protection surface water. In these special protection watersheds, infiltration BMPs should be used to the maximum extent possible. To the extent that planners and applicants cannot totally infiltrate stormwater to pre construction volumes due to site conditions or limitations, off-site compensation projects in the same watershed and preferably upstream of the project site should be evaluated and employed to protect and maintain water quality. Additionally, water quality treatment BMPs must be employed where necessary to ensure the protection and maintenance of water quality. Finally, the volume and rate of stormwater discharges must be managed to prevent the physical degradation of receiving waters, such as scour and streambank destabilization.

Overall, the implementation of these stormwater management approaches will meet the requirements of 25 Pa. Code Section 93.4a by reducing pollutant loads to streams, recharging aquifers, protecting stream base flows, preventing stream bank erosion and streambed scour, and protecting the environmental integrity of receiving waters.

## INTEGRATION OF POST CONSTRUCTION STORMWATER MANAGEMENT PLANNING INTO EXISTING STORMWATER PROGRAMS

### NPDES Stormwater Discharge Associated with Construction Activity Permit Program

Pennsylvania regulates stormwater impacts occurring during construction under the Erosion and Sediment Pollution Control Program. All earth disturbances of 5000 square feet or greater require the development and implementation of an erosion and sediment control plan under 25 Pa. Code Chapter 102. Erosion and sediment control BMPs are used to minimize the potential for accelerated erosion and sediment pollution from these activities. The Department has developed a manual, “Erosion and Sediment Pollution Control Program Manual,” that identifies BMPs, provides recommended site design standards and specifications as well as their applicability to various situations. For High Quality (HQ) and Exceptional Value (EV) watersheds, there are more protective BMP requirements contained in Chapter 102. Beyond

these planning and implementation requirements persons conducting earth disturbance activities are required to secure the appropriate NPDES permit as follows:

Phase I Earth Disturbances 5 Acres or Greater

EPA regulations implementing the Clean Water Act require NPDES permits for construction activities of five (5) acres or greater (Phase I). Using its existing authority pursuant to the Department's regulations found in 25 Pa. Code Chapters 92, 93, 96 and 102, Pennsylvania began to implement the Phase I Stormwater NPDES program in 1992. Under the Department's regulations, any earth disturbance 5 acres or greater (including earth disturbances of less than 5 acres that occur as a part of a larger common plan of development or sale consisting of 5 acres or more) requires a permit prior to the commencement of the earth disturbance. An individual NPDES permit is required for projects located in HQ and EV watersheds and in most circumstances a general permit is available for use in all other watersheds. The Department has delegated the primary functions and responsibilities of the program to County Conservation Districts under the authority contained in the Conservation District Law.

Phase II Earth Disturbance between 1 and 5 acres

In 1999, EPA promulgated Phase II stormwater regulations establishing NPDES permit requirements for construction activities with between 1 and 5 acres of earth (including earth disturbances less than 1 acre that occur as part of a larger common plan of development or sale between 1 and 5 acres), with a point source discharge. Pennsylvania is required to implement the Phase II requirements by December 8, 2002.

An NPDES Phase II permit is not required for earth disturbance activities of between 1 and 5 acres unless there is point source discharge of stormwater to surface waters of the Commonwealth. For activities that do not have a point source discharge, the erosion and sediment pollution control plan requirements in Chapter 102 described above will be used as the substantive environmental control requirements for those projects. Earth disturbance activities of between 1 and 5 acres (small construction sites) that include a point source discharge and which are located in HQ and EV watersheds require an individual NPDES permit. In most circumstances a general permit is available for use in all other watersheds.

Integration of Post Construction Stormwater Management Plans into NPDES Stormwater Discharge Associated with Construction Activity Permits

Since 1990, the Federal NPDES regulations have required the identification of post construction stormwater management BMPs in the permit application or Notice of Intent for General Permit users. To further advance effective stormwater management and to support the regulatory requirements found at 25 Pa. Code Section 93.4a, the Department has amended the permit application and Notice of Intent for General Permits to require the identification of post construction stormwater management BMPs within a site specific post construction stormwater management plan. Post Construction Stormwater Management Plans should be developed in accordance with the process described above and supported by references listed in Appendix A of this policy.

**NPDES Municipal Separate Storm Sewer System (MS4) Discharge Permit Program**

The federal Phase II stormwater regulations also established NPDES permit requirements for MS4 discharges from Municipal Separate Storm Sewer Systems (MS4s). Pennsylvania is required to implement these MS4 requirements by December 2002. Based on 1990 census data there are approximately 700 municipalities and other facilities within the Commonwealth that must meet the Phase II permit requirements.

In general terms, the MS4 permit requirements are to develop, implement and enforce a BMP based stormwater program with these six elements:

1. implement a public education program;
2. include public involvement in decision making;
3. eliminate or treat discharges not composed entirely of stormwater;
4. require erosion and sediment controls for construction activities;
5. require BMPs to manage post-construction stormwater for new development and redevelopment; and
6. require pollution prevention/good housekeeping for municipal operations.

EPA's Phase II regulations allow existing state and local regulatory programs to be used to meet the MS4 requirements. The Department will use a general permit to cover the required program elements in watersheds other than special protection. Pennsylvania will use the Stormwater Management Act ("Act 167") Program as a centerpiece of the MS4 program for Pennsylvania. In general, municipalities that have developed and are implementing an Act 167 Plan developed on a watershed basis that includes the water quality protective measures, including an MS4 module, will be able to meet the EPA MS4 NPDES requirements through the Act 167 process.

Municipalities that are required to obtain an MS4 permit but which have discharges to watersheds without an approved Act 167 Plan that meets the water quality requirements of 25 Pa. Code Section 93.4a, will be encouraged to work with their county to develop a stormwater plan that meets the requirements of Act 167 and the Phase II MS4 permit. Financial assistance for that effort is authorized under Act 167, and a special MS4 module is available for this purpose. Municipalities that do not want to participate in the Act 167 process will be required to develop a separate municipal plan to meet the MS4 requirements, without the use of state cost-sharing funding under Act 167.

Integration of Post Construction Stormwater Management Plans into Act 167 Stormwater Management Plans and MS4 permits

Under the Stormwater Management Act (Act 167), counties are required to develop a watershed based stormwater management plan that is implemented by affected municipalities through municipal ordinances. Both the statute and implementation guidelines require these plans to include provisions to protect water quality, existing uses and the level of water quality necessary to protect those existing uses in all surface waters and to protect and maintain water quality in special protection waters. Funding has generally been available from the Department to cover

75% of the cost to develop the plan. Act 167 also authorizes funding to support municipal implementation of ordinances adopted under the Act 167 plan.

This program has evolved since it began in 1979. Watershed based stormwater management plans developed under Act 167 approved by the Department will include water quality and quantity protection requirements to be implemented by municipalities at the local level as discussed above. Where Act 167 plans implement these water quality and quantity requirements, individuals and the Department may rely on those Act 167 plans and implementing municipal ordinances to meet the relevant MS4 NPDES permitting requirements for municipalities under the Clean Water Act Phase II stormwater program.

The Department will encourage the use of Act 167 plans to facilitate implementation of the new MS4 NPDES permit program, described above, by including an "MS4 module" in the planning process. In this way, municipalities required to meet the MS4 requirement will be able to do so using the watershed plans, cost-share funds and municipal ordinances available under Act 167.

**NPDES Industrial Stormwater Permit Program**

The existing Phase I of the federal NPDES stormwater permitting regulations for industrial facilities includes eleven (11) categories of industrial activity that are required to be permitted, including the construction activities discussed previously in this policy (5 acres or more).

A permit exception is incorporated in the Phase II program. This exception is referred to as the "no exposure certification" exception. The exception allows all but 1 (construction) of the 11 industrial activities to bypass the permitting process and requirements if their industrial activities and materials are not "exposed to stormwater." A similar exception, under Phase I, only applied to one industrial activity, commonly referred to as "light industry." "Light industry" operators were not required to submit any information supporting their claim for the exception.

The Phase II program covers the same industrial categories but expands the "no exposure" permit exception. The exception previously enjoyed by "light industry" activities is now available for all categories (except for construction activity) listed under the definition of "industrial activity." The new rule allows for a simple and cost-effective way to comply with permitting provisions when industrial activities and materials are completely sheltered from stormwater. Under the EPA rule, operators now have the option of either applying for a permit, or submitting a "no exposure certification" form, conditioned on the discharge not contributing "to the violation of, or interfering with the attainment or maintenance of, water quality standards, including designated uses."

The Department will implement the no exposure certification by amending its existing stormwater discharge general permit for industrial activities. The next permit revision will provide all permittees with an option to either submit the Notice of Intent for coverage under the statewide general permit, or to submit a "no exposure certification" statement. The certifications must be made on a facility wide basis and are required every five years.

## Flood Protection and Combined Sewer Overflow Programs

While stormwater management is related to flood protection this policy is not intended to address major flood events on streams and rivers or modify existing flood protection programs and policies of the Department. Additionally, this policy is not intended to modify or otherwise affect existing policies and programs of the Department related to combined sewer overflows.

## TECHNICAL SUPPORT AND GUIDANCE

There are numerous sources of technical support and guidance available in print and electronically which provide an array of development planning options and post construction stormwater BMPs that can be used to meet the objectives of this policy and underlying legal requirements. A list of recently developed manuals and reference materials is included in Appendix A of this policy. The Department is in the process of developing a Pennsylvania specific post construction stormwater BMP manual that is expected to be available in 2004.

# Appendix A

## Stormwater Management BMP Manuals

**Delaware Conservation Design For Stormwater Management Guidance Manual (1997)**
Address: DNREC
Division of Soil and Water Conservation
Sediment and Stormwater Program
89 Kings Highway
Dover, DE 19901
Website: http://www.dnrec.state.de.us/dnrec2000/Divisions/Soil/Stormwater/Apps/DesignManualRequest.htm
Cost: $25

**2000 Maryland Stormwater Design Manual (10/2000)**
Address: Maryland Department of the Environment
Water Management Administration
Nonpoint Source Program
2500 Broening Highway
Baltimore, MD 21224
(410) 631-3543 or 1-800-633-6101
Website: http://www.mde.state.md.us/environment/wma/stormwatermanual/Manual_CD/Introduction.pdf
http://www.mde.state.md.us/environment/wma/stormwatermanual/publist2.htm
Cost: October 2000 edition, web download – free
April 2000 edition, printed version - $25

**Revised Manual for New Jersey: Best Management Practices for Control of Nonpoint Source Pollution from Stormwater (5/2000, 5th draft)**
Address: NJDEP
Division of Watershed Management
Sandra A. Blick
PO Box 418
Trenton, NJ 08625-0418
H2Oshed@dep.state.nj.us
Website: http://www.state.nj.us/dep/watershedmgt/bmpmanual.htm
Cost: web download - free

**New York State Stormwater Management Design Manual (10/2001)**
Address: New York State
Department of Environmental Conservation
625 Broadway
Albany, NY 12233
Webpage: http://www.dec.state.ny.us/website/dow/swmanual/swmanual.html
Cost: web download - free

**Pennsylvania Handbook of Best Management Practices for Developing Areas (1997)**

Address: PACD
225 Pine St.
Harrisburg, PA 17101
(717) 236-1006
(717) 236-6410 - fax

Website: http://www.pacd.org/products/bmp/bmp_handbook.htm
http://www.pacd.org/products/bmp/bmp_orderform.htm

Cost: web download – free (limited browser version)
printed version - $20-30

**Center for Watershed Protection**

Address: 8391 Main Street
Ellicott City, MD 21043-4605
(410) 461-8323
(410) 461-8324 - fax

Website: http://www.cwp.org/

**Pennsylvania Department of Environmental Protection**

Address: Division of Waterways, Wetlands and Erosion Control
P. O. Box 8775
Harrisburg, PA 17105-8775
(717) 787-6827
(717) 787-5986 – fax

Website: http://www.dep.state.pa.us/dep/deputate/watermgt/wc/subjects/stormwatermanagement.htm
http://www.dep.state.pa.us/dep/deputate/watermgt/wc/subjects/WWEC/StrmH2O_Home.htm

Address: Southeast Regional Office
Lee Park, Suite 6010
555 North Lane
Conshohocken, PA 19428
(610) 832-6130
(610) 832-6133 – fax

Website: http://www.dep.state.pa.us/dep/deputate/fieldops/se/water/PCSWM.htm