

**Department of Legislative Services**  
Maryland General Assembly  
2012 Session

**FISCAL AND POLICY NOTE**

House Bill 549 (Delegate Hogan)  
Environmental Matters

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**Stormwater Management - Residential Stormwater Practices - Inspection and Maintenance**

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This bill requires the Maryland Department of the Environment (MDE) to adopt regulations that provide alternatives for inspection of stormwater management systems located on residential lots, including public outreach, education, or other methods that promote maintenance of stormwater practices.

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**Fiscal Summary**

**State Effect:** The bill is not anticipated to materially affect State operations or finances.

**Local Effect:** Local government workloads associated with the inspection of residential stormwater management may decrease, and relevant personnel may be diverted to other priorities. However, local government expenditures may increase, particularly in future years, to the extent that additional stormwater management measures need to be taken to achieve the nutrient load reductions required by State and federal law that may not occur or be maintained under the alternatives authorized by the bill.

**Small Business Effect:** Minimal.

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## Analysis

### **Current Law:**

#### *Stormwater Management, Generally*

Generally, unless a particular activity is exempt, a person may not develop any land without an approved final stormwater management plan from the approving agency (generally, a county or municipality). The owner/developer must certify that all land development will be done according to the approved plan. Current regulations exempt, among other activities, additions or modifications to existing single-family detached residential structures under specified conditions and any developments that do not disturb over 5,000 square feet of land area.

MDE is required to adopt regulations establishing criteria and procedures for stormwater management in Maryland. Each county and municipality is required to adopt ordinances necessary to implement a stormwater management program. Every three years, MDE is required to review local programs and evaluate their effectiveness. MDE is also required to provide technical assistance, training, research, and coordination services to local governments in the preparation and implementation of their stormwater management programs.

Criminal, civil, and administrative penalties apply to violations of the State's stormwater management provisions.

#### *Inspection and Maintenance Requirements*

MDE regulations establishing the criteria and procedures for stormwater management, must, among other things, specify the minimum requirements for inspection and maintenance of stormwater practices. When MDE reviews and evaluates a local program, to be found acceptable, the program must, among other things, have inspection and enforcement procedures that ensure the proper construction and maintenance of approved stormwater management measures. Each local ordinance must, among other things, provide for (1) maintenance responsibilities and requirements including periodic inspection; and (2) penalties for noncompliance. In addition, each local ordinance must include effective enforcement procedures to ensure compliance with approved plans.

Construction drawings submitted for final stormwater management plan approval must include, among other things, an inspection and maintenance schedule and certification by the owner/developer that all construction will be done according to the approved plan. Inspections must be conducted by local staff or certified by a professional engineer

licensed in the State. Periodic inspections must be documented, and reports must be maintained by the local government.

Regular inspections must be made and documented at specified stages of construction. Local governments responsible for inspection and enforcement are authorized to issue notices of violation, issue stop work orders, withhold bonds or securities, and bring a civil action or criminal prosecution against any person in violation of the stormwater management laws and regulations.

Current regulations also require local governments to ensure preventative maintenance of stormwater management measures through inspections. An inspection must occur during the first year of operation and then at least once every three years after that. Specified inspection reports must be maintained, and local ordinances must provide procedures to ensure that deficiencies indicated by inspections are rectified.

## **Background:**

### *Stormwater Management in Maryland*

According to MDE, while nitrogen loading to the Chesapeake Bay from agricultural and wastewater sources in Maryland has been decreasing since 1985, stormwater runoff has been increasing from newly developed impervious surfaces. The State began reducing the adverse effects of stormwater runoff in 1982 with the passage of the Stormwater Management Act. State regulations followed in 1983, which required each county and municipality to adopt ordinances necessary to implement a stormwater management program. Maryland's stormwater management regulations were significantly strengthened in 2000 with the adoption of the Stormwater Design Manual in State regulations. Chapters 121 and 122 of 2007 attempted to further enhance the State's stormwater management program by requiring a new form of management practice known as environmental site design (ESD). ESD involves using small-scale stormwater management practices, nonstructural techniques, and better site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources. Emergency regulations to implement Chapters 121 and 122 were approved in April 2010.

### *Role of Stormwater Management in Meeting Federal Bay Restoration Requirements*

In December 2010, the U.S. Environmental Protection Agency (EPA) established the Total Maximum Daily Load for the Chesapeake Bay (bay TMDL) that (1) sets the maximum amount of pollution the bay can receive and still attain water quality standards; and (2) identifies specific pollution reduction requirements. **Exhibit 1** illustrates

Maryland's pollution reduction goals in the TMDL. All pollution reduction measures must be in place by 2025, with at least 60% of the actions complete by 2017.

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**Exhibit 1**  
**Maryland's Pollution Reduction Goals in the Bay TMDL**  
**(Million Pounds per Year)**

<u>Pollutant</u>	<u>2010 Loads</u>	<u>Bay TMDL Target Load</u>	<u>Percent Reduction</u>
Nitrogen	52.76	41.17	22.0%
Phosphorus	3.30	2.81	14.9%
Sediment	1,376	1,350	1.9%

TMDL: Total Maximum Daily Load

Note: Target loads as revised by EPA in August 2011.

Source: Maryland Department of the Environment; U.S. Environmental Protection Agency

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In 2010, each bay jurisdiction submitted a Phase I WIP that details how the jurisdiction will achieve its individual pollution reduction goals under the TMDL. The Phase I WIP focused on the following three approaches for bridging the remaining loading gap: (1) developing new technology and approaches before 2017; (2) increasing the scope of implementation of existing strategies such as upgrading wastewater treatment plants, upgrading septic systems, and increasing the number and efficiency of stormwater runoff controls; and (3) improving regulatory requirements. The Phase I WIP establishes that all nutrient impacts from future growth must be offset if the TMDL is to be met.

On January 26, 2012, Maryland released for public comment a draft of the State's Phase II WIP, which provides implementation strategies for the five major basins in Maryland (the Potomac River basin, Eastern Shore, Western Shore, the Patuxent River basin, and Maryland's portion of the Susquehanna River basin). The Phase II WIP provides a list of the 66 best management practices (BMPs) used to develop the 2017 Interim Strategy. This list includes 38 agriculture BMPs, 24 stormwater BMPs, 3 septic BMPs, and 1 forest BMP.

Maryland's Phase II WIP builds on existing State-directed restoration efforts and identifies strategy options to reduce nitrogen and phosphorus from all major sources, including stormwater runoff. Of the major sources of nutrient pollution in Maryland, stormwater runoff contributes about 18.1% of the nitrogen and 22.1% of the phosphorus entering the bay from Maryland sources, and it will be required to contribute to just under

17% of the nitrogen reduction and just under 45% of the phosphorus reduction under Maryland's Phase II WIP.

*Anticipated Costs of Implementing Stormwater Management Controls in the WIP*

To determine the cost of implementing the bay TMDL, MDE began investigating the potential cost of local stormwater control measures in early spring 2011. As part of this investigation, MDE commissioned a study by the University of Maryland Center for Environmental Science and the Johns Hopkins University to examine costs related to stormwater BMPs and assess revenue generating options for Maryland counties. The study was completed in October 2011 and provided estimated costs of various stormwater BMPs, including the average unit cost over 20 years.

**Exhibit 2** shows the preliminary estimated cost of implementing the Phase II WIP from all sectors. Among other things, the exhibit illustrates that stormwater BMPs likely represent the largest costs to local governments in implementing the TMDL.

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**Exhibit 2**  
**Estimated Phase II WIP Costs for Interim and Final Targets Under the Bay TMDL**  
**(\$ in Millions)**

<u>Source Sector</u>	<u>Cost of 2017 Strategy</u> <u>2010-2017</u>	<u>Cost of 2025 Strategy</u> <u>2010-2025</u>
<b>Agriculture</b>	<b>\$498</b>	<b>\$928</b>
<b>Municipal Wastewater</b>	<b>2,384</b>	<b>2,384</b>
Major Municipal Plants	2,322	2,322
Minor Municipal Plants	62	62
<b>Stormwater</b>	<b>3,826</b>	<b>7,607</b>
Maryland Department of Transportation	467	1,500
Local Government	3,359	6,107
<b>Septic Systems</b>	<b>799</b>	<b>3,746</b>
Septic System Upgrades	336	2,533
Septic System Connections	439	1,125
Septic System Pumping	24	88
<b>Total</b>	<b>\$7,507</b>	<b>\$14,665</b>

Note: Exhibit does not reflect costs associated with controlling combined sewer and sanitary overflows or the implementation of the Healthy Air Act.

Source: *Phase II Watershed Implementation Plan*; Maryland Department of the Environment

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The cost of implementing local stormwater management controls was also addressed in the work of the Task Force on Sustainable Growth and Wastewater Disposal, which was established by Governor O'Malley under Executive Order 01.01.2011.05. During the course of its work, the task force explored increasing the existing bay restoration fee in order to not only cover the existing shortfall in the Bay Restoration Fund for wastewater treatment plant upgrades, but also to help fund other WIP requirements associated with developed land BMPs, including stormwater management. Under one recommendation, the task force envisioned transferring 15% to 25% of the gross bay restoration fee revenue generated within each local jurisdiction to local governments for the implementation of approved stormwater BMPs.

Legislative Services advises, however, that the legislation that has been introduced by the Administration to increase the bay restoration fee (SB 240/HB 446) would not result in an increase in revenue sufficient to support that recommendation, nor would it expand the authorized uses of the Bay Restoration Fund to allow it to be used for the implementation of stormwater BMPs.

**Local Expenditures:** Because counties and municipalities currently conduct inspections of residential stormwater management systems, by providing alternatives for inspection of such systems, the bill could reduce local government workloads associated with that responsibility. It is assumed that relevant local personnel would simply be diverted to other priorities.

Despite the fact that local government inspection responsibilities may decrease, local expenditures may increase to fund additional stormwater management BMPs needed to offset any decrease in nutrient load reductions resulting from fewer inspections of stormwater management systems on residential property. MDE advises that stormwater treatments must be routinely inspected and maintained to ensure that the intended water quality improvements are actually delivered. If a jurisdiction chooses to use the inspection alternatives authorized by the bill, locally planned nutrient loading reductions associated with the jurisdiction's stormwater strategy for the WIP may not occur; MDE advises that this may result in the need for more expensive BMPs such as urban stormwater retrofits. Baltimore County also advises that, without verification of stormwater management implementation, it may not receive credit for pollutant load reductions required under the WIP and may need to spend additional money on other strategies.

As a joint effort of the State and local governments, the costs of implementing the federally mandated Phase II WIP will be shared, although the allocation of costs has yet to be fully determined. However, as shown in Exhibit 2, over half of the estimated cost for implementing the Phase II WIP is attributed to stormwater management BMPs, the majority of which is envisioned as the responsibility of the local governments with

jurisdiction over the existing stormwater infrastructure and impervious surfaces requiring additional treatment. Therefore, it is assumed that the cost of any additional measures that would need to be undertaken to achieve the nutrient loading reductions as a result of the bill would be borne by local governments.

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### **Additional Information**

**Prior Introductions:** None.

**Cross File:** None.

**Information Source(s):** Anne Arundel, Baltimore, Garrett, Howard, and Montgomery counties; Maryland Department of the Environment; Task Force on Sustainable Growth and Wastewater Disposal; University of Maryland Center for Environmental Science; Johns Hopkins University; Department of Legislative Services

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