USEPA states in its Urban Stormwater Approach for the Mid-Atlantic Region and the Chesapeake Watershed (July 2010, page 5):

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"It is critical that all permit provisions be clear, objective, specific, measurable, and enforceable. Permits should incorporate clear performance standards, include measurable goals or quantifiable targets for implementation and include specific deadlines for compliance. Doing so will clarify expectations for permittees and also allow permitting authorities to more easily assess compliance. These are not elements to be delegated to permittees as part of their stormwater management program planning or updating processes. Practicability determinations are the obligation of the permitting authority not the permittee. Vague phrases such as "as feasible" and "as possible" and "practicable" are to be avoided in a permit because such caveats allow subjective interpretation, result in inconsistent implementation by permittees, and create difficulties in permit authority oversight and enforcement. The permit writer's role is to determine what is necessary to achieve in effluent controls and to develop clear, enforceable language that conforms to these determinations."

We concur with this guidance from USEPA. One of our principal goals in providing the attached is to recommend specific changes to the permit language to help MDE better meet the objective of a "clear, objective, specific, measurable, and enforceable" permit, taking into account some of the practical issues that we know confront MDE.

Attached is the draft permit language with proposed specific changes as well as some notations as to why we are recommending these changes.

### FACT SHEET

ć,

NPDES Permit Number: MDE Permit Number: Public Comment Period Expiration Date: Contact:

The State of Maryland Department of the Environment Water Management Administration (MDE/WMA) proposes to issue a National Pollutant Discharge Elimination System (NPDES) Permit for Municipal Separate Storm Sewer System discharges to:

#### **Blank County, Maryland**

#### Address

#### **Phone Number**

#### **Introduction**

MDE proposes to renew Blank County's NPDES permit authorizing the discharge of stormwater from all municipal separate storm sewer system outfalls owned and operated by Blank County. This fact sheet provides basic information about the requirements in the County's draft permit. A public informational meeting will be held to discuss this permit prior to the issuance of a tentative determination. Contact information and procedures for submitting comments can be found at the end of the fact sheet.

The draft permit establishes conditions and prohibitions regarding the discharge of stormwater. It also relies on well-established State programs and an adaptive management approach to make continual improvements to the quality of the County's stormwater runoff. Maryland has a long history of developing statewide programs to reduce stormwater pollution, focusing on protecting and restoring the water quality of Chesapeake Bay and its tributaries.

Examples include Maryland's Erosion and Sediment Control Law, passed in 1970, to control runoff from construction sites and the Stormwater Management Law, passed in 1982, that required appropriate best management practices (BMPs) in order to maintain after development, as nearly as possible, the predevelopment runoff conditions. Over the years, both programs

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have undergone significant revisions and enhancements, the most recent being the Stormwater Management Act of 2007 (Act). In addition to other innovative provisions included in a 2000 revision to the State's stormwater program, this legislation required environmental site design (ESD) to the maximum extent practicable (MEP) on all new development and redevelopment projects. These and other stand-alone State programs are incorporated by reference in this draft permit.

### Permit Authority

According to 40 Code of Federal Regulations (CFR) §122.26, owners of large and medium municipal separate storm sewer systems must obtain an NPDES Permit. This permit is a joint federal and State permit and subject to federal and State regulations. The Clean Water Act (CWA), federal regulations, and numerous guidelines and policies of the United States Environmental Protection Agency (EPA) provide the federal permit requirements. The Annotated Code of Maryland, Environment Article, Code of Maryland Regulations (COMAR), and policies and guidelines of MDE provide the State permitting requirements.

### **Permit History**

Blank County is classified as a medium or large municipality and owns and operates a storm sewer system. The County's initial permit was issued on insert date and reissued on <u>insert date</u>. This proposed permit action is to issue a "next-generation" NPDES permit to Blank County to regulate the discharge of stormwater runoff from its storm drain system.

The draft permit represents another step forward for Blank County's NPDES municipal stormwater program. In insert date, the County's initial permit laid the foundation for a comprehensive approach to controlling runoff. This was done by inventorying and mapping storm drain system infrastructure; identifying sources of pollution; monitoring storm events to judge chemical, biological, and physical stream responses; and enhancing existing, and establishing new management programs. During the second permit, the County evaluated jurisdiction-wide water quality through a comprehensive biological stream assessment program, prioritized watersheds in order to perform more detailed analyses and guide management implementation, and began to restore existing impervious area.

Conditions of this draft permit require the County to possess the legal authority to control storm drain system pollutants, continue mapping its storm sewer system, monitor stormwater discharges, and develop and implement comprehensive management programs. New requirements under the draft permit include increasing impervious area treatment goals, supporting regional trash reduction strategies <u>and developing and implementing plans to meet trash WLAs where they exist, meeting numeric effluent limitations at major MS4 outfalls</u>, and implementing ESD technologies for new and redevelopment projects to the MEP. The County will also be required to develop and implement plans to <u>ensure compliance with water quality standards (WQS) and meet address</u> waste load allocations (WLAs) established under EPA approved total maximum daily loads (TMDLs) <u>as quickly as possible estimates</u>. Penalties for failure to comply with the terms of the permit are provided.

Comment: The Clean Water Act requires that all NPDES permits must contain "any more stringent limitation, including those necessary to meet water quality standards established pursuant

to any State law or regulation." 33 U.S.C. § 1311(b)(1)(C). According to the CWA and its implementing regulations, "no permit shall be issued when imposition of conditions cannot ensure compliance with applicable water quality requirements of all affected states." 40 C.F.R. § 122.4(d); see CWA §301(b)(1)(C).

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In addition to making sure that the language of the permit is "clear, objective, specific, measurable, and enforceable," we also believe that the goal of permit should be very clear, and that goal is provided by the Clean Water Act. The Clean Water Act requires that all NDPES permits be written so that the discharger does not cause or contribute to water quality standards violations and where the water body is impaired, permitted dischargers meet the WLA in TMDLs.

If the permittee cannot immediately meet the WLA, MDE's own regulations require permitimposed compliance schedules that require achievement of compliance within "[a]pplicable periods established in effluent limitations or water quality standards, or ...in the absence of any legally applicable schedule of compliance, the shortest reasonable time consistent with the requirements of the Federal Act and State law or regulation." COMAR 26.08.04.02. For any compliance schedule spanning over nine months or more, MDE must establish interim requirements for every nine months or less. Id. Furthermore, all MDE-administered NPDES permits containing compliance schedule conditions must set "quantitative limits shall be set for the interim period as well as for the period following the final compliance date." COMAR 26.08.04.02-1.

We find the creation of TMDL implementation plans to be an acceptable substitute for compliance plans and schedules, but this presumes that:

- The MS4 successfully demonstrates that the TMDL implementation plan meets the WLA.
- Each plan is reviewed and approved by MDE after public review and comment, during MDE which must make an independent review of whether the plan proposed will meet the WLA.
- Implement WLAs by a specific date set by MDE, with interim milestones established in the TMDL implementation plan, that meet the COMAR requirements.

As USEPA states: "These are not elements to be delegated to permittees as part of their stormwater management program planning or updating processes."

To help ensure compliance with TMDL WLAs, we strongly recommend that the permit must include numeric effluent limitations at least for major MS4 outfalls. U.S. EPA recommends that permitting agencies exercise this discretion whenever feasible, as numeric limits clarify permit requirements and improve accountability and enforceability.

Additionally, this permit does not mention the Clean Water Act's or Maryland's antidegradation policy. Under this policy, existing instream water uses must be maintained and protected; where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water

quality is necessary to accommodate important economic or social development in the area in which the waters are located; and where high quality waters constitute an outstanding national resource, that water quality shall be maintained and protected. While there may be few "high quality waters" in the MS4s, or even many supporting their designated uses, the permit should require the identification of any that exist, and require that the permittee describe what steps they will take to protect designated uses from their stormwater discharges. This is particularly critical given the population increases that MDE expects that are described in the next paragraph.

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#### Stormwater System in Blank County

Blank County has experienced growth in the past two decades, seeing an increase in population from XXX,XXX in 1990 XXX,XXX in 2000 according to the United States Department of Commerce's Census information. Since 2000, the number of County residents has increased by about another XX%, with the 2010 population predicted to be over XXX,XXX This rapid pace of growth and ensuing development presents many challenges. Significant pollutant reductions will be needed to maintain and improve water quality in many of the County's waterways.

Blank County covers an area of XXX square miles and has approximately XXX "major" outfalls. Major outfalls are defined by federal regulations as:

- An outfall pipe with an internal diameter of 36 inches or greater; or
- A discharge from other than a round pipe that drains fifty acres or more; or
- An outfall pipe with an internal diameter of 12 inches or greater that drains an area that includes land zoned for industrial use.

Stormwater from these outfalls is discharged into the Blank River basin, one of Maryland's ten major Chesapeake Bay tributary basins. A number of stream segments in this basin are impacted by sediments, nutrients, and fecal bacteria.

Comment: We trust that MDE intends to use this permit template as a collection of common *minimum* elements that must be included in each Phase I MS4 permit in Maryland, with specific permit conditions tailored to the current conditions, pollution discharge characteristics, and needed pollution reductions in order to meet all applicable water quality standards and TMDL wasteload allocations. Each jurisdiction differs in geography, population density and distribution, waterways, impairments, permitted facilities, coastline, etc. Each Phase I permit needs to take into account and reflect these differences, and the differences should be reflected in the Fact Sheet for each jurisdiction as well. For example, this fact sheet only refers to impairments for sediments, nutrients, and fecal bacteria. Various jurisdictions have impairments for numerous other pollutants such as trash and toxic chemicals.

TMDLs have been approved and WLAs established for the Blank Creek, and Blank River. A WLA is that part of an impairing pollutant's total allowable discharge that is attributed to regulated point sources.

Comment: Consistent with having clear enforceable requirements set forth in the permit itself, we recommend that the fact sheet and the permit specifically list for each water body that is impaired, the pollutants causing any impairment, and the WLAs that each MS4 must meet rather than merely referring to MDE's website below.

All Blank watersheds have EPA approved TMDLs for Blank. Information regarding TMDLs in general, as well as Blank County specifically can be found at:

http://www.mde.state.md.us/programs/Water/TMDL/Pages/Programs/WaterPrograms/TMDL/index\_new. aspx

### Maryland's NPDES Municipal Stormwater Permit Requirements

The goals of Maryland's NPDES municipal stormwater permit program are to requires controls for stormwater pollutant discharges sufficient to meet water quality standards and TMDL wasteload allocations. To that end, this permit contains certain numeric limits on pollutants for specific water bodies, and requires the County to develop and by implementing the stormwater pollution controls, BMPs, and programs required by this draft permit, needed to meet those limits as expeditiously as practicable, within a specified time determined by MDE based on evidence demonstrated by the permittee. In addition, for waters that currently meet standards, permittees must implement stormwater controls to protect High Quality Waters and prevent water quality standards violations. Where this permit allows or requires the use of best management practices (BMPs) to meet water quality-based legal limits, the County must demonstrate that selected BMPs will ensure compliance with those limits within the required time frame. show a reduction of pollutants pursuant to EPA approved TMDLs, improve water quality.

Compliance The conditions in this permit are based on demonstrations produced through the County's annual compliance and monitoring reports and its permit renewal application. MDE finds that compliance with the conditions in this draft permit will reduce pollutant discharges from Blank County's storm drain system to the maximum extent practicable. Should new information demonstrate the need for additional controls to meet water quality-based effluent limits or to achieve pollution reductions to the maximum extent practicable, MDE will exercise its authority to reopen the permit to incorporate such additional controls. This draft permit requires the County to implement, and if needed continually update, its TMDL implementation plans and in order to achieve measurable and steady reductions in pollutants to meet WLAs through an adaptive management process. Where EPA approved TMDLs have been established, an iterative approach is required to identify the additional or alternative stormwater controls that will need to be implemented in order to achieve WLAs.

Blank County will be required to regularly review and refine its BMPs to reduce pollutants to the MEP and show a net reduction in pollutant loadings over the five-year permit term, consistent with the reductions specified in approved TMDL implementation plans developed under this permit. The County will evaluate and document progress toward meeting WLAs within its jurisdiction on an

annual basis. This assessment will include a description of specific efforts undertaken to achieve compliance with EPA approved TMDLs. MDE believes this draft Activities and discharges under this permit is are required to be consistent with the assumptions of any future applicable TMDLs, including the one for Chesapeake Bay that is currently under development.

Comment: In its November 2010 memorandum on "Establishing TMDL WLAs for Storm Water Sources and NPDES Permits Requirements Based on Those WLAs," U.S. EPA recommends that, whenever feasible, NPDES permitting authorities include numeric effluent limitations as necessary to meet water quality standards. EPA recommends that permitting agencies exercise this discretion whenever feasible, as numeric limits clarify permit requirements and improve accountability and enforceability. Because Maryland Phase I jurisdictions have collected data for more than a decade, we expect that numeric limitations will be feasible *at least* for major outfalls in the system.

Additionally, the finding that compliance with the conditions in the permit will meet the MEP standard must be based on information provided by the permittee and MDE that is available for review and verification by the public. Merely reciting this finding without the requisite evidentiary basis is not sufficient to meet legal requirements.

#### Management Programs

#### **Stormwater Management**

The draft permit requires Blank County to implement a stormwater program in accordance with the Environment Article, Title 4, Subtitle 2, Annotated Code of Maryland and COMAR 26.17.02. Requirements of this program <u>for new development</u> include stream channel protection, water quality treatment, and the incorporation of ESD to the MEP for all new developments and redevelopment projects in the State, with the goal of maintaining predevelopment runoff characteristics.

Comment: As originally written, this statement is confusing and somewhat misleading, as the requirement to protect stream channels and to treat 100% of the water quality volume applies only to new development.

Our coalition continues to strongly disagree that the provision in MDE's stormwater regulation that requires that redevelopment manage only .5 inches, with numerous options for developers to avoid meeting even that standard, constitutes "ESD to the MEP." Our view on this is supported by the attached table of recently adopted stormwater standards for redevelopment from around the region that range from 2.6 inches in Montgomery County to 1 inch in Tyson's Corner and Philadelphia. Further, USEPA's *Urban Stormwater Approach* (cited above) states that:

Therefore, permits should include "post-construction" performance standards for newly developed and redeveloped sites that provide for preserving and restoring site hydrological condition as necessary to attain water quality standards in receiving waters. An appropriate standard should account not just for discount rates, but discharge volume and duration.

MDE's current post-construction standard does not do this.

Given the above, we urge MDE to update its regulations as soon as possible. For individual permits issued in the meantime, we wish to reiterate our view that by adopting a fairly weak stormwater standard for redevelopers, but demanding aggressive retrofit requirements on MS4s, MDE has, rather than asking everyone to do their part, shifted a good bit of the burden of controlling stormwater from developers, who profit from their business ventures, to MS4s and their taxpayers.

Maryland's standard for determining the predevelopment characteristics is "woods in good condition" and equates to the management of all rain events up to approximately 2.7 inches in depth.

All jurisdictions in the State, including Blank County, are required to maintain and implement a stormwater management ordinance that is in compliance with the requirements of Maryland's stormwater program. By following the conditions in its approved ordinance, including, for new development, mimicking natural hydrologic runoff characteristics, designing new projects to meet the "woods in good condition" criteria, and implementing ESD to the MEP, the County will be in compliance with this permit condition and with the requirements under 40 CFR for post-construction stormwater management. Additionally, adherence with the State's program should result in little or no additional pollutant loading from new development in a given watershed. To address existing impairments, it is necessary that the MS4 implement the actions described in their approved TMDL implementation plans.

### **Erosion and Sediment Control**

The draft permit also requires the County to implement an erosion and sediment control program in accordance with the Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland and COMAR 26.17.01. By reference, this requires the County to ensure that all projects disturbing more than 5,000 square feet have an approved erosion and sediment control plan; to regularly inspect all active projects; to maintain an effective enforcement program; and to have procedures to respond to complaints and violations regarding erosion and sediment control issues. Additionally, MDE regularly reviews the County's program and has minimum standards for the design and content of erosion and sediment control plans. While Maryland has had a model erosion and sediment control program for over forty years, incorporation of the program by reference in this permit will further ensure compliance with State requirements and improved runoff conditions.

#### **Illicit Discharge Detection and Elimination**

Blank County is required to monitor a minimum of <u>150100</u> storm drain outfalls each year, looking for illicit discharges. Per the draft permit, the County will also develop and maintain procedures for investigating complaints and handling enforcement actions. Routine surveys of commercial and industrial areas are also required by this permit condition.

Comment: MDE promised that the Montgomery County MS4 permit would be serve as the floor – subsequent permits would be as strong or stronger. In this case, the Draft Phase I Permit is not as stringent as Montgomery County. Montgomery County's permit requires field screening of 150 outlets annually.

#### **Trash and Litter**

An additional management program has been included in this draft permit requiring Blank County to support and implement regional strategies to reduce trash and increase recycling. (Where applicable) Additionally, trash reduction strategies and work plans that meet any trash TMDLs WLAs are required.

### **Property Management**

This condition requires Blank County to ensure that all County-owned municipal facilities requiring coverage under the General Discharge Permit for Stormwater Associated with Industrial Activities submit a Notice of Intent to MDE and develop a pollution prevention plan. Currently, (as of the latest Annual Report) all County facilities requiring coverage have received it and have developed pollution prevention plans. These plans include an assessment of the property, focusing on activities that may contaminate stormwater runoff, and the implementation of BMPs to eliminate or treat any non stormwater discharges.

Comment: The fact sheet should list what the facilities owned by the County covered under the Industrial Activities general permit are.

#### **Road Maintenance**

As a condition in the draft permit, the County will continue its efforts to reduce pollutants associated with road maintenance. Inlet cleaning, street sweeping and litter pickup programs are all activities currently undertaken by Blank County. Additionally, the County is reducing the use of pesticides, herbicides, and fertilizers along roadways at on County-owned properties and evaluating various applications of deicing materials.

### **Public Education**

Public education and outreach have been an ongoing requirement of previous permits and is included in this draft. Blank County has been an active member of local watershed groups, coordinates local clean-up days, and participates in public educational opportunities at local schools and community events. The County must continue to implement a program that includes information about stormwater runoff, water conservation, trash reduction and recycling, lawn care management, and provides a mechanism for reporting suspected illicit discharges and spills.

### Total Maximum Daily Loads (TMDLs)

#### Watershed Assessments

Blank County will identify and link sources of pollutants in stormwater runoff to specific water quality impacts on a watershed basis. The draft permit requires the County to conduct a systematic assessment of water quality for each watershed. These watershed assessments will include detailed water quality analyses, identification of water quality improvement opportunities, and development and implementation of NPDES plans to control stormwater discharges to the MEP.

Assessment of controls is critical to determine the effectiveness of the NPDES stormwater management program. Therefore, chemical, biological, and physical monitoring will be required to document <u>that</u>

waters meeting water quality standards are not being degraded and that progress is being made toward improving water quality and meeting applicable WLAs developed under EPA approved TMDLs. Similarly, program activity measures (e.g. number of illicit discharges found and eliminated, pounds of material removed from storm drain inlets) will be used to monitor program implementation and progress toward meeting water restoration goals.

Comment: All substantive plans and programs detailing how permittees plan to meet WLAs should be moved from the "assessments" to enforceable TMDL implementation plans. In the text of the permit draft we suggest language that would accomplish this.

#### **TMDL** Stormwater Watershed Implementation Plans

Additionally, this draft permit requires the County to submit **TMDL**stormwater watershed implementation plans for each EPA approved stormwater WLA. These plans will include a detailed schedule for implementing stormwater water quality projects, enhanced stormwater management programs, and alternative stormwater management initiatives necessary for meeting applicable stormwater WLAs. As described in the draft permit and in Maryland's Phase I Watershed Implementation Plan (Plan), the plans will also involve developing an ongoing, iterative process for the implementation of projects and programs.

Some of these projects and programs may include <u>Environmental Site Design (ESD) retrofits</u>, forest buffer planting, stream restoration, pavement removal, and operational practices. Both this draft permit and the Plan require the continued restoration of impervious surface area. MDE is currently working with Blank County and other Phase I jurisdictions in the State to develop a standardized methodology for establishing baseline impervious area and accounting for specific water quality projects and programs in the future.

Comment on Procedure: It is our understanding that MDE is operating a workgroup composed of MDE staff and Counties that is working on a key issue that our coalition is interested in: what type of stormwater water quality projects will be considered acceptable, what performance standards must they meet, and how will these be credited to meet the 20% retrofit requirement. It is also our understanding that there is a draft of a policy statement that MDE will issue to clarify this issue, although MDE has declined to share this draft with us. We question a process in which the permittees may know MDE's ideas on one of the most important issues in the permit and may comment on them before they are finalized, but the public may not.

Additionally, if MDE intends for the policy related to the permit to be meaningful or enforceable then it must be incorporated into the permit and subjected to notice and comment. It is not clear that statements in either the first or the second WIPs are enforceable, and neither is a "policy statement."

We believe that the issue of what type of stormwater water quality projects are counted toward the 20% restoration requirement is one of them most important scientific and policy decisions facing MDE, and make the following comments about the latest science regarding the usefulness of detention ponds and stream restoration.

Comment on Substance: Increasingly, scientists are questioning the value of detention ponds as a viable stormwater solution. Further, a series of articles written by scientists led by Dr. Margaret Palmer indicate that there has been little monitoring of stream restoration projects to determine what benefit they provide. In light of growing scientific doubt being shed on these two approaches, and in light of the General Assembly's clear statement of its belief that ESD is the best approach to controlling stormwater: our coalition believes that the only type of stormwater quality projects that should be acceptable are ESD retrofits that attain at least 1 inch retention.

Here are some quotes from the the National Research Council and the USEPA, citing scientific evidence, that support the lack of viability of detention ponds:

Committee on Reducing Stormwater Discharge Contributions to Water Pollution, National Research Council, *Urban Stormwater Management in the United States* (2008).

Page 25. Recognition of downstream flooding that commonly resulted from upstream development led to construction of stormwater storage ponds or vaults in many municipalities in the 1960s, but their performance has typically fallen far short of design objectives (Booth and Jackson, 1997; Maxted and Shaver, 1999; Nehrke and Roesner, 2004).

Page 33. Mitigation of urban-induced flow increases have followed this narrow approach, typically by endeavoring to reduce peak discharge by use of detention ponds but leaving the underlying increase in runoff volumes—and the associated augmentation of both frequency and duration of high discharges—untouched. This partly explains why evaluation of downstream conditions commonly document little improvement resulting from traditional flow-mitigation measures (e.g., Maxted and Shaver, 1997; Roesner et al., 2001; May and Horner, 2002).

Page 228. Not surprisingly, the first generation of research studies has produced ambiguous results. For example, seven research studies showed that ponds and wetlands are unable to prevent the degradation of aquatic life in downstream channels associated with higher levels of IC (Galli, 1990; Jones et al., 1996; Horner and May, 1999; Maxted, 1999; MNCPPC, 2000; Horner et al., 2001; Stribling et al., 2001). The primary reasons cited are stream warming (amplified by ponds), changes in organic matter processing, the increased runoff volumes delivered to downstream channels, and habitat degradation caused by channel enlargement.

Page 497. As described in Chapter 5, in the past 15 to 20 years stormwater management has passed through several stages. First, it was thought that the key to success was to match postdevelopment with predevelopment peak flow rates, while also reducing a few common pollutants (usually TSS) by a set percentage. Finding this to require large ponds but still not forestalling impacts, stormwater managers next deduced that runoff volumes and high discharge durations would also have to decrease. Almost simultaneously, although not necessarily in concert, the idea of LID arose to offer a way to achieve actual avoidance or at least minimization of discharge quantity and pollutant increases reaching far above predevelopment levels.

USEPA, Guidance for Federal Land Management in the Chesapeake Bay Watershed, Chapter 3 Urban and Suburban (EPA841-R-10-002), May 12, 2010.

Page 3-13. Detention storage targets relatively large, infrequent storms, such as the 2 and 10 year/24 hour storms for peak flow rate. As a result of that design limitation, flow rates from smaller, frequently occurring storms typically exceed those that existed on-site before land

development occurred, and those increases in runoff volumes and velocities typically result in flows erosive to stream channel stability." (citing Shaver et al. 2007, which I believe refers to: Shaver, E. R. Horner, J. Skupien, C May, and G. Ridley. 2007 Fundamentals of Urban Runoff Management—Technical and Institutional Issues. Madison WI: North American Lake Management Society.)

Page 3-16. Detention systems generate greater flow volumes for extended periods. Those prolonged, higher discharge rates can undermine the stability of the stream channel and induce erosion, channel incision and bank cutting.

Page 3-17. Simply reducing the peak flow rate, and extending the duration of the predevelopment peak flow, is not effective because as the different discharge sources enter a stream, the hydrographs are additive, and the extended predevelopment peak flows combine to produce an overall higher than natural peak. The result is the pervasive condition of channel incising, erosion, and loss of natural stream biological and chemical function as observed in Figure 3-8." (Page 3-17--the picture referred to looks like it could have been taken in the Anacostia watershed).

#### **Public Participation**

Blank County will allow for public participation during the development of its watershed assessments and <u>TMDL</u> stormwater watershed implementation plans. As part of this permit condition, the County must provide notice of its procedures for the public to obtain information and offer comment on the assessments and plans <u>along with the opportunity to request a hearing</u>. A minimum 30 day comment period is required prior to finalizing any assessments or plans.

#### **TMDL** Compliance

The draft permit requires Blank County to submit an annual TMDL assessment report evaluating the effectiveness of the County's **TMDL**stormwater watershed implementation plans and progress made in achieving compliance with EPA approved TMDLs. Included in the report will be estimated pollutant load reductions from all completed structural and nonstructural water quality improvement projects, enhanced stormwater management programs, and alternative stormwater control initiatives. If necessary, a plan will also be included for implementing additional watershed restoration actions that can be enforced when benchmarks, deadlines, and applicable stormwater WLAs are not being met or when projected funding is inadequate.

Comment: The TMDL compliance reports and plan modifications should be integrated into the permittee's overall annual reporting obligations (detailed in the next section of the permit). In the text of the draft permit we suggest language that would accomplish this.

#### Assessment and Reporting

The County will be required to continue monitoring an approved watershed to determine the effectiveness of stormwater management practices for channel protection. Additionally, chemical, biological, and physical monitoring is required to assess the cumulative effects of watershed restoration activities. The draft permit also requires the continued submittal of an annual report to MDE detailing the status of the

various permit conditions and an evaluation of the effectiveness of the specific program components the County has selected and implemented. <u>and additional steps to be taken if implementation of the plan</u> <u>does not meet interim performance measures established.</u>

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#### **Special Programmatic Conditions**

Blank County will be is required to comply with the Chesapeake Bay TMDL WLA when finalized. The County will also continue to work towards the completion of the State's Water Resources Element as required by the Maryland Economic Growth, Resource Protection and Planning Act of 1992 (Article 66B, Annotated Code of Maryland). The projects and programs proposed under this draft permit, as well those implemented during the County's previous stormwater permits and as part of the other State and local regulations all work towards meeting both of these conditions.

#### **Enforcement and Penalties**

This draft permit regulates the discharge of stormwater through Blank County's municipal separate storm sewer system. It also requires the County to take all reasonable steps to minimize or prevent discharges that are in violation of permit conditions. Failure to comply with a permit is a violation of the CWA and is grounds for enforcement action; penalty assessment; permit termination, revocation, or modification; or denial of a permit renewal application.

#### Summary

This permit represents another step forward for Blank County's NPDES municipal stormwater program. The County's initial permit laid the foundation for a comprehensive approach to controlling runoff. This was done by inventorying and mapping storm drain system infrastructure; identifying sources of pollution; monitoring storm events to judge chemical, biological, and physical stream responses; and enhancing existing, and establishing new management programs. The previous permit, along with other generation Phase I permits in the State, used the previous five year term to build one of the most progressive municipal stormwater programs in the Mid-Atlantic Region. The County evaluated jurisdiction-wide water quality through a comprehensive biological stream assessment program, prioritized watersheds in order to perform more detailed analyses to guide management implementation, and began to restore existing impervious area.

This draft permit requires an additional twenty percent of the County's impervious area to be restored, a strategy for a trash to be developed and implemented, and TMDL implementation plans (emphasis added) to be developed and carried out according to the County's schedule in order to meet stormwater WLAs established for impaired waters. All of these requirements are in addition to existing countywide management programs and ongoing monitoring efforts and will go a long way toward making the County's and the State's NPDES municipal stormwater program arguably one of the best in the country.

Comment: The term "TMDL implementation plan" appears here, probably as an artifact of the Montgomery County permit. We prefer it and recommend that it be used throughout.

#### **Public Review and Participation Opportunities**

MDE will hold a public informational meeting prior to the issuance of tentative determination. Upon issuance, the tentative determination will be available on MDE's website at (http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/SedimentandStormwater Home/Pages/Programs/WaterPrograms/SedimentandStormwater/home/index.aspx )

Copies of the document may also be procured at a cost of \$0.36 per page. Written requests for copies should be directed to Maryland Department of the Environment, Water Management Administration, Sediment, Stormwater, and Dam Safety Program, 1800 Washington Blvd., STE. 440, Baltimore, Maryland 21230-1708. Additional information on stormwater management in Maryland can also be found on MDE's website or by calling 410-537-3543 or 1-800-633-6101.

Once tentative determination is issued, the public will have 20 days to request a hearing and 30 days to provide written comments. If no hearing request is requested nor comments received, the tentative determination will be final. If requested, a public hearing will be held within one month of its request. MDE will prepare a written response to comments and written testimony received at the hearing prior to issuing final determination. Final determination will be issued within one month of the hearing, after which the public has 15 days to request a contested case hearing.

### MARYLAND DEPARTMENT OF THE ENVIRONMENT

### NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

### MUNICIPAL SEPARATE STORM SEWER SYSTEM DISCHARGE PERMIT

#### PART I. IDENTIFICATION

#### A. Permit Number:

#### B. <u>Permit Area</u>

This permit covers stormwater discharges from the municipal separate storm sewer system in Blank County, Maryland. Requirements for discharges to the storm drain system controlled by Blank County that become subject to National Pollutant Discharge Elimination System (NPDES) stormwater program requirements during the term of this permit may be added to this permit at the discretion of the Maryland Department of the Environment (MDE).

#### C. <u>Effective Date:</u> To be determined

### D. <u>Expiration Date</u>: To be determined

### PART II. DEFINITIONS

Terms used in this permit are defined in relevant chapters of Title 40 of the Code of Federal Regulations (CFR) Part 122 or the Code of Maryland Regulations (COMAR) 26.08.01, 26.17.01, and 26.17.02. Terms not defined in CFR or COMAR shall have the meanings attributed by common use.

### PART III. STANDARD PERMIT CONDITIONS

### A. <u>Permit Administration</u>

The County shall designate an individual to act as a liaison with MDE for the implementation of this permit. The County shall provide the coordinator's name, title, address, phone number, and email address. Additionally, the County shall submit to MDE an organizational chart detailing personnel and groups responsible for major NPDES program tasks in this permit. MDE shall be notified within 14 days of any changes in personnel or organization relative to NPDES program tasks.

### B. Legal Authority

Blank County shall maintain adequate legal authority in accordance with NPDES regulations 40 CFR Part 122.26(d) throughout the term of this permit. In the event that any provision of its legal authority is found

to be invalid, the County shall notify MDE within 14 days and specify a schedule for making the necessary changes to maintain adequate legal authority.

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### C. <u>Source Identification</u>

Sources of pollutants in stormwater runoff shall be identified and linked to specific water quality impacts on a watershed basis. The source identification process shall be used to develop <u>TMDL</u> watershed implementation plans that effectively improve water quality. The following information shall be submitted for all County watersheds in geographic information system (GIS) format with associated tables as required in PART IV of this permit:

- 1. <u>Storm drain system</u>: all infrastructure, major outfalls, inlets, and <del>associated</del> drainage areas delineated <u>associated with any portions of the MS4 that the County owns, operates,</u> <u>or maintains;</u>
- 2. <u>Urban best management practices (BMPs)</u>: stormwater management facility data including outfall locations and delineated drainage areas;
- 3. <u>Impervious surfaces</u>: public and private land use delineated, controlled and uncontrolled impervious areas based on, at a minimum, Maryland's hierarchical eight-digit sub-basins;
- 4. <u>Monitoring locations</u>: locations established for chemical, biological, and physical monitoring of watershed restoration efforts and the 2000 Maryland Stormwater Design Manual; and
- 5. <u>Water quality improvement projects</u>: projects proposed, under construction, and completed with associated drainage areas delineated.

Comment: The National Research Council placed great importance on the impact of stormwater volume and hydrology, and suggested that stormwater volume would be a good surrogate for measuring pollutants. Further, while it may be correct that there is some understanding of pollutant concentrations in stormwater, we do not necessarily agree that a clear picture of the ecological impact of stormwater volumes exists, especially the impacts of erosion and hydrological modification.

It is our suggestion that this permit require that stormwater volumes discharged by the MS4 and the impact of these be thoroughly characterized as part of C. Source Identification and D. Discharge Characterization. Neither of these sections presently mentions stormwater volume.

### D. <u>Discharge Characterization</u>

Blank County and 10 other municipalities in Maryland have been conducting discharge characterization monitoring since the early 1990s. From this expansive monitoring, a statewide database has been developed that includes hundreds of storms across numerous land uses. Analyses of this dataset and other research performed nationally effectively characterize stormwater runoff in Maryland for NPDES municipal stormwater purposes. These analyses and additional monitoring data required under this permit

shall be used by Blank County to assess the following: the effectiveness of stormwater management programs, the pollutant load reductions from County water quality improvement projects, and the progress toward meeting waste load allocations (WLAs) included in Total Maximum Daily Loads (TMDLs) approved by the U.S. Environmental Protection Agency (EPA) for watersheds or stream segments located in the County. Details about this monitoring can be found in PART HI.G III.I. Assessment of Controls.

# E. Water Quality Standards

Discharges from the Blank County MS4 that cause or contribute to the violation of water quality standards are prohibited. Blank County shall comply with this prohibition through implementation of control measures, management programs, and other actions to reduce pollutants in its discharges in accordance with the TMDL implementation plans and their components and other requirements of this Permit, including any modifications. The stormwater management programs and TMDL implementation plans and their components shall be designed to achieve compliance with all receiving water limitations.

Upon a determination by either the County or MDE that discharges are causing or contributing to an exceedance of an applicable water quality standard, notwithstanding implementation of all required plans and programs and other requirements of this permit, the County shall assure compliance with water quality standards by complying with the iterative remedial procedure described in Part IV.A.f as part of the County's Annual Reporting obligations.

Notwithstanding compliance with this procedure, all discharges from the Blank County MS4 that cause or contribute to the exceedance of an applicable water quality standard constitute violations of this permit.

Comment: The Clean Water Act requires that all NPDES permits must contain "any more stringent limitation, including those necessary to meet water quality standards established pursuant to any State law or regulation." 33 U.S.C. § 1311(b)(1)(C). According to the CWA and its implementing regulations, "no permit shall be issued when imposition of conditions cannot ensure compliance with applicable water quality requirements of all affected states." 40 C.F.R. § 122.4(d); see CWA §301(b)(1)(C). The Ninth Circuit has recently confirmed that MS4 permit requirements to meet water quality standards are enforceable when violations are detected through ambient water quality monitoring. *NRDC v. County of Los Angeles*, 636 F.3d 1235 (9th Cir. 2011).

### F. Discharge Limitations

Stormwater discharges from Blank County's major outfalls shall be subject to numeric effluent limitations. MDE finds that numeric discharge limits are feasible and necessary to meet water quality standards. Blank County's major outfalls are defined as:

list of Blank County's major outfalls

Stormwater discharges from these outfalls shall not contain constituents in excess of the following limitations:

<u>Itable setting out constituents (e.g., nitrogen, phosphorus, turbidity, etc.); units of</u> measurement (e.g., mg/L, NTU, etc.); and the numeric discharge limitations

# <u>Compliance with these limitations shall be verified using monitoring and sampling in accordance</u> with the requirements of Part III.I of this Permit.

Comment: In its November 2010 memorandum on "Establishing TMDL WLAs for Storm Water Sources and NPDES Permits Requirements Based on Those WLAs," U.S. EPA recommends that, whenever feasible, NPDES permitting authorities include numeric effluent limitations as necessary to meet water quality standards. The Ninth Circuit has affirmed that requiring a stormwater permittee to meet numeric limits falls within the permitting authority's discretion. *Defenders of Wildlife v. Browner*, 191 F.3d 1159, 1166 (9th Cir. 1999). EPA recommends that permitting agencies exercise this discretion whenever feasible, as numeric limits clarify permit requirements and improve accountability and enforceability.

The use of BMPs as effluent limits was accepted as the norm in the past because of a perceived lack of information supporting the establishment of numeric limits. Now, however, sufficient information has been collected over the past decade or more of MS4 regulation to enable permitting authorities to establish numeric limits and use BMPs only as a fallback form of effluent limitation. After a decade's worth of data collection, at this stage we believe it is clear that MDE and the Counties have enough information to establish numeric limits *at least* for major MS4 outfalls. In any event, the burden must lie on the permittee to show that numeric effluent limitations are infeasible; if the permittee cannot meet that burden, the permit should contain numeric limits.

When setting numeric limitations, they should correspond to the maximum extent practicable standard (MEP) for constituents not causing impairments; should be sufficient to ensure achievements of WQS for pollutants causing impairments in water bodies that do not have TMDLS; and should correspond to the permittee's WLA if there is a TMDL.

### E.G. Management Programs

The following management programs shall be implemented in areas served by the County's municipal separate storm sewer system. These management programs are designed to control stormwater discharges to the maximum extent practicable (MEP) and shall be maintained for the term of this permit. Additionally, these programs shall be integrated with other permit

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requirements to promote a comprehensive adaptive approach toward solving water quality problems. The County shall modify these programs according to needed program improvements identified as a result of annual evaluations by MDE.

#### 1. Stormwater Management

<u>A An acceptable</u> stormwater management program shall be maintained in accordance with the Environment Article, Title 4, Subtitle 2, Annotated Code of Maryland. Activities to be undertaken by the County shall include, but not be limited to:

- Implementing the stormwater management design policies, principles, methods, and practices found in the latest version of the 2000 Maryland Stormwater Design Manual. This includes, but is not limited to:
  - i. Complying with the Stormwater Management Act of 2007 (Act) by implementing environment site design (ESD) to the MEP for new and redevelopment projects;
  - ii. Tracking the progress toward satisfying the Act and identifying and reporting annually the problems and modifications necessary to implement successfully ESD to the MEP;
  - Within one year of permit issuance, reviewing existing planning and zoning and public works ordinances and other local codes to identify impediments to, and opportunities for, promoting the implementation of ESD to the MEP;
  - iv. Within two years of permit issuance, modifying ordinances and codes identified above to eliminate impediments to, and promote implementation of, ESD to the MEP; and
  - v. Reporting annually the modifications that have or need to be made to all ordinances, regulations, and new development plan review and approval processes to accommodate the requirements of the Act.
- b. Conducting preventative maintenance inspections, according to COMAR 26.17.02, of all ESD treatments systems and structural stormwater management facilities at least on a triennial basis. Documentation identifying the ESD systems and structural stormwater management facilities inspected, the number of maintenance inspections, follow-up inspections, the enforcement actions used to ensure compliance, the maintenance inspection schedules, and any other relevant information shall be submitted in the County's annual reports.

Comment: The standard for what is an "acceptable" stormwater program is, in particular with regard to enforcement, not complete here. Rather than directing the MS4 to adopt an "acceptable" program, MDE should provide more specificity as to what is acceptable, particularly with regard to enforcement. For example, inspections are to occur at least triennially, but MDE could provide a

performance standard for the enforcement program which calls for it to be strict enough to insure that corrective action for any developments or redevelopments that weren't properly maintaining their permitted stormwater management facilities occurs within 3 months.

c. Maintaining programmatic and implementation information according to the requirements established as part of MDE's triennial stormwater program review, including but not limited to, plans review and approval documentation, construction inspection records, and maintenance inspection and enforcement information.

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### 2. Erosion and Sediment Control

An acceptable erosion and sediment control program shall be maintained and implemented in accordance with the Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland. Activities to be undertaken by the County shall include, but not be limited to:

- a. Implementing program improvements identified in any MDE evaluation of the County's application for the delegation of erosion and sediment control enforcement authority;
- b. At least two times per year, conducting responsible personnel certification classes to educate construction site operators regarding erosion and sediment control compliance. Program activity shall be recorded on MDE's "Green Card" database and submitted as required in PART IV of this permit; and
- c. Report<u>ing</u> quarterly, information regarding earth disturbances exceeding one acre or more. Quarters shall be based on calendar year and submittals shall be made within 30 days following each quarter. The information submitted shall cover permitting activity for the preceding three months.

Comment: Again, what an "acceptable" program is should be specified in the permit. Since MDE staff has evaluated the programs, it surely could specify what is and is not "acceptable" more precisely in this permit.

3. <u>Illicit Discharge Detection and Elimination</u>

The County shall implement an inspection and enforcement program to ensure that all discharges to and from the municipal separate storm sewer system that are not composed entirely of stormwater are either permitted by MDE or eliminated. Activities shall include, but not be limited to:

a. Field screening at least <u>150100</u> outfalls annually. Each outfall having a discharge shall be sampled using a chemical test kit. Within one year of permit issuance, an alternative program may be submitted for MDE approval that methodically identifies, investigates, and eliminates illegal connections to the County's storm drain system;

Comment: MDE promised that the Montgomery County MS4 permit would be serve as the floor – subsequent permits would be as strong or stronger. In this case, the Draft Phase I Permit is not as stringent as Montgomery County. Montgomery County's permit requires field screening of 150 outlets annually.

Additionally, routine inspection of stormwater systems for illegal connections should be required.

b. Conducting routine surveys of commercial and industrial areas for discovering and eliminating pollutant sources. <u>Such surveys must be performed no fewer</u> <u>than ### times per [month, quarter, or year]</u>. <u>The results of each survey</u> <u>Areas surveyed</u> shall be reported annually, <u>including location</u>, <u>pollutant source</u>, <u>and specific remedial actions taken</u>;

Comment: b. is extreme vague. What is "routine?" How often? What proportion of the facilities in the County? What should happen if these sources are found? Similar shortcomings throughout this template are numerous and must be addressed based on MS4 system-specific needs prior to issuance or renewal of any individual permit.

- c. Maintaining a program to address illegal discharges, dumping, and spills;
- d. Using appropriate enforcement procedures for investigating and eliminating illicit discharges, illegal dumping, and spills. Significant discharges shall be reported to MDE for enforcement and/or permitting; and

Comment: what are "appropriate" enforcement procedures? Standards for these might include: procedures sufficient for immediately stopping the violation, authorizing the County staff to implement administrative fines sufficient to stop and deter these violations, and authorizing the County to seek injunctive relief as necessary where administrative fines proved inadequate.

e. Reporting illicit discharge detection and elimination activities as specified in Part IV of this permit.

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### 4. <u>Trash and Litter</u>

(Comment: If the County has a trash TMDL, this section is terribly inadequate, in the sense that the County should be required to meet its trash WLA, if it has one. And any trash reduction strategy should be designed to meet the WLA within a certain time period, as with any other type of pollutant.)

Blank County shall:

- a. Support and implement <u>municipalregional</u>-strategies to reduce trash and increase recycling; (Comment: Not sure what "regional" refers to? Perhaps across the entire jurisdiction?)
- b. As part of its public education program described in Part III.  $\pm$  <u>G</u>.7. below, within one year of permit issuance, develop a work plan to implement a public outreach and education campaign with specific performance goals and corresponding deadlines to increase residential and commercial recycling rates, improve trash management, and reduce littering;
- c. Within one year of permit issuance, establish baseline conditions of trash being discharged to and from the storm drain system and submit for MDE's review and approval a trash reduction strategy and work plan for the Blank Watershed. MDE shall review the work plan and approve it, if it meets the requirements of this permit (emphasis added);

Comment: what are the "requirements of this permit" with regard to trash reduction strategy and work plans? Here again, there are no standards for what is acceptable. What "meets the requirements of the permit" if there are no specifics in the permit?

In conformance with the County's trash reduction strategy, implement approved control measures according to the schedule specified in the Blank River
Watershed trash reduction work plan to show progress towards elimination of the discharge of trash from the County storm drain system;

Comment: In d., it appears that the trash reduction work plan will be specific to a river or watershed. If there is a trash TMDL, "showing progress" is inadequate, and the standards in the permit should be clearer: the strategy and work plan created by the County shall demonstrate to MDE that the WLA will be met by a date specified in the permit.

e. Evaluate and modify local trash reduction strategies with an emphasis on source reduction and proper disposal;

- f. Conduct a public participation process in the development of the trash reduction strategy that includes:
  - i. Notice in a local newspaper and the County's web site outlining how the public may obtain information and provide comments to the County regarding the trash reduction strategy;
  - ii. Procedures for providing the strategy to interested parties upon request;
  - iii. A minimum 30 day public comment period; and
  - iv. A summary of how the County addressed or will address any material public comments received.
- g. Submit annually, a report which details progress toward implementing the trash reduction strategies. The report shall describe the status of progress towards trash elimination efforts including resources (e.g., personnel and financial) expended and the effectiveness of the program components.

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# 5. <u>Property Management</u>

The County shall ensure that a Notice of Intent (NOI) has been submitted to MDE and a pollution prevention plan developed for each County-owned municipal facility requiring NPDES stormwater general permit coverage. The status of pollution prevention plan development and implementation for each County-owned municipal facility shall be reviewed, documented, and submitted to MDE annually.

### 6. Road Maintenance

The County shall continue to implement a program to reduce pollutants associated with road maintenance activities. The road maintenance program shall include:

- a. Street sweeping;
- b. Inlet inspection and cleaning;
- c. Reducing the use of pesticides, herbicides, fertilizers, and other pollutants associated with roadside vegetation management through increased use of integrated pest management; and
- d. Reducing to the MEP the use of winter weather deicing materials through research, continual testing and improvement of materials, equipment calibration, employee training, and effective decision-making.

The County shall report annually on the changes in any of the transportation maintenance practices and the overall pollutant reductions resulting from the road maintenance program.

Comment: There are no criteria for how often street sweeping and inlet inspection and cleaning should be done, and no criteria for the reductions of pesticides and deicing materials. This illustrates why building MS4 permits around meeting TMDLs is so important. These items should be incorporated into the County's plans for meeting TMDLs or preventing degradation of existing uses. Their adequacy could then be measured by whether the County demonstrated that its activities met the WLA or prevented loss of a designated use.

# 7. <u>Public Education</u>

The County shall continue to implement a public education and outreach program to reduce stormwater pollutants. Outreach efforts may be integrated with other aspects of the County's activities. These efforts are to be documented and summarized in each annual report. The County shall continue to implement a public outreach and education campaign with specific performance goals and deadlines to:

a. Establish and publicize a compliance hotline for the public reporting of suspected illicit discharges, illegal dumping, and spills.

- b. Provide information to inform the general public about the benefits of:
  - i. Increasing water conservation;
  - ii. The importance of residential and community stormwater management implementation and facility maintenance;
  - iii. Proper erosion and sediment control practices;

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- iv. Increasing proper disposal of household hazardous waste;
- v. Improving lawn care and landscape management (e.g., the proper use of herbicides, pesticides, and fertilizers, ice control and snow removal, cash for clippers, etc.);
- vi. Car care;
- vii. Improving private well and septic system management; and
- viii. Proper pet waste management.
- c. Provide information regarding the following water quality issues to the regulated community when requested:
  - i. NPDES permitting requirements;
  - ii. Pollution prevention plan development;
  - iii. Proper housekeeping; and
  - iv. Spill prevention and response.
- d. Provide information regarding the proper disposal of trash and reduce the amount discarded as prescribed in the Treaty.

# 8. Impervious Surface Area Restoration

By the end of this permit term, Blank County shall commence and complete the implementation of restoration efforts for twenty percent of the County's impervious surface area that is not already restored to the MEP. This twenty percent shall be additional to any impervious surface area that Blank County has previously been obligated, or is currently obligated, to restore. These restoration efforts shall be designed to reduce stormwater volume to a minimum standard of 1 inch of on-site retention and shall be undertaken using environmental site design (ESD) to the MEP include those structural and nonstructural water quality improvement projects, enhanced stormwater management programs, and alternative stormwater control initiatives found in approved County watershed assessments.

Comment: The change above would be consistent with USEPA's permitting guidance, which says:

Therefore, where necessary to ensure that discharges do not cause or contribute to violations of water quality standards, permits should include provisions for retrofitting stormwater management practices at existing sources of stormwater discharges...[which are] designed to preserve or restore site hydrologic conditions as necessary to attain water quality standards in receiving waters" (p. 3).

Requiring retrofit projects to meet a 1-inch on-site retention standard would align with MDE's current, informal position that the definition of "restored to the maximum extent practicable" means 1" of retention.

Even if retrofitting is not necessary in any individual county to prevent WQS exceedances, retrofit requirements are technology-based standards. In other words, retrofits are a type of treatment

technology; requirements to perform retrofits must be included in MS4 permits in order for those permits to meet the Clean Water Act's MEP (maximum extent practicable) standard. Retrofits must therefore be performed throughout Blank County's jurisdiction, not merely in impaired watersheds or watersheds where a TMDL has been performed, as technology-based standards apply irrespective of receiving water quality.

For that reason, the permit's restoration/retrofitting requirement should not be placed in the TMDL implementation plan (stormwater watershed implementation plan) section, as in the initial draft of this permit. The requirement should be located in a section of the permit applying to all areas in Blank County MS4's jurisdiction.

### F.H. Total Maximum Daily Loads

Section 402(p)(3)(B)(iii) of the Clean Water Act (CWA) states that municipal storm sewer system permits must require stormwater controls to reduce the discharge of pollutants to the MEP. By regulation at 40 CFR §122.44, EPA further requires that BMPs and programs implemented pursuant to this permit must be consistent with applicable WLAs developed under EPA approved TMDLs, including those approved during this permit term.

The following are the applicable EPA-approved WLAs for Blank County:

[Chart showing each water body, TMDL, and WLA for Blank County MS4]

Each of the above WLAs is hereby incorporated into this permit as an enforceable permit term, and must be attained in accordance with Blank County's TMDL implementation plans.

The goals of Maryland's NPDES municipal stormwater permit program are to control stormwater pollutant discharges by implementing the BMPs and programs required by this permit, show progress toward meeting WLAs, and contribute to the attainment of and to meet WLAs and water quality standards according to the CWA. In pursuit of these goals, Blank County shall annually-provide watershed assessments, watershed TMDL implementation plans, opportunities for public participation, and annual TMDL compliance status as required below to ensure that stormwater WLAs and water quality standards are met for all water bodies in the County.

1. <u>Watershed Assessments</u>

A systematic assessment shall be conducted and a detailed restoration plan developed for all watersheds within Blank County. Each watershed assessment and restoration plan shall include a thorough water quality analysis; and the identification of water quality improvement opportunities, and a schedule for BMP and programmatic implementation to meet stormwater WLAs included in EPA approved TMDLs. Blank County shall:

Within one year of permit issuance, submit for MDE approval a schedule for completing detailed watershed assessments for the entire County. These assessments shall be performed at an appropriate watershed scale (e.g., Maryland's hierarchical twelve-digit sub-basins) and be based on MDE's

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TMDL analysis or an equivalent and comparable County water quality analysis;

- b. Watershed assessments by the County shall:
  - i. Determine current water quality conditions, including sufficient instream monitoring of the type, interval, quality and frequency to ascertain whether each water body in the County meets water quality standards and to ascertain whether degradation is occurring;
  - ii. <u>Be based on monitoring that is sufficient to vield data which are</u> representative of the monitored activity and sufficient to determine the volume of effluent discharged from each outfall including, when appropriate, continuous monitoring:

Comment: Monitoring must show type, interval, frequency, and conditions necessary to determine compliance with WQSs . 40 C.F.R. §122.44(I). This requires monitoring that is "sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring," 40 C.F.R. §122.48, and monitoring of "the volume of effluent discharged from each outfall." 40 C.F.R. §122.44(i)(1)(ii). "Clearly, unless there is some method for measuring compliance, there is no way to ensure compliance." Champion Int'l Corp. v. U.S. E.P.A., 648 F.Supp. 1390, 1395 (W.D.N.C. 1986), vacated on other grounds, 850 F.2d 182 (4th Cir. 1988) (upholding EPA's objection to a state issued NPDES permit that failed to include adequate monitoring provisions, among other issues). In other words, discharge monitoring must be representative of all discharges and must be geographically and temporally related to in-steam monitoring such that a link can be made between the MS4's discharges and any detected water quality standards violations.

- iii. Include the results of a visual watershed inspection; and
- iv. Identify and rank water quality problems;
- iv. Prioritize all structural and nonstructural water quality improvement projects;
- Specify pollutant load reduction benchmarks and deadlines that demonstrate progress toward meeting all applicable stormwater WLAs;
- vi. Provide detailed cost estimates for the implementation of water quality improvement projects;
- vii. Describe how the structural and nonstructural projects will be monitored and how the data will be used to document progress toward meeting all applicable WLAs; and
- viii. Demonstrate how the water quality improvement projects, County stormwater management programs, and any other stormwater control initiatives, in aggregate, will meet stormwater WLAs.

Comment: Substantive plans and programs detailing how permittees will meet TMDL WLAs properly belong within an enforceable TMDL implementation plan.

### 2. <u>Stormwater Watershed TMDL Implementation Plans</u>

Comment: Permittees must provide sufficient evidence to demonstrate that BMPs ensure compliance with WQS and WLAs. 40 C.F.R. §122.4(d); In re Government of the District of Columbia Municipal Separate Storm Sewer System, 10 E.A.D. 323, 339-340 (2002) (E.P.A.) (In re D.C. MS4) (reliance on BMPs must be accompanied by record evidence proving that the selected practices "would, in fact, achieve water quality standards"). The permit needs explicit language that requires all the project and programs contemplated by the TMDL implementation plans ensure compliance with water quality standards and WLAs. The burden is on the County to demonstrate this.

Within one year of permit issuance, Blank County shall submit for MDE's approval stormwater watershedTMDL implementation plans for each existing EPA approved stormwater WLA. The County shall submit implementation plans for subsequent TMDL WLAs within one year of approval by EPA. Upon approval by MDE, the implementation plans will become enforceable under this permit. Each implementation plan shall have a detailed schedule for implementing all stormwater structural and nonstructural water quality improvement projects, enhanced stormwater management programs, and alternative stormwater control initiatives necessary for meeting all applicable stormwater WLAs. If Blank County cannot demonstrate that its selected projects, programs, and initiatives will achieve WLAs, MDE will revise this permit to include additional controls and/or additional numeric effluent limitations, beyond those included in Part III.F, sufficient to assure that all applicable WLAs will be met. As part of the each stormwater watershedTMDL implementation plan-development process, Blank County at a minimum shall:

- a. <u>Specify an ultimate date for achievement of the WLA, which shall represent</u> the earliest possible date of achievement;
- b. <u>Specify pollutant load reduction benchmarks and deadlines that</u> <u>demonstrate progress toward the ultimate achievement of the WLA,</u> including a schedule for BMP and programmatic implementation;
- c. <u>Identify and prioritize all structural and nonstructural water quality</u> improvement projects, including:
  - i. <u>Measurable goals for each of the water quality improvement</u> projects, including, as appropriate, the months and years in which the project will be completed, and
  - ii. <u>Descriptions of methods the County will use to evaluate whether the</u> <u>water quality improvement projects are working as expected to</u> achieve the goals of the projects;
- d. <u>Provide detailed cost estimates for the implementation of water quality</u> improvement projects;
- e. <u>Monitor and analyze structural and nonstructural projects, enhanced</u> <u>stormwater management programs, and alternative stormwater control</u> <u>initiatives sufficient to judge the projects' effectiveness in meeting WLAs</u> <u>and other permit requirements, including both in-stream water quality and</u> <u>flow monitoring as applicable, and documenting actual BMP application</u>

<u>levels</u>, behavioral changes, pre- and post-BMP implementation pollutant <u>level monitoring</u>, and other types of monitoring and accounting as <u>appropriate</u>;

f. Demonstrate, using modeling and current best management practices, how the water quality improvement projects, County stormwater management programs, and any other stormwater control initiatives, in aggregate, will meet the WLA by the date specified for ultimate achievement; and

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g. b Monitor and analyze certain structural and nonstructural water quality improvement projects implemented, enhanced stormwater management programs, and alternative stormwater control initiatives to document the progress toward meeting established benchmarks, deadlines, and stormwater WLAs.; and

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c. Develop an ongoing, iterative process that continuously implements structural and nonstructural restoration projects, existing program enhancements, new and additional programs, and alternative BMPs where EPA approved TMDL WLAs are not being met according to the benchmarks and deadlines established as part of the County's watershed assessments.

Comment: The remedial/iterative obligations for adjusting implementation plans in order to come into compliance should be consolidated. We have suggested a streamlined procedure in Part IV.A.f as part of the County's annual reporting obligations. This procedure will address any failures to meet water quality standards as well as benchmarks and deadlines for applicable WLAs.

3. <u>Public Participation</u>

Blank County shall provide continual outreach to the public regarding the development of its watershed assessments and stormwater watershed <u>TMDL</u> implementation plans. Additionally, the County shall allow for public participation in the TMDL <u>implementation</u> process, solicit input, and incorporate any relevant ideas and program improvements that can aid in achieving TMDLs and water quality standards. Blank County shall provide:

- a. Notice in a local newspaper and the County's web site outlining how the public may obtain information on the development <u>or modification</u> of watershed assessments and stormwater watershed<u>TMDL</u> implementation plans and opportunities for comment;
- b. Procedures for providing watershed assessments and stormwater watershed<u>TMDL</u> implementation plans to interested parties upon request;
- A minimum 30 day comment period before finalizing <u>or modifying</u> watershed assessments and stormwater watershed<u>TMDL</u> implementation plans;-and
- d. The opportunity for interested parties to request a public hearing on watershed assessments and TMDL implementation plans before they are finalized or modified; and
- e. dA summary in each initial report of how the County addressed or will address any material comment received from the public.

### 4. <u>TMDL Compliance Reports</u>

Blank County shall evaluate and document the progress toward meeting all applicable stormwater WLAs included in EPA approved TMDLs. An As part of the County's Annual Reporting obligations under Part IV.A, an annual TMDL assessment report with tables shall be submitted to MDE. This assessment shall include complete descriptions of the analytical methodology used to evaluate the effectiveness of the County's stormwater watershedTMDL implementation plans and how these plans are
working toward achieving compliance with EPA approved TMDLs. Blank County shall provide:

a. Estimated pollutant load reductions from all completed structural and nonstructural water quality improvement projects, enhanced stormwater management programs, and alternative stormwater control initiatives;

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- b. A comparison of the pollutant load reductions detailed above with the established benchmarks, deadlines, and applicable stormwater WLAs;
- c. Itemized costs for completed projects, programs, and initiatives to meet

established pollutant reduction benchmarks and deadlines; and

- d. Cost estimates for completing all <u>scheduled upcoming</u> projects, programs, and alternatives necessary for meeting applicable stormwater WLAs; and
- e. <u>As part of the Compliance Plan procedure described in Part IV.A.f, a</u> plan for implementing additional watershed restoration actions that can be enforced when benchmarks, deadlines, and applicable stormwater WLAs are not being met or when projected funding is inadequate.

Comment: The remedial/iterative obligations for adjusting implementation plans in order to come into compliance should be consolidated. We have suggested a streamlined procedure in Part IV.A.f as part of the County's annual reporting obligations. This procedure will address any failures to meet water quality standards as well as benchmarks and deadlines for applicable WLAs.

## G.I. Assessment of Controls

Assessment of controls is critical for determining the effectiveness of the NPDES stormwater management program and progress toward improving water quality. The County shall use chemical, biological, and physical monitoring to <u>determine compliance or noncompliance with applicable water</u> <u>quality standards and to</u> document progress toward meeting any applicable WLAs developed under EPA approved TMDLs identified above. Additionally, the County shall continue physical stream monitoring in the Blank River Watershed to assess the implementation of the latest version of the 2000 Maryland Stormwater Design Manual. Specific monitoring requirements are described below.

## 1. <u>Watershed Restoration Assessment</u>

The County shall continue monitoring in the Blank Watershed, or, select and submit for MDE's approval a new watershed restoration project for monitoring. Monitoring activities shall occur where the cumulative effects of watershed restoration activities can be assessed. One outfall <u>All major outfalls (as</u> <u>defined in Part III.F)</u> and associated in-stream stations, or <u>in addition to</u> other locations based on a study design approved by MDE, shall be monitored. <u>The County's overall monitoring activities must</u> <u>yield results that are representative of the MS4 system's overall discharges. Additionally, outfall</u> <u>monitoring activities must be geographically and temporally related to in-stream monitoring</u> <u>activities such that a link can be made between the MS4's discharges and any detected water</u> <u>quality standards violations.</u> The criteria for chemical, biological, and physical monitoring are as follows:

Comment: The selection of one watershed for monitoring is completely inadequate. As noted above, the MS4 should be monitoring every water body to which it discharges to ascertain its impacts and to determine how it should adjust its specific BMPs and management programs. Moreover, all major outfalls must be monitored in order to determine compliance with the numeric effluent limitations established in Part III.F.

- a. <u>Chemical Monitoring</u>:
  - i. Eight (8) storm events shall be monitored per year at each monitoring location with at least two occurring per quarter. Quarters shall be based on the calendar year. If extended dry weather periods occur, baseflow samples shall be taken at least once per month at the monitoring stations if flow is observed;
  - ii. Discrete samples of stormwater flow shall be collected at the monitoring stations using automated or manual sampling methods. Measurements of pH and water temperature shall be taken;
  - iii. At least three (3) samples determined to be representative of each storm event shall be submitted to a laboratory for analysis according to methods listed under 40 CFR Part 136 and event mean concentrations (EMC) shall be calculated for:

Biochemical Oxygen Demand (BOD5) Total Kjeldahl Nitrogen (TKN) Nitrate plus Nitrite Total Suspended Solids Total Lead Total Copper Total Zinc Total Phosphorus

Total Petroleum Hydrocarbons (TPH) E. coli or enterococcus Hardness

iv. Continuous flow measurements shall be recorded at the in-stream monitoring station or other practical locations based on the approved study design. Data collected shall be used to estimate annual and seasonal pollutant loads and reductions, and stormwater volume discharge reductions; and for the calibration of watershed assessment models. Pollutant load and stormwater volume estimates shall be reported according to any EPA approved TMDLs with stormwater WLA.

## b. Biological Monitoring:

- i. Benthic macroinvertebrate samples shall be gathered each Spring between the outfall and in-stream stations or other practical locations based on an MDE approved study design; and
- The County shall use the EPA Rapid Bioassessment Protocols (RBP), Maryland Biological Stream Survey (MBSS), or other similar method approved by MDE.
- c. <u>Physical Monitoring:</u>
  - i. A geomorphologic stream assessment shall be conducted between the outfall and in-stream monitoring locations or in a reasonable area based on the approved study design. This assessment shall include an annual comparison of permanently monumented stream channel cross-sections and the stream profile;
  - ii. A stream habitat assessment shall be conducted using techniques defined by the EPA's RBP, MBSS, or other similar method approved by MDE; and
  - iii. A hydrologic and/or hydraulic model shall be used (e.g., TR-20, HEC-2, HEC-RAS, HSPF, SWMM, etc.) to analyze the effects of rainfall; discharge rates; stage; and, if necessary, continuous flow on channel geometry.
- d. <u>Annual Data Submittal:</u> The <u>As part of its Annual Reporting duties under</u> <u>Part IV.A, the</u> County shall describe in detail its monitoring activities for the previous year and include the following:
  - i. EMCs submitted on MDE's long-term monitoring database as specified in PART IV below;
  - ii. Chemical, biological, and physical monitoring results and a combined analysis for the approved monitoring locations; and

iii. Any requests and accompanying justifications for proposed modifications to the monitoring program.

2. Stormwater Management Assessment

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The County shall continue to monitor the Blank Watershed for determining the effectiveness of stormwater management practices for stream channel protection. Physical stream monitoring protocols shall include:

- a. An annual stream profile and survey of permanently monumented cross-sections at an unnamed tributary to Blank Run to evaluate channel stability in conjunction with the certain development;
- b. A comparison of the annual stream profile and survey of the permanently monumented cross-sections with baseline conditions for assessing areas of aggradation and degradation; and
- c. A hydrologic and/or hydraulic model shall be used (e.g., TR-20, HEC-2, HEC-RAS, HSPF, SWMM, etc.) to analyze the effects of rainfall; discharge rates; stage; and, if necessary, continuous flow on channel geometry.

## H.J. Program Funding

- 1. Annually, a fiscal analysis of the capital, operation, and maintenance expenditures necessary to comply with all conditions of this permit shall be submitted as required in PART IV below.
- 2. Adequate program funding to comply with all conditions of this permit shall be maintained. Lack of funding does not constitute a justification for non-compliance with the terms of this permits.

## PART IV. PROGRAM REVIEW AND ANNUAL PROGRESS REPORTING

## A. <u>Annual Reporting</u>

- Annual progress reports, required under 40 CFR 122.42(c), will facilitate the long-term assessment of Blank County's NPDES stormwater program. The County shall submit annual reports on or before the anniversary date of this permit that <u>shall be made</u> <u>publicly available. The annual reports shall</u> include:
  - a. The status of implementing the components of the stormwater management program that are established as permit conditions including:
    - i. Source Identification;
    - ii. Stormwater Management;
    - iii. Erosion and Sediment Control;
    - iv. Illicit Discharge Detection and Elimination;
    - v. Trash and Litter;

- vi. Property Management;
- vii. Road Maintenance;
- ix. Public Education;

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x. Impervious Surface Area Restoration;

- ix.x. Watershed Assessment;
- x.xi. <u>TMDL Watershed</u> Implementation Plans;
- xi. TMDL Compliance;
- xii. Assessment of Controls; and
- xiii. Program Funding.
- b. A narrative summary describing the results and analyses of data, including <u>all</u> <u>chemical, biological, and physical</u> monitoring data that is accumulated throughout the reporting year;
- c. Expenditures for the reporting period and the proposed budget for the upcoming year;
- d. A summary describing the number and nature of enforcement actions, inspections, and public education programs;
- e. The identification of water quality improvements, and documentation of progress toward meeting applicable WLAs developed under EPA approved TMDLs as <u>detailed in Part III.H.4, and determinations of compliance or noncompliance</u> with all applicable WQS; and
- f. The identification of any proposed changes to the County's program when <u>WQS</u> <u>and/or TMDL</u> WLAs are not being met. <u>Upon a determination by either the</u> <u>County or MDE that the County's discharges are causing or contributing to</u> <u>an exceedance of an applicable WQS, or that the County is not meeting</u> <u>approved benchmarks or deadlines for applicable WLAs, the County shall</u> <u>ensure compliance with WQS and WLAs by complying with the following</u> <u>procedure:</u>
  - i. <u>The County shall promptly notify and thereafter submit a</u> <u>Compliance Plan to MDE. The Compliance Plan shall describe</u> <u>BMPs that are currently being implemented and additional BMPs</u> <u>that will be implemented to prevent or reduce any pollutants that</u> <u>are causing or contributing to the exceedances of WQS and/or to</u> <u>achieve compliance with applicable WLAs. The Compliance Plan</u> <u>shall include an implementation schedule. MDE may require</u> <u>modifications to the Compliance Plan.</u>
  - ii. <u>Submit any modifications to the Compliance Plan required by MDE</u> within 30 days of notification.
  - iii. <u>Within 30 days following the approval of the Compliance Plan, the</u> <u>County shall revise its stormwater management programs, TMDL</u>

implementation plans, and monitoring programs to incorporate the approved modified BMPs that have been and will be implemented, an implementation schedule, and any additional monitoring required.

iv. <u>Implement the revised stormwater management programs, TMDL</u> <u>implementation plans, and monitoring programs according to the</u> <u>approved schedule.</u>

Comment: The remedial iterative obligations for the County to assess and adjust its plans, programs, and BMPs in order to come into compliance with WQS and TMDL WLAs should be consolidated. We recommend the procedure described here in Part IV.A.f, which is cross-referenced throughout the permit for consistency.

- 2. To enable MDE to evaluate the effectiveness of permit requirements, the following information shall be submitted in a format consistent with Attachment A:
  - a. Storm drain system mapping (PART III. C.1.);
  - b. Urban BMP locations (PART III. C.2.);
  - c. Impervious surfaces (PART III. C.3.);
  - d. Water quality improvement project locations (PART III. C.5.);
  - e. Monitoring site locations (PART III. C.4.);
  - f. Chemical monitoring results (PART III. G <u>1</u>.1.);
  - g. Pollutant load reductions (PART III. G <u>1</u>.1.);
  - h. Biological and Habitat Monitoring (PART III G <u>1</u>.1.);
  - i. Illicit discharge detection and elimination activities (PART III.  $\mathbf{E} \mathbf{G}.3.$ );
  - j. Responsible personnel certification information (PART III.  $\pm$  <u>G</u>.2.);
  - k. Grading permit information quarterly (PART III.  $\pm$  G.2.); and

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- Fiscal analyses cost for NPDES related implementation (PART III. H J.).
- 3. Because this permit uses an iterative approach to implementation, the County must evaluate the effectiveness of its programs in each Annual Report. BMP and program modifications shall be made if the County's Annual Report does not demonstrate compliance with this permit and show progress toward meeting WLAs developed under EPA approved TMDLs.

## B. <u>Program Review</u>

In order to assess the effectiveness of the County's NPDES program for eliminating non-stormwater discharges through the illicit connection program and reducing the discharge of pollutants to the MEP to protect water quality, MDE will review program implementation, annual reports, and periodic data submittal on an annual basis. Procedures for the review of local erosion and sediment control and stormwater management programs exist in Maryland's Sediment Control and Stormwater Management Laws. Additional evaluations may be conducted at MDE's discretion to determine compliance with permit conditions.

## C. <u>Reapplication for NPDES Stormwater Discharge Permit</u>

This permit is effective for no more than 5 years. Continuation or reissuance of this permit beyond this permit term will require the County to reapply for NPDES stormwater discharge permit coverage in its fourth year annual report. Failure to reapply for coverage constitutes a violation of this permit.

As part of this application process, Blank County shall submit to MDE an executive summary of its NPDES stormwater management program that specifically describes how the County is meeting the overall goal to ensure that each County watershed has been thoroughly evaluated and its progress in implementing water quality improvements to the MEP. This application shall be used to gauge the effectiveness of the County's NPDES stormwater program and will provide guidance for developing future permit conditions. At a minimum, the application summary shall include:

- 1. Blank County's NPDES stormwater program goals;
- 2. Program summaries for the permit term regarding:
  - a. Illicit connection detection and elimination results;
  - b. <u>TMDL Watershed</u> implementation plan status including County totals for impervious acres, impervious acres controlled by stormwater management, the current status of water quality improvement projects and acres managed, and documentation of progress toward meeting WLAs developed under EPA approved TMDLs;

c. Pollutant load reductions as a result of this permit and an evaluation of whether TMDLs are being achieved; and

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- d. Other relevant data and information for describing County programs.
- 3. Program operation and capital improvement costs for the permit term; and
- 4. Descriptions of any proposed permit condition changes based on analyses of the successes and failures of the County's efforts to comply with the conditions of this permit.

## PART V. SPECIAL PROGRAMMATIC CONDITIONS

## A. <u>Chesapeake Bay Restoration by 2020</u>

A Chesapeake Bay TMDL has been developed by the EPA for the six Bay States (Delaware, Maryland, New York, Pennsylvania, Virginia, and West Virginia) and the District of Columbia. The TMDL describes the level of effort that is necessary for meeting water quality criteria and restoring Chesapeake Bay. The TMDL is an aggregate of nonpoint sources or the load allocation (LA) and point sources or WLA, and a margin of safety. The State is required to issue NPDES permits to point source discharges that are consistent with the assumptions of any applicable TMDL, including those approved subsequent to permit issuance.

Urban stormwater is defined in the CWA as a point source discharge and will subsequently be a part of Maryland's WLA. MDE believes that NPDES stormwater permits can play a significant role in regulating pollutants from Maryland's urban sector and in the development of Chesapeake Bay Watershed Implementation Plans. Therefore, Maryland's NPDES stormwater permits to Blank County and other municipalities will require compliance with MDE's Watershed Implementation Plan and be used as the regulatory backbone for controlling urban pollutants toward meeting the Chesapeake Bay TMDL by 2020.

## B. <u>Comprehensive Planning</u>

The County shall cooperate with other agencies during the completion of the Water Resources Element (WRE) as required by the Maryland Economic Growth, Resource Protection and Planning Act of 1992 (Article 66B, Annotated Code of Maryland). Such cooperation shall entail all reasonable actions authorized by law and shall not be restricted by the responsibilities attributed to other entities by separate State statute, including but not limited to reviewing and approving plans and appropriating funds.

## PART VI. ENFORCEMENT AND PENALTIES

## A. Discharge Prohibitions and Receiving Water Limitations

The County shall prohibit non-stormwater discharges through its municipal separate storm sewer system. NPDES permitted non-stormwater discharges are exempt from this prohibition. Discharges from the following will not be considered a source of pollutants when properly managed: water line flushing;

landscape irrigation; diverted stream flows; rising ground waters; uncontaminated ground water infiltration to separate storm sewers; uncontaminated pumped ground water; discharges from potable water sources; foundation

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drains; air conditioning condensation; irrigation waters; springs; footing drains; lawn watering; individual residential car washing; flows from riparian habitats and wetlands; de-chlorinated swimming pool discharges (not including filter backwash); street wash water; and fire fighting activities. The discharge of stormwater containing pollutants is prohibited.

The County shall not cause the contamination or other alteration of the physical, chemical, or biological properties of any waters of the State, including a change in temperature, taste, color, turbidity, or odor of the waters or the discharge or deposit of any organic matter, harmful organism, or liquid, gaseous, solid, radioactive, or other substance into any waters of the State, that will render the waters harmful to:

- 1. Public health, safety, or welfare;
- 2. Domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial use;
- 3. Livestock, wild animals, or birds; and
- 4. Fish or other aquatic life.

## B. <u>Duty to Mitigate</u>

The County shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

## C. <u>Duty to Comply</u>

The County shall comply with all conditions of this permit. Failure to comply with a permit provision constitutes a violation of the CWA and is grounds for enforcement action; permit termination, revocation, or modification; or denial of a permit renewal application. The County shall comply at all times with the provisions of the Environment Article, Title 4, Subtitles 1, 2, and 4; Title 7, Subtitle 2; and Title 9, Subtitle 3 of the Annotated Code of Maryland.

The County shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the County to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the County only when the operation is necessary to achieve compliance with the conditions of the permit.

## D. <u>Sanctions</u>

1. <u>Penalties Under the CWA - Civil and Criminal</u>

The CWA provides that any person who violates any permit condition is subject to a civil penalty not to exceed \$32,500 per day for each violation. Any person who negligently violates any permit condition is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more that 1 year, or both. Any person who knowingly violates any permit condition is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both.

## 2. Penalties Under the State's Environment Article - Civil and Criminal

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the County from civil or criminal responsibilities and/or penalties for a violation of Title 4, Title 7, and Title 9 of the Environment Article, Annotated Code of Maryland, or any federal, local, or other State law or regulation. Section 9-342 of the Environment Article provides that a person who violates any condition of this permit is liable to a civil penalty of up to \$10,000 per violation, to be collected in a civil action brought by MDE, and with each day a violation continues being a separate violation. Section 9-342 further authorizes the MDE to impose upon any person who violates a permit condition, administrative civil penalties of up to \$5,000 per violation, up to \$50,000.

Section 9-343 of the Environment Article provides that any person who violates a permit condition is subject to a criminal penalty not exceeding \$25,000 or imprisonment not exceeding 1 year, or both for a first offense. For a second offense, Section 9-343 provides for a fine not exceeding \$50,000 and up to 2 years.

The Environment Article, §9-343, Annotated Code of Maryland, provides that any person who tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$50,000 per violation, or by imprisonment for not more than 2 years per violation, or both.

The Environment Article, §9-343, Annotated Code of Maryland, provides that any person who knowingly makes any false statement, representation, or certification in any records or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$50,000 per violation, or by imprisonment for not more than 2 years per violation, or both.

## E. <u>Permit Revocation and Modification</u>

1. <u>Permit Actions</u>

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the County for a permit modification or a notification of planned changes or anticipated noncompliance does not stay any permit condition. A permit may be modified by MDE upon written request by the County and after notice and

opportunity for a public hearing in accordance with and for the reasons set forth in COMAR 26.08.04.10.

After notice and opportunity for a hearing and in accordance with COMAR 26.08.04.10, MDE may modify, suspend, or revoke and reissue this permit in whole or in part during its term for causes including, but not limited to the following:

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- c. A change in any condition that requires either a temporary reduction or elimination of the authorized discharge; or
- d. A determination that the permitted discharge poses a threat to human health or welfare or to the environment and can only be regulated to acceptable levels by permit modification or termination.

## 2. <u>Duty to Provide Information</u>

The County shall furnish to MDE, within a reasonable time, any information that MDE may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit; or to determine compliance with this permit. The County shall also furnish to MDE, upon request, copies of records required to be kept by this permit.

## F. Inspection and Entry

Blank County shall allow an authorized representative of the State or EPA, upon the presentation of credentials and other documents as may be required by law, to:

- 1. Enter the permittee's premises where a regulated activity is located or conducted or where records must be kept under the conditions of this permit;
- 2. Have access to and obtain copies at reasonable times of any records that must be kept under the conditions of this permit;
- 3. Inspect at reasonable times, without prior notice, any construction site, facility, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and
- 4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State, or local law or regulations.

## H. Severability

The provisions of this permit are severable. If any provision of this permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this permit to any circumstance is held invalid, its application to other circumstances shall not be affected.

## I. Signature of Authorized Administrator and Jurisdiction

Each application, report, or other information required under this permit to be submitted to MDE shall be signed as required by COMAR 26.08.04.01-1. Signatories shall be a principal executive officer, ranking elected official, or other duly authorized employee.

Director Water Management Administration Date

# G. <u>Property Rights</u>

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#### MARYLAND STORMWATER CONSORTIUM

August 30, 2011

#### Dear Dr. Summers and Mr. Sakai,

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Thank you again for meeting with our groups on August 2 to discuss our comments on the first template draft Maryland MS4 permit. We appreciate the opportunity to voice our recommendations to you and your staff. We now write to follow up on that discussion by submitting brief additional comments on the second iteration of the template permit (referred to herein as "Template 2"), which you provided us with after the August 2 meeting.

These comments are divided into two sections. First, we reiterate our primary concerns with both Template 1 and Template 2, grouped into four main categories. Second, we express some new concerns raised by changes made to the text in Template 2.

#### I. Reiteration of Our Primary Concerns With Both Template 1 and Template 2

#### Water Quality Standards

Template 2, like Template 1, does not specifically prohibit the violation of water quality standards.

We reiterate our recommendation that permittees, through their programs, control measures, and other actions, shall not cause or contribute to the violation of water quality standards; that all TMDL implementation and other programs shall be aimed at this goal; and that where exceedances occur, iterative remedial procedures as described in our proposed Part IV.A.f of the permit must be completed.

#### **Discharge Limitations/Numeric Effluent Limits**

Template 2, like Template 1, does not include numeric effluent limitations.

We reiterate our recommendation that stormwater discharges from the permittee's major outfalls be subject to numeric effluent limitations. The major outfalls are to be listed in the permit and a chart of constituent pollutants, units of measure, and numeric limitations is to be displayed in the permit. This requirement tracks the November 10, 2010 memorandum from EPA to this effect.

#### Impervious Surface Area Restoration

Template 2, like Template 1, does not give any standards for this restoration or require any priority for the stormwater management techniques to be used.

We reiterate our recommendation that all such restoration include both the 20 percent requirement and any previously obligated but incomplete restoration, that the restoration shall be undertaken using ESD to MEP, that the restoration efforts shall be designed to reduce stormwater volume to a minimum standard of 1 inch of on-site retention, and that the restoration requirement apply to the full MS4 and not only to impaired watersheds (because ESD to MEP is a technology-based standard). This recommendation is in line with EPA's MS4 permit guidance. We further recommend that this requirement not be confined to the TMDL section of the permit.

#### TMDLs

Template 2, like Template 1, does not contain lists of the impaired water bodies to which the MS4 discharges, or the TMDLs and WLAs for each such water body. The WLAs are not treated as an enforceable permit term to be attained through the permittee's TMDL Implementation Plans.

We reiterate our recommendation that the permit include a chart of the water bodies, list applicable TMDLs and WLAs, and provide that WLAs are incorporated as enforceable permit terms that must be attained.

Our recommendations further set forth the importance of the TMDL Implementation Plans, which are to be completed within one year of the permit issuance.

Our recommendations also separate several requirements from the section relating to unenforceable watershed assessments and place them in the section relating to enforceable TMDL implementation plans. MDE has partially followed this suggestion with regards to the requirements for permittees to provide cost estimates and to describe how their monitoring data will be used to document progress toward meeting WLAs. However, Template 2 continues to leave requirements for the development of programs, projects, benchmarks, and deadlines in the *unenforceable* watershed assessments section.

We recommend that MDE include additional permit requirements if permittees cannot demonstrate that their suggested projects and programs will achieve WLAs.

Finally, we recommend that permittees be required to monitor major outfalls.

#### II. New Concerns Raised by Template 2

#### Compliance with the Stormwater Management Act of 2007

Template 1 required the permittee to comply with the Act by implementing ESD to the MEP for new and redevelopment projects. Template 2 has removed that requirement, leaving only Template 1's requirements to track progress toward satisfying the Act, update codes and ordinances, and report annually.

The language proposed by MDE in Template 1, requiring compliance with the Act by implementing ESD to the MEP for new and redevelopment projects, should remain in the final draft.

#### Modification of Codes and Ordinances to Eliminate Impediments to ESD

Template 1 required the permittee to achieve this within 2 years of permit issuance. Template 2 has revised that deadline to within 3 years of permit issuance.

The language proposed by MDE in Template 1 should remain in the final draft. Local governments have known about this requirement since the Stormwater Management Act passed in 2007.

#### Trash and Litter: Inventory of Baseline Conditions

Template 1 required the permittee to establish baseline conditions of trash being discharged to and from the system (and to develop a strategy or work plan based on that estimate). Template 2 no longer requires the establishment of a trash discharge baseline; instead, the permittee must inventory and evaluate its current trash control programs, identifying opportunities for improving efficiency.

Establishing the trash discharge baseline should still be required. It may be the case that the permittee will establish the baseline as part of its inventory of the efficacy of its current programs, but in any event, doing so should continue to be explicitly required. This information is critical if a permittee's progress is to be evaluated in any objective manner.

#### Trash and Litter: Public Participation

Template 1 required the permittee to conduct a public participation process in the development of its trash reduction strategy that included a 30-day comment period. Template 2 no longer requires a public comment period.

We strongly urge MDE to reinstate the 30-day public comment period requirement. Because the terms of a permittee's trash reduction strategy are themselves effluent limitations, they legally must be subject to the public participation requirements of the Clean Water Act. These requirements include a guaranteed opportunity for public comment.

#### **Trash and Litter: Control Measures**

Template 1 required the permittee to implement approved control measures according to a schedule specified in its trash reduction work plan. Template 2 now requires the county to implement program improvements identified in its initial inventory, along with any additional programs "needed to address" any applicable trash TMDLs.

MDE should state more explicitly that the permittee is expected to fully comply with all terms of any applicable trash TMDL. The current language is unclear in that regard.

#### Water Quality Standards

Template 1 stated that the permittee would undertake measures "to ensure that water quality standards are met for all water bodies in the County." (See Template 1 at page 7.) Template 2 no longer contains that phrase.

MDE should not only replace this phrase in the final version, but also make completely clear that it is a permit violation for the county to cause or contribute to any violation of water quality standards.

#### **Content of Watershed Assessments**

Template 1 required watershed assessments to demonstrate how the permittee's projects and programs would, in aggregate, meet applicable stormwater waste load allocations. Template 2 has deleted that requirement.

MDE must continue to require the permittee to demonstrate how its chosen control measures will meet WLAs. Once a TMDL has been adopted, NPDES permits are required to contain effluent limitations and conditions consistent with the assumptions and requirements of the approved WLA. EPA guidance states that that the permit or its administrative record "needs to support that the [permittee's chosen] BMPs are expected to be sufficient to implement the WLA in the TMDL." (See http://www.epa.gov/npdes/pubs/final-wwtmdl.pdf at 2.) Without any demonstration by MDE or the permittee that its chosen projects and programs will meet WLAs, the permit fails to meet this requirement.

Additionally, Template 2 now allows permittees to use watershed assessments conducted during previous permit cycles to comply with permit requirements, as long as they contain all required information. MDE should reconsider this provision, as older assessments may be out of date on topics such as current water quality conditions.

#### Name of TMDL Plans

Template 1 referred to permittees' TMDL plans as "stormwater watershed implementation plans." Template 2 now refers to them as "restoration plans."

We find the new name chosen for these plans to be somewhat misleading. "Restoration plans" suggests that the plans are only focused on implementing the 20% restoration (retrofit) requirement. While that requirement is important, these plans are intended to implement TMDL WLAs more broadly. We urge MDE to simply call them "TMDL Implementation Plans" so that the purpose of the plans is clear.

#### **TMDL** Compliance Assessments

Template 1 required the permittee to provide estimated pollutant load reductions in its compliance assessments. Template 2 requires the permittee to provide a "net change in pollutant load reductions."

This phrase makes no sense. A "reduction" is already a net change, as it indicates the difference between current and previous pollutant loads.

#### Monitoring and Assessment of Controls

Template 1, not being geared toward any particular jurisdiction, contained no specific watershed or water body names. Template 2, which is drafted for Frederick County, requires monitoring in the Lower Monocacy River Watershed and the Peter Pan Run Watershed.

We reiterate that permittees must be monitoring *every* water body to which they discharge, in addition to monitoring major outfalls, as recommended in our first set of comments.

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Thank you again for your attention to our recommendations. Please do not hesitate to contact us with any questions.

Sincerely,

Bruce Gilmore Anacostia Watershed Society

Rebecca Hammer Natural Resources Defense Council





CHESAPEAKE BAY FOUNDATION Saving a National Treasure

March 7, 2012

Mr. Jay Sakai, Director Water Management Administration Maryland Department of the Environment 1800 Washington Boulevard Baltimore, MD 21320

Dear Mr. Sakai:

Thank you for meeting informally with Jenn Aiosa, Lee Epstein and me on February 22. We felt it was a good, full discussion of several of the most important "template" permit concepts, as well as MDE's process for going forward with a number of these MS4 permits.

We also appreciate Secretary Summers' February 2 letter, in which he expressed the Department's view that the Frederick MS4 permit, now reflected in various components of a draft of the Baltimore City MS4 permit, represents an "incremental improvement" over the 2010 Montgomery County permit. Dr. Summers' also expressed his view that that "template" permit is more readily enforceable, is consistent with the Bay TMDL, and will promote the meeting of water quality standards.

However, CBF remains concerned that this template (the Baltimore City permit we discussed) is still unfortunately deficient in several respects. As we promised, we wanted to get back to you with an outline of the major issues which we deem the highest priority to remedy prior to a tentative determination.

 Meeting Water Quality Standards. While we understand that MS4 permits are, by their nature and description in Clean Water Act regulations, not precisely the same as other point source permits, they must nevertheless require the permittee to meet clean water standards, and they must hold the permittee accountable for not doing so. Based upon our conversation with you, and our new understanding of where we think MDE intends to be on this issue, we believe that our objectives can mutually be met as long as MDE agrees to put those intentions *into* the permit.

There should thus be a section in the permit that specifically describes the above-noted responsibility, beginning with a stated prohibition against discharges from the MS4 that cause or contribute to the violation of water quality standards, pursuant to the Clean Water Act and Maryland law. Then, given the acknowledged difference between MS4 permits and other NPDES point source permits, we agree that this section could continue with a clear statement of how these permits are to be viewed and utilized, over time. Thus, we respectfully request that the following language be inserted into the permit; note

PHILIP MERRILL ENVIRONMENTAL CENTER | 6 HERNDON AVENUE | ANNAPOLIS, MD 21403 410/268-8816 | FAX: 410/268-6687 | CBF.ORG that the portion after the initial sentence comes from the language in the DC permit factsheet that you mentioned to us:

Discharges from the Baltimore City MS4 that cause or contribute to the violation of water quality standards are prohibited. The attainment of applicable water quality standards for MS4s is an incremental process authorized under section 402(p)(3)(B)(iii) of the Clean Water Act, which requires an MS4 permit to reduce the discharge of pollutants to the maximum extent practicable. The goal of EPA's stormwater program, and of this permit developed pursuant to the Clean Water Act, is attainment of applicable water quality standards, although attaining full water quality standards may take more than one MS4 permit cycle. The following sections of this permit more fully describe the process for, and the benchmarks and milestones toward demonstrating, that the permit ensures that such standards will be met, as well as the timeframe for doing so.<sup>1</sup>

- 2. <u>Compliance with the Stormwater Act of 2007</u>. Part III. D.1.a.i. of the Baltimore City draft permit currently requires "Tracking the progress toward satisfying" this Maryland law which was passed five years ago. Instead, it should read "Complying with...". Further, given the already elapsed time and the requirements of that law, jurisdictions should be given no more than one year to review all existing ordinances and codes, and one additional year to modify them so that they are in full compliance with the Act; indeed, providing *any* additional time for this requirement may be overly generous.
- 3. <u>Performance Standard</u>. We understand that the draft permit requires compliance with the state's stormwater management regulations. The same could have been said for early permit drafts that US EPA wrote for the District of Columbia MS4, which required compliance with DC's post-construction stormwater management requirements. But just as in the District, Maryland's current standards are simply not high enough given TMDL needs, cspecially with respect to redevelopment activity.

The final District of Columbia MS4 permit justifiably contains a higher performance standard than was contained in its regulations: on-site retention and treatment of 1.2 inches from the 24-hour storm (essentially the 90<sup>th</sup> percentile storm event) through evapo-transpiration, infiltration, and/or stormwater harvesting, for all development which disturbs 5,000 square feet or more. In Maryland, the urban redevelopment standard is to manage the 1-inch storm (essentially, the 90<sup>th</sup> percentile 24-hour storm event), but only over one-half the site, or meet other requirements using ESD to the MEP.

We strongly recommend that the *full* one inch or  $90^{th}$  percentile standard, be articulated in this permit for redevelopment purposes, along with "ESD to the MEP" as the required methodology, pursuant to the 2007 Maryland law. (It should be noted that during the pendency of the state stormwater regulations in 2009-2010, it came to our attention that for the City of Baltimore, 2/3 or more of the redevelopment activity there would not be

<sup>&</sup>lt;sup>1</sup> This paragraph, together with the prohibition that should introduce it, reflects precisely the standard articulated in 2002 by the US EPA's Environmental Appeals Board in the case that was brought against the original DC MS4 permit, and reported at 10 E.A.D. 323, 2002 WL 257698 (E.P.A.) at 11-12.

captured by a 5,000 square foot threshold. Thus, any performance standard that is stated in these permits should be flexible with respect to the specific permittee, with a lower threshold, for example 2,500 square feet in highly urban Baltimore City. Offsite off-sets should be allowed, as long as there is a transparent and fully accountable program established for them, with criteria similar to those required in the DC permit.<sup>2</sup>

4. <u>Total Maximum Daily Loads</u>. The language of this section needs to reflect the more specific language of a *permit*, rather than the less specific language of the older MS4 permits, which essentially articulated mere *work programs*.

For example, the second paragraph under TMDLs should not say "In pursuit of these goals," it should say "To accomplish these goals...". It should not seek "annual watershed assessments," but rather should specify that the City must use the watershed assessment and restoration plans required by this section to articulate *specific pollutant loading reductions (benchmarks)* that will be achieved by *certain deadlines*, necessary to meet the MS4's share of the WLA. The City should then use its annual reports to inform MDE of its progress. We recognize, of course, that meeting the WLAs may not necessarily occur within one permit term, but a full compliance schedule should be set out. Without it, on this matter the permit is unenforceable.

Second, TMDL WLAs should be listed and incorporated by reference into the permit. This is simple, it creates an enforceable permit term, and we (and others) have been advocating this simple fix since 2004. It is, we would note, a method used by other state MS4 permit programs around the country.

During our conversation on February 22, you noted that the standard intended for restoration is achievement of the channel protection volume (CPv) to the MEP. If that is indeed the case, then it should be articulated here. Further, as we noted when we talked, we submit that in addition to any standard that is stated, "restoration" needs an overall definition. Indeed, the same problem pertains in the existing Montgomery County permit, where it is equally unclear what is meant by that term. This problem should not continue to exist in new permits. Neither should it be remedied by any outside-the-permit "fact sheet". In our view, the explanation provided in the draft fact sheet is only partially helpful anyway. We provided a full new definition in our Frederick comments, which is amended here by including the first sentence (directly from your fact-sheet), and other additional concepts:

"Restoration" means implementing specific programs of water quality improvement projects to meet WLAs and water quality standards. For the purposes of this permit, restoration is reducing overall effective imperviousness in an area by an amount specified in this permit. Reducing effective imperviousness may be accomplished by:

a. Removing impervious surfaces and restoring or mimicking natural infiltration,

<sup>&</sup>lt;sup>2</sup> Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit No. DC0000221 (Government of the District of Columbia), October 7, 2011, §4.1.3.

- b. and re-vegetating to promote pollution uptake functions by vegetation;
- c. Improving, upgrading, or retrofitting existing stormwater best management practices so that they can perform such functions and manage stormwater volume;
- d. Creating new stormwater best management practices in the areas to be restored, which mimic natural treatment, use plant uptake and evapo-transpiration, promote infiltration, or harvest and reuse rainwater;
- e. Undertaking stream restoration activities which effectively eliminate stream-bank erosion, buffer proximate land uses, and improve the natural functions of the stream; or
- f. Utilizing such other practices as are necessary, given existing conditions, to meet the standard articulated in f., below.
- g. All restoration practices should, at a minimum, manage and treat on-site the "channel protection volume," and should aim to restore pre-development hydrological regimes.

Finally, "public participation" under the TMDL section of the permit is <u>not</u> "provid[ing] continual outreach." It must be, instead, "providing a meaningful opportunity for the public to participate in the development of the City's watershed assessment and restoration plans."

5. <u>Monitoring and Assessments</u>. The program outlined in the permit is simply ineffective and unacceptable by any standard, including that set out in EPA's July 2010 *Mid-Atlantic Urban Stormwater Approach*. Monitoring one stream and one outfall across a city of 87 square miles will not yield information of any significance for helping to shape the restoration program and undertake an iterative process of BMP adaptation/adjustment. What is needed is a *statistically significant monitoring program of representative outfalls and in-stream stations*. While not all the chemical, biological and physical parameters may need to be assessed in each instance, the program must produce enough data to help – over time – understand the impacts upon water quality that the permit is having, to the extent that is possible.

Still important in this permit, but of secondary priority, are the following issues:

A. <u>Public Education</u>. This component of "Management Programs" is inadequate and completely outdated. More must be done than in the last permit (which this component mostly repeats, with the exception of requiring specific goals and deadlines) to inform and involve the public in these efforts. The water quality complaint hotline was to have been set up between five (one permit cycle) and ten (two permit cycles) years ago; should there have been a permit-related consequence for not having done so yet, rather than merely repeating the requirement in yet a third permit? Now so prevalent, new methods should be used for spreading public information, and more specific information on various techniques and practices (per our comments in the Frederick permit) should be provided to citizens.

- B. <u>**Trash and Litter.**</u> Specific milestones and deadlines for achieving them should be set. Given that the Patapsco River is impaired for trash and that a TMDL will be developed for it, the permit might also recognize that this is pending and will need to be accommodated when finalized.
- C. <u>Annual Reporting</u>. A.3. should be modified such that, "If the ...Annual Report docs not demonstrate compliance with this permit and show *sufficient* progress toward meeting WLAs developed under EPA-approved TMDLs, and if other benchmarks, milestones, and deadlines established under this permit are not being met, BMP program modifications shall be made and additional restoration activity may be required by the Department.

It is true that the most recent permit we have reviewed, for Baltimore City, shows some progress from its prior iteration, but the above issues (at the very least, the top five priority ones) require adequate resolution before we can register support. I hope that we can work with MDE, as well as permittees, to resolve them in a way that will result in solid progress toward meeting state water quality standards, and perhaps more pointedly, toward meeting the especially difficult challenges posed by both the Bay TMDL and existing water-body TMDLs.

Thank you for the opportunity to provide our views.

Sincerely,

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Alison Prost, Esq. MD Executive Director

cc: Dr. Robert Summers, Secretary, Maryland Department Environment

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#4

Dr. Robert Summers, Secretary Mr. Jay Sakai, Director, Water Management Administration Maryland Department of the Environment 1800 Washington Boulevard Baltimore, Maryland 21230 <u>bsummers@mde.state.md.us</u> jsakai@mde.state.md.us

April 30, 2012

Dear Secretary Summers and Mr. Sakai:

As you know, our groups have repeatedly raised concerns about the adequacy of the draft MS4 permits that MDE intends to issue to the state's Phase I jurisdictions. The importance of these permits in controlling stormwater runoff to Maryland's rivers and streams cannot be overstated. Stormwater is a major source of pollution to the Chesapeake Bay—in Maryland, it contributes 22.4 percent of phosphorus, 18.2 percent of nitrogen, and 39.4 percent of sediment loads to the Bay.<sup>1</sup> In addition to pollution problems in the Bay, Maryland's Biological Stream Survey shows that only two stream segments in Maryland are in "good condition."<sup>2</sup> Not all stream problems are related to urban stormwater volume, but stormwater will continue to destroy our urban streams and pollute the Bay until MDE adopts policies that green our communities, reduce stormwater volume consistent with the current science, and impose meaningful timeframes for achieving results.

Today we write to outline our serious concerns with a draft MDE guidance document that apparently describes how MS4 permittees may meet certain permit obligations (*Accounting for Stormwater Wasteload Allocations and Impervious Areas Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits*, June 2011). The draft Baltimore City MS4 fact sheet states that this guidance document "provides information for various restoration practices and how they may be credited toward the 20% [impervious surface area restoration] requirement."

We believe that this guidance document is scientifically, legally, and procedurally flawed. for reasons that we enumerate in our detailed comments (attached). In sum, the Guidance would provide restoration credit for practices that are known to be ineffective or of only marginal effectiveness. This approach will not lead to attainment of water quality goals, and it does not represent the reduction of pollutants to the maximum extent practicable, which is the minimum standard for MS4 permits under the Clean Water Act.

<sup>&</sup>lt;sup>1</sup> <u>http://www.baystat.maryland.gov/sources2.html</u>.

<sup>&</sup>lt;sup>2</sup> <u>http://www.streamhealth.maryland.gov/stream\_health.asp.</u>

We urge MDE to delete this reference to the Guidance from its new round of MS4 permits and fact sheets. Instead, MDE should require MS4s to use environmental site design ("ESD") practices that reduce stormwater runoff volume to meet their restoration obligations. Such a requirement will ensure that MS4 jurisdictions invest in restoration practices that work.

Sincerely,

Rebecca Hammer Natural Resources Defense Council

Diane Cameron Audubon Naturalist Society

Brent Bolin & Bruce Gilmore Anacostia Watershed Society

ce: Mr. Jon Capacasa
Director, Water Protection Division
Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, PA
<u>capacasa.jon@epa.gov</u>

#4

Dr. Robert Summers, Secretary Mr. Jay Sakai, Director, Water Management Administration Maryland Department of the Environment 1800 Washington Boulevard Baltimore, Maryland 21230 <u>bsummers@mde.state.md.us</u> jsakai@mde.state.md.us

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<sup>&</sup>lt;sup>2</sup> http://www.streamhealth.maryland.gov/stream\_health.asp.

#### **Attachment:**

# The MDE Restoration Guidance Is Critically Flawed

# The Guidance Is Scientifically Flawed:

• The Guidance, which utilizes the Bay model, gives credit to restoration practices solely based on the amount of nitrogen, phosphorus, and sediment that they purportedly remove from runoff. The Guidance adopts this approach because MDE and the Bay model are focused solely on increased loads of nutrients and sediment (see Guidance, page 19).

This narrow focus on the removal of three pollutants, and the assumptions about stormwater management practices made in the draft Guidance, are insufficient to address water quality impairment for three reasons. First, the draft Guidance ignores all of the other stormwater pollutants (beside nitrogen, phosphorus, and sediment) that impair Maryland water bodies. Second, the Guidance overestimates the pollutant removal efficacy of detention ponds. Third, and most critically, it ignores the fact that stormwater volume is the root cause of degradation in many receiving waters.

# (1) The Guidance is flawed because it ignores a wide range of pollutants.

• The Guidance ignores the fact that pollutants other than nitrogen, phosphorus, and sediment are the cause of water quality impairments in Maryland. For example, the Guidance does not discuss reductions needed to address bacteria or PAH exceedances associated with stormwater, or violations of temperature standards that occur when detention ponds result in overheated waters. It is critical that the Guidance address all of the impacts of stormwater, not just the nutrients affecting the Chesapeake Bay.

# (2) The Guidance is flawed because it overestimates the efficacy of detention ponds.

 The Guidance overestimates the likely removal efficiencies for extended detention facilities. The National Research Council (NRC) has stated that nutrient reduction in such facilities is only likely to occur where plants are harvested. (Committee on Reducing Stormwater Discharge Contributions to Water Pollution, National Research Council, Urban Stormwater Management in the United States (2008), p. 401-402.) The harvesting of plants from extended detention facilities is extremely rare. MDE should explain that the removal efficiencies cited can only be relied on when plants are harvested, and sediment is dredged and properly disposed, at regular intervals.

# (3) The Guidance is flawed because it fails to address overall stormwater volume.

- The vast majority of Maryland's streams in urban and urbanizing areas are in failing biological health primarily due to the volumes of stormwater discharged by MS4 systems and the physical destruction of stream channels that results from those volumes. Consequently, these streams are not supporting, in whole or in part, their most fundamental and universal use designation, which is Use I protection of aquatic life and wildlife (COMAR 26.08.02.07).
- MDE has been unsuccessful in preventing this situation because of its policy that, to counteract the negative effects of land development, the primary goal of stormwater management should be to reduce pollutant loadings. Contrary to MDE's view, however, the fundamental difference between impervious land cover and natural forest conditions is not pollutant loading levels; those are only secondary to the health of Bay tributaries and other Maryland waters. Rather, the signal difference between urban lands and healthy forests is the fact that forests infiltrate and evapotranspirate stormwater, leading to smaller runoff volumes. Stormwater policy that ignores this fact will inevitably fail at achieving its restoration results.
- The Guidance requires "treatment" of the water quality volume, but this term is not defined. The Guidance is therefore unclear, but by using the undefined term "treatment" it seems that MDE will allow credit for detention techniques that reduce merely reduce peak flow or filtration practices that do not address volume, as opposed to runoff reduction techniques that reduce overall stormwater volume.
- The Guidance overstates the channel protection benefits of detention practices. It states, "By delaying one inch of rainfall over 24 hours, extended detention facilities improve the settling of pollutants and provide channel protection." (p. 4) This is inconsistent with the EPA's recent statements about the failure of detention facilities. EPA has stated that these facilities:

"... generate greater flow volumes for extended periods. Those prolonged, higher discharge rates can undermine the stability of the stream channel and induce erosion, channel incision and bank cutting." (EPA, Guidance for Federal Land Management in the Chesapeake Bay Watershed, Chapter 3 Urban and Suburban (EPA841-R-10-002), May 12, 2010, p. 3-16)

Some pollutants may settle out in ponds (and may be reduced by erosion and sediment control and liltration), but the science indicates that these approaches do nothing to address an important aspect of instream effects: the fact that huge volumes of stormwater destroy biota and mobilize sediments and nutrients by eroding streambanks and stream bottoms. For example, 75% of the sediments in the Anacostia, according to the Anacostia Sediment TMDL, come from stream bank erosion associated with stormwater volumes.

To reiterate by quoting EPA:

"Simply reducing the peak flow rate, and extending the duration of the predevelopment peak flow, is not effective because as the different discharge sources enter a stream, the hydrographs are additive, and the extended predevelopment peak flows combine to produce an overall higher than natural peak. The result is the pervasive condition of channel incising, erosion, and loss of natural stream biological and chemical function. . ." (EPA, Guidance for Federal Land Management in the Chesapeake Bay Watershed, Chapter 3 Urban and Suburban (EPA841-R-10-002), May 12, 2010, p. 3-17)

• In sum, stormwater volume reduction must be the objective of restoration practices. Activities such as street sweeping, catch basin cleaning, erosion and sediment control, and storm drain vacuuming should be required as important management practices, but because they do not reduce runoff volume, they must not be credited toward restoration or retrofit obligations.

#### The Guidance Is Legally Flawed:

- The draft Guidance ignores the Clean Water Act, which requires that stormwater be treated to the "maximum extent practicable." 42 U.S.C. § 1342(p)(3)(B)(iii). To allow gray infrastructure approaches without any analysis showing why green infrastructure would not be practicable is a violation of the Clean Water Act. See the recent opinion from the State of Washington's Pollution Control Hearing Board ruling that failure to require ESD/LID when it has been shown by science to be the most efficacious approach is contrary to the Act.<sup>\*</sup>
- The draft Guidance ignores the Maryland statute establishing ESD as the preferred Maryland approach. The first three sections of the Maryland Code Environment Article's stormwater management subtitle (sections 4-201 through 4-203) clearly state a preference for the use of ESD in all stormwater management. For example, section 4-203(b) states that, "for stormwater management in Maryland," MDE is to require "the implementation of environmental site design to the maximum extent practicable." This requirement is not limited to the context of new development or redevelopment. Rather, the Code requires ESD to be used in *all* stormwater management, including restoration and retrofitting efforts.

http://www.eho.wa.gov/searchdocuments/2008%20archive/pchb%2007-021.07-026.07-027.07-028.07-029.07-029.07-030.07-037%20phase%20i%20final.pdf.

- EPA literature, published scientific resources, and the Maryland legislature have all indicated that the "state of the art" is ESD. MDE only adopted ESD requirements for projects approved after May 4, 2010. Consequently, it is illogical for the Guidance to assume that all areas developed after 2002 are "state of the art" and do not need to be restored. Much of the infrastructure implemented between 2002 and 2010 was based on detention and filters, which are not "state of the art"; these conventional practices are termed "*standard*" practices in the Stormwater Management Act of 2007, and are required to be used by developers only where "absolutely necessary." MDE should require ESD-based restoration and retrofitting for all developments that complied with Maryland's 2000 Design Manual; the Manual was only updated to include ESD requirements in 2009. The Guidance should also state very clearly that any pre-2005 stormwater management practices do not count toward reductions needed for the Chesapeake Bay TMDL, since it is our understanding that the TMDL would have already included those practices in calculating its baseline.
- According to Prince George's County's Phase II WIP, the County plans for only 29% of its restoration to be accomplished with ESD, and Montgomery County's MS4 planning document indicates that only 18% of its restoration will be ESD. This is true despite the fact that ESD has been shown in the scientific literature to be vastly more effective where it can be implemented and has many ancillary benefits. Cost is the main factor that these jurisdictions cite for their heavy reliance on detention ponds and mechanical reduction of pollutants for the bulk of their restoration of imperviousness acres. In fact, there are many affordable ESD retrofit practices that MDE has yet to acknowledge, including planting trees in detention ponds. (We applaud MDE's inclusion in the draft Guidance of Regenerative Stormwater Conveyances as appropriate, low-unit-cost retrofit practices.) MDE is permitted by the Clean Water Act to allow local jurisdictions to use costeffective approaches to stormwater management, but the Act requires that the approaches actually work.
- The focus in this draft Guidance on a truncated set of objectives, and on techniques that will not address the fundamental issue of stormwater volumes and all of the impacts of stormwater, will inevitably lead to failure to meet water quality standards. The restoration techniques allowed in the Guidance will set Maryland MS4s up for failure by leading them to focus solely on Bay pollutants, rather than on Bay pollutants and the "urban stream syndrome" that is behind many of the many water quality impairments in Maryland. See Maryland 303(d) Listed Waters for Reporting Year 2010.<sup>†</sup>

http://iaspub.epa.gov/tmdl\_waters10/attains\_impaired\_waters.impaired\_waters\_list?p\_state=MD&p\_cycle=2010.
## The Guidance's Substantive Flaws Are the Result of Procedural Defects:

- The procedure that MDE used to develop the Guidance explains many of the substantive flaws that undermine the Guidance's effectiveness.
- According to MDE staff, the Department developed the Guidance by asking the regulated MS4 jurisdictions for their suggestions and then largely incorporating those suggestions into the Guidance as recommended criteria for restoration projects. This process represents a clear case of impermissible self-regulation by permittees, as the contents of the Guidance are treated as *de facto* permit terms.
- Moreover, no other stakeholders were given any formal opportunity for input, and no scientific peer review has been implemented despite the relevance of current science to the topics covered.
- If MDE had developed the Guidance through a more formal rulemaking process that was open to public input, both the costs *and* benefits of various restoration practices would have been evaluated; such a holistic evaluation would have tended to favor ESD approaches that achieve a greater environmental benefit per dollar spent. However, MDE's approach of consulting only with permittee jurisdictions led to a Guidance that emphasizes practices that favor cost savings while excluding consideration of environmental performance.

## MDE Should Withdraw the Guidance and Establish a Volume Reduction Performance Standard Within the Permit:

- MDE should withdraw this Guidance and convene a balanced stakeholder panel that includes respected stormwater scientists and practitioners, who can provide information on the costs, benefits, and feasibility of restoration practices. We believe that any such panel would quickly come to the conclusion that the best and most cost-effective approach to restoration is the use of ESD practices that reduce stormwater volume.
- In the short term, MDE should remove all reference to the Guidance from the new MS4 permits and fact sheets. The permits should instead directly require permittees to restore 20% of their impervious areas to retain 1.2 inches of rainfall through the use of ESD practices (evapotranspiration, infiltration, and/or stormwater harvesting and use).

# MAKING STORMPRINT BETTER

A Critical Step in Restoring the Chesapeake Bay Through Expanded Citizen Involvement in Stormwater BMP Maintenance

> Prepared By Richard Klein COMMUNITY & ENVIRONMENTAL DEFENSE SERVICES 811 Crystal Palace Court Owings Mills, Maryland 21117 410-654-3021 Help@ceds.org ceds.org/audit

> > August 6, 2012

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#### Summary

<u>StormPrint</u> serves as the primary means by which Maryland watershed advocates and other citizens can learn of the stormwater Best Management Practices (BMPs) present in their area. Examples of these BMPs include ponds, filters, and bioretention (Rain Garden) facilities.

Since the 1970s, more than 32,000 stormwater BMPs have been installed in Maryland. These facilities reduce the following negative effects of growth: flooding, stream channel erosion, runoff pollution, and the loss of groundwater recharge which reduces dry-weather inflow to wells, wetlands, streams and other waters.

The waters closest to 70% of all Maryland homes are affected by stormwater runoff from developed areas. Therefore, maintaining existing BMPs in good working order is essential to preserving the health of the waters nearest most Maryland homes. By providing easy access to facility location, type and other information, StormPrint is critical to citizen efforts to support BMP inspection and maintenance programs.

While the Maryland Department of the Environment (MDE) is to be commended for making StormPrint available, the usefulness of this resource is limited by an apparent high degree of inaccuracy. Based upon a study of 175 BMPs located in the ten Maryland Phase I, MS4 jurisdictions<sup>1</sup>, only 60% of these BMPs were accurately located or correctly labeled by StormPrint.

This unacceptably high degree of inaccuracy has severe implications for efforts to identify and correct the sources of pollution degrading the Chesapeake Bay and other Maryland waters. This is because the same inaccurate data appears to serve as the basis for both StormPrint and the models used to prepare MS4 permits, Total Maximum Daily Loads (TMDL) and Watershed Implementation Plans (WIP).

StormPrint inaccuracies also hamper the ability of watershed advocates to augment government efforts to inspect and maintain BMPs. Two factors are about to cause inspection requirements to greatly expand. Under the new Environmental Site Design requirements there will be many more BMPs per site, most of which will require an annual inspection instead of the current once every three-year inspection.

It is doubtful whether government will ever have the funds needed to inspect all of these BMPs. A dramatic increase in public involvement is the only scenario which might allow us to prevent the 33% to 100% BMP failure rate seen in areas with inadequate inspection resources. An experiment underway in the Severn River watershed has shown that it is realistic to believe citizens can effectively augment government efforts to maintain BMPs in good working order. An accurate and expanded StormPrint is essential to this form truly full public participation.

<sup>&</sup>lt;sup>1</sup> MS4 is the Municipal Separate Storm Sewer System. The ten <u>Maryland Phase 1 M S4 jurisdictions</u> are: Anne Arundel County, Baltimore City, Baltimore County, Carroll County, Charles County, Frederick County, Harford County, Howard County, Montgomery County and Prince George's County. For further detail visit:

#### Introduction

In 1979, the author published one of the first scientific research papers documenting the relationship between watershed development and aquatic resource health.<sup>2</sup> Even since then I have been actively engaged in improving stormwater management in Maryland.

From the start it was obvious that the effectiveness of stormwater management would hinge on the level of public support. Without active public support stormwater budgets would become easy targets for those seeking to divert funds to more visible (and popular) programs. Public support would also be critical to helping agencies resist pressure from the regulated community to relax aquatic resource protection standards.

The lack of easy access to information on the location, type and condition of BMPs has always been a hindrance to greater public involvement in stormwater management. Therefore I was delighted when MDE first posted some of this information online via StormPrint. However, when I checked out the BMPs serving my community in Baltimore County I saw a disturbing number of errors.

The facility serving my home was labeled as a porous pavement parking lot but is actually an extended-detention dry pond. I then compared StormPrint accuracy in other parts of the State by looking up BMPs I'd encountered while helping citizens with a variety of threats to neighborhoods and the environment. I found StormPrint accuracy to be very good in some areas, but quite poor in others.

Of course I informed MDE of these inaccuracies but never received a reasonable response to my questions regarding corrective action. This prompted me to initiate this study to determine if the problems I perceived were real and, if so, to hopefully help generate the public support MDE needs to improve this valuable resource.

#### How This Study Was Conducted

This study was conducted by first printing our excerpts of StormPrint maps for each of the ten Maryland Phase I, MS4 jurisdictions. The maps included residential and commercial areas along with institutional and other land uses. Both a street map and an aerial map was printed for each survey area. The BMP type for each facility was then noted by hand since StormPrint does not presently allow printing this information on the map. Underground BMPs were the only facilities generally not included in the study.<sup>3</sup>

An attempt was made to locate each BMP in the field. A total of 161 StormPrint BMP locations were visited. Some BMPs were found as much as 600 feet from the location given by StormPrint. Of the 161 BMPs, 76% were found.

<sup>&</sup>lt;sup>2</sup> Urbanization and stream quality impairment. <u>Water Resources Bulletin</u> 15(4):948-963.

<sup>&</sup>lt;sup>3</sup> According to the 2010 Maryland Urban BMP Database, only 6% of all BMPs are underground.

Of the 161 BMPs, 65% were correctly labeled as to type. The incorrect type can make a big difference in assumptions made about pollutant retention effectiveness. For example, an extended-detention dry pond near the author's home was labeled as porous pavement by StormPrint. These two facilities can remove 20% and 50%, respectively, of the nitrogen delivered in runoff from impervious surfaces.<sup>4</sup> An incorrectly labeled BMP is also more difficult to find and evaluate.

A total of 14 BMPs were found which were not shown on the StormPrint maps. These BMPs were encountered while driving within the area covered by each map. These facilities brought the total number of BMPs evaluated to 175.

Following are links to documentation (maps and photos) for the BMPs evaluated in each of the ten jurisdictions.

- Anne Arundel County: http://ceds.org/audit/AACODocumentation.pdf
- Baltimore City: <u>http://ceds.org/audit/BaltoCityDocumentation.pdf</u>
- Baltimore County: <u>http://ceds.org/audit/BaltoCODocumentation.pdf</u>
- Carroll County: <u>http://ceds.org/audit/CarrollCODocumentation.pdf</u>
- Charles County: <u>http://ceds.org/audit/CharlesCODocumentation.pdf</u>
- Frederick County: <u>http://ceds.org/audit/FrederickCODocumentation.pdf</u>
- Harford County: <u>http://ceds.org/audit/HarfordCODocumentation.pdf</u>
- Howard County: <u>http://ceds.org/audit/HowardCODocumentation.pdf</u>
- Montgomery County: <u>http://ceds.org/audit/MontgomeryCODocumentation.pdf</u>
- Prince George's County: <a href="http://ceds.org/audit/PrinceGeorgesCODocumentation.pdf">http://ceds.org/audit/PrinceGeorgesCODocumentation.pdf</a>

An Excel file containing the results overall and for each jurisdiction is posted at: http://ceds.org/audit/StormPrintAccuracy.xls.

#### **Results & Discussion**

Table 1, on the next page, shows that of the ten MS4 jurisdictions StormPrint was 100% accurate in Frederick, Howard and Prince George's counties. Accuracy was poorest in Baltimore City and Baltimore County - 13% and 19%, respectively. The results were sent to inspection officials in each jurisdiction along with a request to verify the findings. Only two jurisdictions provided corrections: Charles and Harford counties. There were only a few actual errors. Of course the findings were corrected.

<sup>&</sup>lt;sup>4</sup> Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, published by MDE, June 2011: <u>http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/Documents/</u> <u>NPDES%20Draft%20Guidance%206\_14.pdf</u>

Table 1: StormPrint Accuracy: A Survey of Stormwater BMPs in the Ten Maryland MS4 Phase I Juridictions Community & Environmental Defense Services, ceds.org, Help@ceds.org, 410-654-3021

StormPrint: http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/stormprint/Pages/index.aspx July 30, 2012

JURISDICTION	NUMBER OF STORMPRINT BMPS EVALUATED	AVERAGE DISTANCE (feet) BMP WAS FROM STORMPRINT LOCATION	NUMBER OF STORMPRINT BMPS FOUND	PERCENT OF STORMPRINT BMPs FOUND	NUMBER OF BMPs CORRECTLY LABELED BY STORMPRINT	PERCENT OF BMPs CORRECTLY LABELED BY STORMPRINT	NUMBER OF BMPs FOUND WHICH WERE NOT SHOWN ON STORMPRINT	TOTAL NUMBER OF BMPs EVALUATED	PERCENT OF TOTAL BMPs ACCURATELY SHOWN BY STORMPRINT
Anne Arundel County	18	16	10	56%	æ	44%	0	18	44%
Baltimore City	15	0	5	33%	2	13%	Ł	16	13%
Baltimore County	24	123	10	42%	S	21%	2	26	19%
Carroll County	13	0	12	92%	44	85%	0	13	85%
Charles County	17	59	14	82%	12	71%	4	21	57%
Frederick County	10	43	10	100%	10	100%	0	10	100%
Harford County	23	0	22	%96	20	87%	2	30	67%
Howard County	15	0	15	100%	15	100%	0	15	100%
Montgomery County	16	120	15	94%	12	75%	0	91	75%
Prince George's County	10	0	10	100%	10	100%	0	10	100%
Total	161		123		105		14	175	
Average	16	36		76%		65%		2 0 0 0 0 0	60%

BMPs. If all were working properly the streams and creeks draining these watersheds would be far healthier. Storm Print is the starting point for advocates seeking to assess the condition of BMPs in their StormPrint is the primary means by which watershed advocates and other members of the general public can learn of stormwater Best Management Practices (BMPs) in their area. These BMPs include 32,000+ existing stormwater BMPs are no longer functioning due to inadequate maintenance. Up to a third of existing impervious area in many urban and older suburban watersheds drains to existing ponds, rain gardens, bioretention facilities, and other measures designed to remove pollutants entrained in runoff from rooftops, streets, driveways, parking lots and other impervious surfaces. Highlyeffective BMPs remove a large percentage of the pollutants and also reduce the volume of runoff by releasing it into underlying soils. Recent surveys have found that a large percentage of Maryland's watershed. But there appears to be wide variations in the accuracy of StormPrint from jurisdiction to jurisdiction.

watershed volunteer or staff person find the BMP using the information provided by StormPrint? Once a BMP was found then the distance between the actual location and that shown by StormPrint was noted. Also noted was whether the actual BMP type was the same as that given in StormPrint. Finally, a number of BMPs not shown on StormPrint were encountered while driving the map areas. These This survey was initiated to determine if this appearance was accurate. Because of limited resources, the survey was limited to the ten MS4 Phase I jurisdictions. Within each jurisdiction maps showing two to three clusters of BMPs were downloaded from StormPrint. The type of each BMP was noted on the maps by hand. A visit was then made to each to answer the following question: Could a typical BMPs were noted as well.

The table above shows considerable inaccuracy in a number of jurisdictions. While this limits the usefulness of StormPrint as a tool for finding BMPs, there's an even greater concern. StormPrint is based upon the same data used to develop estimates of pollutant loads for TMDLs and WIPs. Given the overall 41% error rate, this could cause TMDL-WIP estimates to be off by a considerable margin.

StormPrint is based upon data provided by local jurisdictions to MDE. This same data serves as the basis for projections of urban-suburban pollution loads used in the Chesapeake Bay Model and for other planning efforts, such as MS4 permits, Total Maximum Daily Loads (TMDL) and Watershed Implementation Plans (WIP). If StormPrint and modeling input data is the same, then the 40% error rate could cause the accuracy of load estimates to be off by a considerable margin.

MDE and the Chesapeake Bay Program are aware of the inaccuracies in not only stormwater BMP databases but that for other pollution sources as well. In fact, the Bay Program has convened a <u>Best Management Practices Verification Committee</u> to address this issue. However, a looming crisis with regard to inspection resources increases the urgency of making StormPrint better.

Stormwater BMP inspection responsibilities are about to vastly outstrip the resources of most local governments and that of state-federal agencies. There are at least 32,000 stormwater BMPs present in Maryland.<sup>5</sup> Most were built prior to the adoption of Environmental Site Design (ESD) requirements in 2009. A typical pre-ESD development site would have two or three stormwater BMPs. With ESD the number of BMPs per site is typically one or two dozen!

Presently, MDE requires an inspection of stormwater BMPs once every three years.<sup>6</sup> Chesapeake Bay Program guidance calls for verifying the function of stormwater filtering BMPs annually in order to claim credit for pollutant removal.<sup>7</sup> Most ESD practices are filtering BMPs.

So we have two factors converging that are about to explode the number of BMPs requiring an inspection.

One full-time inspector can evaluate about a thousand stormwater BMPs in a year.<sup>8</sup> Table 2, on the next page, shows the results of a CEDS survey of stormwater BMP inspection capabilities and workloads in the ten Maryland Phase I, MS4 jurisdictions. Note that we are awaiting a response from Baltimore City and Prince George's County. Of the remaining eight jurisdictions, five are meeting the once every three year inspection requirement, one is partially meeting the requirement and two are falling short. Only one is inspecting facilities annually.

<sup>&</sup>lt;sup>5</sup> MDE used to make the Maryland Urban BMP Database available to the public. The last database provided to CEDS (in 2010) showed about 32,000 BMPs in Maryland. MDE refused requests in 2012 to provide an updated file.

<sup>&</sup>lt;sup>6</sup> Code Of Maryland Regulations (COMAR) <u>26.17.02.11A</u>

<sup>&</sup>lt;sup>7</sup> See page 6-51, in <u>Chesapeake Bay Phase 5.3 Community Watershed Model</u>.

<sup>&</sup>lt;sup>8</sup> Personal communication with Mr. John Peacock, Chief of Anne Arundel County Environmental Programs and Infrastructure Inspections.

Table 2: Phase I MS4 Jurisdiction Stormwater Inspection Capabilities & Workloads

Jurisdiction	Number of Inspectors	Number of BMPs	BMPs Per Inspector	BMPs Inspected Annually	BMP Inspection Frequency (Years)
Anne Arundel County	ł	11,000	11,000	1,000	11.0
Baltimore City		Awai	iting data from juris	sdiction	_
Baltimore County-Private	3	1,728	576	1,158	1.5
Baltimore County-Public	1	1,153	1,153	135	8.5
Carroll County	4	1,005	251	180	5.6
Charles County	<del></del>	1,192	1,192	472	2.5
Frederick County	ი	860	287	287	3.0
Harford County	<del>.                                    </del>	1,000	1,000	200	2.0
Howard County	ი	3,500		1,000	3.0
Montgomery County	9	4,600	767	5,900	0.8
Prince George's County		Awai	ting data from juris	sdiction	
Total	23	26,038	16,225	10,632	
Average	ю	2,893	2,028	1,181	6.7

Of the eight jurisdictions, Anne Arundel County has the greatest shortfall with regard to stormwater BMP inspections. In 2001, the County had seven full-time inspectors which was then slashed to one for reasons that defy logic. For the past eleven years the County has struggled with but one inspector to cover 11,000+ BMPs. While the County staff are very dedicated and capable, they are simply too few in number. As a result anywhere from a third to 100% (depending on type) of Anne Arundel County stormwater BMPs are failing.<sup>9</sup>

Many of these BMPs could be keeping 20% to 50% of the incoming nitrogen load out of the Bay, but actually trap little.<sup>10</sup> Of the 11,000+ BMPs, 83% are privately maintained. Up to a third of the impervious area in some watersheds drains to existing BMPs. There is no action that would reduce Anne Arundel County pollution loads more quickly or substantially than restoring the inspection resources required to enforce BMP maintenance requirements.

The preceding illustrates what can happen when inspection and enforcement capabilities fail to keep up with BMP numbers. Again, the number of stormwater BMPs is about to mushroom due to Environmental Site Design and the tripling of inspection frequency. It is difficult to fathom how government will ever provide the inspectors needed to evaluate all of these BMPs. Frankly, the only scenario which offers the hope of monitoring all BMPs for maintenance needs is a dramatic increase in public involvement.

Most stormwater BMPs can be evaluated by volunteers with as little as a half-hour of training.<sup>11</sup> Trespassing is not needed since most BMPs can be viewed from adjacent public areas. A two-person team of volunteers can evaluate three BMPs per hour.

The <u>Severn River Association</u> - America's oldest watershed organization - is engaged in an experiment to enlist those who live near stormwater BMPs in monitoring for maintenance needs and in performing routine upkeep like replacing dead vegetation and mulch. An accurate source of up to date stormwater BMP information is essential to engaging the public in this essential activity. Therefore, resolving the accuracy issue and making other improvements to StormPrint is critical if we are to succeed in this latest "new" effort to restore the Chesapeake and the thousands of miles of Maryland waterways degraded by existing and shortly to come growth. Without this and other innovative approaches we may well find ourselves another 20 years into this latest Bay restoration effort with the same result as with past efforts: the Bay even more degraded than it is today.

<sup>&</sup>lt;sup>9</sup> The 33% to 100% BMP failure rate is documented in the <u>Severn River Preliminary Watershed Audit</u>, published by Community & Envireonmental Defense Services, November 2011.

<sup>&</sup>lt;sup>10</sup> Ibid.

<sup>&</sup>lt;sup>11</sup> For an example of a stormwater BMP citizen monitoring effort visit: <u>ceds.org/raingarden</u>

#### **Suggested Improvements**

Besides resolving the inaccuracy of StormPrint, the following improvements should be made:

- 1. Presently the StormPrint *Print* function only allows printing a map showing BMP locations. It would be helpful to have the ability to print out maps with BMP types and an identifier such as the sequence number (SQX) from the Maryland Urban BMP Database.
- 2. It should be possible to download a spreadsheet of the BMPs within a watershed, a county, a city or other geographical areas. The spreadsheet should include the following data which already exists in the Maryland Urban BMP Database:
  - Facility identifier known as SQX;
  - Report Source (government unit that generated BMP data);
  - Coordinates like latitude-longitude compatible with commonly used GPS devices;
  - Subbasin (there are 20 six-digit subbasins in Maryland);
  - MDE 8-Digit Subwatershed (138 in Maryland);
  - Structure Type;
  - Year Built;
  - Drainage Area; and
  - Land Use.
- 3. StormPrint uses three colors to denote BMPs built during various periods. Gray is used for the "undetermined BMP Year" symbol but is hard to see on the aerial photo layer.
- 4. The Chart and Bookmark options do not seem to work.
- 5. The StormPrint Search function does not seem to work.
- 6. The following information should also be made available via StormPrint:
  - Date of last inspection;
  - Facility condition as determined by the most recent inspection; and
  - Date by which any necessary repairs are to be made.

#### A Single Online Source of All Watershed-Specific Information

Thanks to the leadership of Governor Martin O'Malley, all Marylanders benefit from a number of online environmental information resources including <u>BayStat</u>, the Maryland Environmental Resources Land Information Network (<u>MERLIN</u>), MDE's reported <u>sewer overflows webpage</u>, and about a dozen others. Many of those concerned about aquatic resources seek information for a specific waterway or watershed. Presently the user must go from one website to another to gather all that is known about a watershed. And each site has its own quirks that takes time (and

much patience) to learn. It would be extremely helpful if there was one website where the user could enter a watershed name then gain access to all available information.

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