



**COMMENTS OF THE
MARYLAND MUNICIPAL STORMWATER ASSOCIATION
ON PROPOSED REISSUANCE OF MARYLAND DEPARTMENT OF
TRANSPORTATION STATE HIGHWAY ADMINISTRATION MS4 PERMIT
July 18, 2024**

I. INTRODUCTION

On April 19, 2024, the Maryland Department of the Environment (MDE or Department) issued a Notice of Tentative Determination (TD) to reissue a municipal separate storm sewer system (MS4) permit (Draft Permit) to the Maryland Department of Transportation State Highway Administration (SHA).

The Maryland Municipal Stormwater Association (MAMSA) is an association of proactive local governments and affiliated stormwater consulting firms that work for clean water and safe infrastructure in Maryland based on sound science and good public policy. MAMSA's membership includes all 10 of the remaining Phase I MS4 permittees, making the SHA permit of significant interest.

Because SHA is not a MAMSA member, MAMSA would ordinarily be reluctant to comment on its Draft Permit. However, because we are concerned that MDE, with EPA's urging or approval, may use SHA's Draft Permit as a template for remaining Phase I communities in Maryland, MAMSA feels compelled to offer comments.

Furthermore, in addition to potentially setting a precedent for other Phase I localities, MDE may decide to include some of the requirements—even those that large or medium-sized MS4 localities may find difficult to achieve—in the renewal of the MS4 General Permit for Phase II communities.

Lastly, and as an overarching comment, the SHA Draft Permit mandates: (i) thermal pollutant management strategies for coldwater and thermally impaired watersheds; (ii) a review of increasing solar reflectance of impervious surfaces in coldwater and thermally impaired watersheds; and (iii) green infrastructure for restoration projects and in overburdened and underserved communities.

Although MAMSA supports new technologies, including green infrastructure, in appropriate projects, MAMSA cannot support permit directives for specific BMPs without proper scientific vetting. Permittees and the public should know **before** MDE includes conditions in a permit whether a particular BMP will effectively reduce pollutants (and by how much) and whether the BMP has potential downsides.

When pooled monitoring was created, the goal was to be able to conduct the research needed to fully understand the pros and cons of certain practices. Without the research, MS4s will be forced to spend millions of dollars on more expensive BMPs, but will not be able to clearly explain to our citizens how asking them to spend more money will lead to a better result. We urge MDE to pull back on imposing costs on localities vis-à-vis thermal and green strategies until we better understand the science behind those strategies.

We appreciate the opportunity to offer our comments on the TD. We thank MDE for considering our comments and will be pleased to meet with the Department if that would be beneficial towards understanding our concerns.

II. COMMENTS

A. Thermal Reduction BMPs

SHA's Draft Permit includes multiple requirements relating to thermal reduction, including:

- Source Identification (Part IV.C.6, p. 3: Must include Water quality improvement projects “including stormwater and thermal pollution reduction BMPs”)
- Stormwater Management (Part IV.D.1.a.ii, p. 4: SHA must implement the Stormwater Design Manual including “Implementing thermal pollution management strategies in coldwater and thermally impaired watersheds”)
- Property Management and Maintenance (Part IV.D.4.f, p. 8: “MDOT SHA shall submit in its year three MS4 annual report an evaluation for increasing the solar reflectance of impervious surfaces in coldwater and thermally impaired watersheds, consistent with Section 5.6.4 in the latest version of the *2000 Maryland Stormwater Design Manual*.”)¹
- Stormwater Restoration (Part IV.E.6, p. 11: “Impervious area restoration practices implemented in coldwater or thermally impaired watersheds should utilize the following practices from the 2021 Accounting Guidance: infiltration and filtering system BMPs (Table 2); and/or land cover conversion BMPs (Tables 9-11) to cool and shade stormwater runoff.”)

1. Solar Reflective Surfaces Can Impact Human Health and Safety

MAMSA is worried that the requirement to increase solar reflectance of impervious surfaces in Part IV.D.4.f could have negative safety impacts. Although we are aware that some cities in the United States (for example, Los Angeles) are experimenting with

¹ Including the phrase “in the latest version of the *2000 Maryland Stormwater Design Manual*” is inappropriate because it denies permittees and the public notice regarding the expectations for permit compliance. Respectfully, MDE should not alter permit conditions after the permit is issued without engaging in a formal process for permit modification.

painting local impervious surfaces with solar reflective materials, this appears to be primarily occurring on residential streets, parking lots, and playgrounds. We question whether reducing the contrast between dark pavement and white/yellow reflective lines on major thoroughfares or highways by adding a solar reflective coating would make it more difficult for drivers to recognize reflective lines, especially at night.

In addition, in Los Angeles, some citizens have suggested that solar reflective materials increase the temperature for citizens who are using those surfaces (i.e., the road reflects heat onto the walker, biker, school child playing during the middle of the day, etc.).²

2. There Are No Regulations Defining “Thermal Pollutant Management Strategies”

Despite the SHA Draft Permit mandate to implement thermal pollution management strategies in coldwater and thermally impaired watersheds, there is no state law that explains how such strategies should be implemented at the local level.

Localities are well-versed in how to review a plan to ensure compliance with the State stormwater regulations and the 2000 Stormwater Design Manual. However, the State has not taken the proper steps to explain how to review a plan for consistency with thermal pollution management strategies. Specifically, MAMSA has these questions:

(i) “Thermal pollution management strategies” is not defined. Are these State plans? Are they derived from language in thermally impaired TMDLs?

(ii) How is coldwater defined? We assume this includes Class III waters, but does it also include MDE-identified coolwater streams?

(iii) MDE has not explained what a development project would need to do to comply with thermal pollution management strategies. Are the BMP choices for these projects limited in the same manner as the Draft Permit?

Respectfully, if MDE intends to include similar concepts in other MS4 permits, before MS4s are obligated to impose these requirements on developers, MDE should update the stormwater regulations and issue guidance that can be used at the local level. Until that occurs, the most localities can do is encourage the use of certain BMPs (see proposed language below).

3. Permittees Should Have the Flexibility to Choose Other Temperature Reducing BMPs on Locally-Owned Sites and for Restoration Projects

²<https://www.npr.org/2023/07/26/1190327645/los-angeles-paints-the-town-literally-to-reflect-the-sun-and-cool-the-city#:~:text=Transcript-,A%20new%20project%20in%20Los%20Angeles%20is%20trying%20to%20cool,Phoenix%20are%20undertaking%20similar%20efforts.>

Section 5.6.4 of the *Design Manual* referenced In Part IV.D.4.f only discusses changing the solar reflective index for paving and roofing and shading options. There are numerous other BMPs, including those listed in Section 5.6.5 of the *Design Manual*, that could be used locally for property management and maintenance to reduce the temperature of runoff to local coldwater and thermally impaired streams. Localities should have the flexibility to choose BMPs that are effective and cost-efficient based on the local monitoring we are currently doing and on individual community priorities.³

MAMSA also disagrees with limiting BMPs for restoration projects to Table 2 and Table 9-11 of the *2021 Accounting Guidance*. For example, Table 2 does not include stream restoration, even though these projects can reduce in-stream temperatures by mixing surface water and ground water temperatures.⁴ It does not include enhanced surface sand filters, which can be installed in trout streams. And Table 2 includes wet swales and grass swales; a permittee may want to forgo these BMPs in certain situations because they could be counterproductive to reducing temperature.⁵

4. Requested Text Changes

MAMSA requests that MDE consider the following edits to the Stormwater Management, Property Management and Maintenance, and Stormwater Restoration parts of the SHA Draft Permit if these requirements are carried forward to other Phase I MS4 permits:

Stormwater Management

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

a. Implementing the stormwater management design policies, principles, methods, and practices found in the latest version of the *2000 Maryland Stormwater Design Manual*. This includes:

³ On a related note, the *Design Manual* relies on a study conducted in 1990 by the Metropolitan Washington Council of Governments (MWWOG). Although MAMSA thinks very highly of MWWOG's work on many different environmental issues and although many MAMSA members are also MWWOG members, we question whether an update of the 1990 science supporting the *Design Manual* is in order.

⁴ On a side note, although stream restoration critics often raise tree loss as a concern, some stream restoration projects have zero tree impacts.

⁵ In contrast, in certain cases, a permittee may have a compelling reason to repair an existing wet pond, for example, even if it does drain to a cool water stream. The landowner who owns the property with the pond may object to having it converted to a different BMP. In that case, MDE's strict approach to BMP selection may put the MS4 in an impossible position—either comply with the permit or face potential litigation.

ii. Implementing Encouraging the use of thermal pollution reduction best management practices strategies in coldwater and thermally impaired watersheds;

Property Management and Maintenance

MDOT SHA shall submit in its year three MS4 annual report an evaluation for increasing the solar reflectance of impervious surfaces and for implementing other best management practices in coldwater and thermally impaired watersheds, consistent with Section 5.6.4 in the latest version of the version of the 2000 Maryland Stormwater Design Manual in effect as of the effective date of this permit. SHA need not include options in the evaluation that could have a negative impact on public health or safety.

Stormwater Restoration

SHA should consider the impervious area restoration practices for implemented in coldwater or thermally impaired watersheds should utilize the following practices from the 2021 Accounting Guidance: infiltration and filtering system BMPs (Table 2); and/or land cover conversion BMPs (Tables 9-11) to cool and shade stormwater runoff: when developing its stormwater restoration program.

B. Green Infrastructure

SHA's Draft Permit requires that the permittee implement green stormwater infrastructure as a part of stormwater restoration efforts. SHA must submit an assessment of past restoration using green stormwater infrastructure and future opportunities for using green stormwater infrastructure with the second-year annual report. SHA must submit an assessment of restoration that will be completed by the end of the permit term and a "proposal for implementing green stormwater infrastructure as part of its plan for impervious restoration in the next permit term" with the fourth-year annual report. (Part IV.E.4, p. 10-11).

SHA's Draft Permit defines green stormwater infrastructure to include "all the practices listed in the 2021 Accounting Guidance that meet the requirements in 'Table 19. Eligibility for Green Stormwater Infrastructure Credits', and 'Table 20. Green Stormwater Infrastructure Enhanced Features', as well as the practices that meet the requirements of Section V.3 Land Cover Conversion."

1. Green Infrastructure is Too Narrowly Defined

MAMSA notes that the MDE definition of green infrastructure is stricter than other definitions of green infrastructure. For example, EPA includes green streets and alleys and green parking in addition to permeable pavements as acceptable green infrastructure.⁶ The options for which practices to use should be as broad as possible. MAMSA suggests defining green infrastructure consistent with the broader definition in the *2021 Accounting Guidance*: "The Green Stormwater Infrastructure (GSI) credit is

⁶ See <https://www.epa.gov/green-infrastructure/what-green-infrastructure>

provided when a BMP provides water quality treatment and incorporates natural processes using vegetation and soils.” (p. 28)

2. Green Infrastructure is Much More Expensive than Traditional BMPs

We would be remiss if we did not mention that emphasizing green infrastructure drives up restoration costs precipitously. We have no option but to pass these costs along to our citizens. Although MAMSA supports implementing green infrastructure when it makes sense from a physical (soil type, etc.) and financial perspective, the benefits of these projects have to be weighed against the increased cost.

In addition, each Phase I MS4 permittee is limited by its financial capacity (i.e., the available funding included in its MEP analysis). If we are compelled to complete projects using green infrastructure at a significantly higher cost, the same funding will produce less pollutant reductions. This is contrary to the entire point of an MS4 permit. Worse, MS4s will make less progress on TMDL implementation, to the detriment of our citizens and the environment.

3. Requested Text Changes

MAMSA requests that MDE consider the following edits to the green stormwater infrastructure parts of the SHA Draft Permit if this requirement is carried forward to other Phase I MS4 permits:

4. As part of the required impervious acre restoration in Part IV.E.3, MDOT SHA shall make progress toward impervious acre restoration using green stormwater infrastructure.
 - a. Green stormwater infrastructure includes any BMP that provides water quality treatment and incorporates natural processes using vegetation and soils all of the practices listed in the 2021 Accounting Guidance that meet the requirements in “Table 19. Eligibility for Green Stormwater Infrastructure Credits”, and “Table 20. Green Stormwater Infrastructure Enhanced Features”, as well as the practices that meet the requirements of Section V.3 Land Cover Conversion BMPs.

C. Environmental Justice

SHA’s Draft Permit directs the permittee to address Environmental Justice issues by submitting: (i) with the second-year annual report an assessment of past restoration “using green stormwater infrastructure...in underserved and overburdened communities;” (ii) with the fourth-year annual report an assessment of restoration completed during the permit term and a “proposal for implementing green stormwater infrastructure in underserved and overburdened communities as part of its plan for impervious area restoration in the next permit term.” (Part IV.E.5, p. 11).

1. MDE Has No Legal Authority to Include EJ Requirements in an MS4 Permit

Although there are sections of the Environment Article of the Maryland Code that reference environmental justice, none give MDE the authority to include EJ requirements in an MS4 permit. Likewise, there is no federal law authority to do so.

Maryland law establishes the Commission on Environmental Justice and Sustainable Communities (ENV. §1-701) and tasks MDE with developing strategies to address EJ concerns (ENV. §1-702) and providing information on EJ scores when providing public notice under Title 1, Subtitle 6 (ENV. §1-602). MDE must also confer with the Commission on Environmental Justice and Sustainable Communities when adopting stormwater regulations (ENV. §4-203). Maryland law directs a permit applicant to provide an EJ score and MDE to review that score (ENV. §1-601.1). And, there are references to EJ communities in the Clean Water Commerce Act and law relating to the Bay Restoration Fund and Maryland Drinking Water Revolving Loan Fund.

None of these sections of Code support MDE's decision to include EJ requirements in the SHA Draft Permit.

2. Environmental Justice Policies Are Already Being Implemented at the Local Level

MAMSA questions whether it is necessary to include green infrastructure requirements in the environmental justice (EJ) context. Many MAMSA localities are already actively implementing EJ policies that include, but are not limited to, adding green infrastructure in underserved or overburdened communities. For example, one MAMSA Member received an EPA grant to support broad EJ initiatives, including a Green Homes Program.⁷

3. Green Infrastructure Is Not Always the Solution for Underserved and Overburdened Communities

Green infrastructure is not always appropriate in particular neighborhoods. For example, there may be physical limitations that preclude using green infrastructure in an area, or, the best restoration option to address water quality may be installing a BMP upstream of the area (with downstream benefits to the EJ community).

In addition, MAMSA believes that the right place to start to address historical inequities is by asking a community itself what it wants in terms of neighborhood or upstream BMPs. We should not assume that permittees alone can determine, as suggested by the SHA Draft Permit, where, how, or even whether to implement green infrastructure in local neighborhoods.

⁷ https://www.fredericknewspost.com/news/environment/climate/frederick-county-awarded-1m-grant-to-support-environmental-justice-initiatives/article_4c33245c-4593-5048-bd0b-6d266749d6e8.html

As noted above, MAMSA is also deeply worried with increasing costs in EJ communities. Green infrastructure can be ten times more expensive per acre than a traditional BMP.

4. MDE's EJ Screening Tool Does Not Have a Water Quality Focus

Lastly, we have concerns with the Department's EJ screening tool. The EJ tool, although excellent for some uses, does not really speak to water. The criteria for an overburdened community include exposure to lead paint, hazardous waste facilities, Superfund sites, etc. Assessing a community for these EJ factors does not tell us anything about whether the community is impacted by specific water quality impairments.

In addition, many communities have their own maps because the statewide data does not adequately reflect what the locality knows about their individual neighborhoods. This is not uniquely an MDE issue; EPA's EJ tool also has this shortcoming.

5. Requested Text Changes

MAMSA requests that MDE delete the EJ text in the permit if this requirement is carried forward to other Phase I MS4 permits. There is no legal basis for including it, and decisions regarding implementing green BMPs in EJ communities are better left to localities.
