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Maryland Department of the Environment
Water and Science Administration
1800 Washington Blvd., Suite 440
Baltimore, MD 21230-1708
Attn: Raymond Bahr, Sediment, Stormwater, and Dam Safety Program

Sent by email to Raymond.Bahr@Maryland.gov

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RE: National Pollutant Discharge Elimination System permit to Anne Arundel County to Discharge from their Large Municipal Separate Storm Sewer Systems (Discharge Permit No. 20-DP-3316, NPDES No. MD0068306); Baltimore County (Discharge Permit No. 20-DP-3317, NPDES No. MD0068314); Baltimore City (Discharge Permit No. 20-DP-3315, NPDES No. MD0068292); and, Montgomery County (Discharge Permit No. 20-DP-3320, NPDES No. MD0068349)

January 21, 2021

Dear Mr. Bahr,

The Chesapeake Bay Foundation (CBF) is a 501(c)(3) non-profit organization whose mission is to “Save the Bay” and keep it saved. CBF represents more than 275,000 members across the country and has offices in Easton and Annapolis, Maryland; Richmond and Virginia Beach, Virginia; Harrisburg, Pennsylvania, and the District of Columbia. For over 50 years, CBF has been working to restore the Chesapeake Bay and its tributary rivers and streams.

Reducing urban and suburban stormwater pollution is essential to the Chesapeake Bay’s restoration. CBF agrees with Secretary Ben Grumbles, when he states, “Maryland’s proposed municipal stormwater permits are essential to our comprehensive, science-based plan for restoring the Chesapeake Bay.” It is the hope of CBF that these comments help to align the substance of the current round of draft Municipal Separate Storm Sewer System (MS4) permits with the goal of restoration to make progress along the path to the Bay’s recovery.

CBF finds the current draft permits lack specificity and focus needed to deliver reduction in stormwater runoff. The permits must serve as guideposts for local action. Continued reliance on the impervious acre equivalent standard fails to meaningfully reduce pollutant loads to local waters even though it may minimally reduce nutrient and sediment loads to the bay. The permits also fail to acknowledge changing weather patterns linked to climate change that couple with growing impervious surface acreage to generate larger volumes of runoff and deleterious downstream erosion.

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CBF is a member of the Choose Clean Water Coalition (“CCWC”), a collection of 250 groups advocating for clean rivers and streams in all communities in the Chesapeake Bay region. Our members use and enjoy the waters receiving discharges from these permitted MS4s and are impacted when those discharges contain pollution that adversely affects water quality. CBF is also a member of the Chesapeake Accountability Project (“CAP”), comprising the Chesapeake Legal Alliance, Center for Progressive Reform, Environmental Action Center, Environmental Integrity Project, and Choose Clean Water Coalition. CBF joins in the comments submitted by CCWC and CAP and commends them to you. We also incorporate by reference the comments CBF previously submitted on September 25, 2020 as these draft permits were being prepared for tentative determination.

CBF recommends the Department of the Environment:

- 1. Update the permits to account for the increased rainfall due to climate change.**
- 2. Require municipalities employ a set percentage of green stormwater infrastructure practices to achieve progress required in a permit term.**
- 3. Revise the maximum extent practicable standard to reflect specific, individual pollutant load reduction goals.**

1. Update the permits to account for the increased rainfall due to climate change.

Rainfall data shows increasing rainfall and increasing frequency of severe storms because of climate change. While these draft MS4 permits allow extra credit for treatment of additional rainfall amounts, the permits continue to consider treatment of 1-inch rainfall complete treatment. This basis is increasingly incorrect as rainfall amounts increase. The 1-inch minimum is veering progress on runoff reductions off track. The impervious surface reduction equivalencies based on the 1-inch rainfall treatment standard do not support progress toward nonpoint-source pollution reduction in the context on increasing rainfall due to climate change.

CBF tracks progress of the state’s stormwater permits to accomplish nutrient and sediment load reductions under the Chesapeake Bay Blueprint. Failure of current stormwater infrastructure are tied to design deficiencies. Urban street flooding and inundation of sewer connections causes raw sewage outflows to surface waters and inside homes. Flooding overwhelms stormwater best management practices and outfalls. Some of these well-intentioned practices now contribute more pollution during storms than they otherwise remove.

The Fourth National Climate Assessment predicts precipitation duration and intensity will increase with climate change in the northeastern United States.¹ Stormwater practice design deficiencies are based on the use of past precipitation data as a guide for volume control. This historic data no longer reflects the reality of storm intensity, duration and frequency in Maryland’s region.

¹ Mecray, Ellen L., et al., Fourth National Climate Assessment, Chapter 18: Northeast, available at <https://nca2018.globalchange.gov/chapter/18/>

Chesapeake Bay Program models show an increasing amount of nitrogen pollution from the stormwater sector over time unlike all other sectors that are making progress to reduce pollution under the Bay Blueprint.² Updating the volume control standards with more current precipitation data that include recent extreme storms and making those changes in the design manual within this permit term is needed to reverse this disturbing trend.

2. Require municipalities employ a set percentage of green stormwater infrastructure practices to achieve progress required in a permit term.

As described in the annual reports, a majority of MS4 jurisdictions relied on nutrient trading credits or practices such as street sweeping and stream restoration. These best management practices, allowed as surrogates to reductions in impervious surface, do not ensure the same water quality improvements as green stormwater infrastructure, especially in the local receiving waters of the jurisdiction. Green infrastructure is also a practice with ability to confront increasing rainfall, additional flooding, and more frequent severe storms due to climate change. Several alternative practices, such as street sweeping or septic system treatments, do nothing to address this challenge of additional stormwater volume.

While green infrastructure may be more costly in some cases as compared to other practices, some green infrastructure practices are more costly than others, especially if they are not considered in appropriate landscape or watershed context. For example, green infrastructure, and many other BMPs deliver more load reduction depending on their position in the landscape and how much of the watershed's impervious surfaces they capture. The Accounting Guidance does not recognize such position optimization and assumes BMPs have the same efficiency regardless of where they are placed. According to CAST data, forest planting in developed areas costs only \$7.14 per pound of nitrogen reduced per year and are among the most cost-effective practices in the developed sector.³

The updated *Accounting Guidance* recognizes the co-benefits of green infrastructure,⁴ but the permits themselves do not require any minimum amount of a jurisdiction's work to include green infrastructure. Instead, the permits generally state that the acreages required to be treated may be addressed through, "stormwater BMPs, programmatic initiatives, or alternative control practices."⁵ CBF doubts that the incentives will be sufficient to ensure that green infrastructure practices are implemented in this permit term, especially if they rely on outdated guidance regarding cost-effectiveness.

² Chesapeake Assessment Scenario Tool, version "CAST-2017d" <https://cast.chesapeakebay.net/>

³ Chesapeake Assessment Scenario Tool, *BMP Pounds Reduced and Costs by State*, available at <https://cast.chesapeakebay.net/Documentation/CostProfiles>

⁴ Maryland Department of Environment, *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated Guidance for National Pollutant Discharge Elimination System Stormwater Permits*, June 2020 at 27, available at <https://mde.maryland.gov/programs/Water/StormwaterManagementProgram/Documents/2020%20MS4%20Accounting%20Guidance.pdf>

⁵ Maryland Phase I Large MS4 Permit, Version October 23, 2020, Maryland Department of the Environment National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Discharge Permit, Anne Arundel County at 10, available at https://mde.maryland.gov/programs/Water/StormwaterManagementProgram/Documents/Anne%20Arundel%20County%20MS4%20Permit%2010_23_2020.pdf

Continued lack of progress on green infrastructure presents an additional concern. Green infrastructure is a fundamental element of addressing statewide stormwater loads. Decades of reliance on alternative practices to meet pollution load reductions erode the ability of jurisdictions to build on past progress. In the case of street sweeping, for example, the practice must be continued to keep pace in favor. The State's policy should require local implementation of green infrastructure to allow for the State to make forward progress.

3. Revise the maximum extent practicable standard to reflect specific, individual pollutant load reduction goals.

This round of permits sets a low bar for MS4 performance with the expectation that each Phase I jurisdiction will restore only a minimum of 2% impervious surface equivalent per year. With data that reveals water quality declines,⁶ the 2% parameter is a particular concern. Over the five years of the draft permit term, the MS4 must only restore 10% of additional impervious surface, half of the requirement for the prior permit term.

To effect actual pollution reductions, science-based methodologies must be used. However, instead of using a measure relating to feasibility, resources, or acreage in need of impervious surface restoration, the permits define a jurisdiction's maximum extent practicable (MEP) as simply equal to past practice, with the expectation that each Phase I jurisdiction will restore at least 2% per year.

Extrapolating the same error, the draft permit's requirement to restore a total of only 10% of additional impervious surface over the next permit term represents backsliding. *See* 33 U.S.C. § 1342(o). Cutting the goal for the next term by half in the face of increasing pollution from urban and suburban sources reneges on the State's responsibilities.

The 2% maximum extent practicable standard could be replaced with specific pollutant load reduction goals tailored to each individual permit considering past performance and the requirement to make progress on meeting local TMDLs in addition to the Bay TMDL. The Bay TMDL goal for the permit should allow that MS4 to reach its wasteload allocation for its total maximum daily load requirement identified in the Watershed Implementation Plan for the urban sector by 2025.

One approach recently noted by a consultant retained by the Chesapeake Accountability Project, would be to abandon the assignment of Impervious Surface Restoration equivalencies and acreages in favor of a requirement to address volume of rainfall. Using an approved continuous runoff model, the Department would assign individual MS4s a Water Quality Design Volume. The volume for each would be the simulated daily volume that represents the upper limit of the range of daily volumes that accounts for 91% of the entire runoff volume over a multi-decade period of record.⁷ Adopting this standard will not only better approach load reductions for

⁶ Chesapeake Assessment Scenario Tool, version "CAST-2017d" <https://cast.chesapeakebay.net/>

⁷ Horner, Richard R., *Assessment of Maryland's Municipal Separate Storm Sewer System Discharge Permits and Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated*, January 2021 draft.

nitrogen which is largely soluble and gets little treatment from some BMPs, but also can be adjusted as precipitation volumes increase with climate change.

Conclusion

CBF notes many of the same deficiencies that have plagued previous MS4 permits are still present in the one being contemplated. Yet according to CBF's analysis utilizing CAST, due to new development and lagging efforts to reduce pollution in established neighborhoods, polluted runoff from stormwater is increasing and will be Maryland's second largest source of nitrogen pollution by 2025.

In a previous letter sent to the Department on September 25, 2020 as scoping comments before the tentative determination was released, CBF attempted to provide specific recommendations to facilitate meaningful updates to the permit by the Department. CBF acknowledges that some of these changes would represent a substantial shift in the Department's administration. However, we set them forth, because we see that a substantial change is necessary for the permits to have the needed and required effect.

We hope and trust you will accept these generalized comments in the spirit in which they are offered. Now is the time to remedy problems that have plagued this permit program for more than a decade. I'm certain we can do this together.

If you have additional questions, CBF staff would be more than happy to discuss these issues in more detail.

Sincerely,

A handwritten signature in black ink, appearing to read "Josh Kurtz", with a long, sweeping horizontal stroke extending to the right.

Josh Kurtz
MD Office Executive Director
jkurtz@cbf.org