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Virginia Municipal Stormwater Association

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September 3, 2020

Mr. David Ross

Assistant Administrator, Water

U.S. EPA

1200 Pennsylvania Avenue

Washington, D.C. 20004

Water Docket

U.S. Environmental Protection Agency Docket No. EPA-HQ-OW-2020-0282; FRL-10012-44-OW

RE: State Formula Allocations for Sewer Overflow and Stormwater Reuse Grants, Request for Comments, Docket ID No. EPA-HQ-OW-2020-0282; FRL-10012-44-OW

Dear Mr. Ross,

The National Municipal Stormwater Alliance (NMSA) appreciates the opportunity to comment on the Agency's proposed allocation formula and related information associated with disbursement of funds for the Sewer Overflow and Stormwater Reuse Municipal Grants Program, as presented in Docket ID No. EPA-HQ-OW-2020-0282; FRL-10012-44-OW.

NMSA member organizations represent over 3,000 of the 7,550 total Municipal Separate Storm Sewer Systems (MS4) permittees across the country. Our member organizations are in 20 states representing all regions of the country. Our members include MS4 program managers who are the stewards of urban stormwater conveyance and treatment systems that address urban runoff, which is the largest growing source of water pollution in many parts of the U.S.

INTRODUCTION

The single biggest challenge in the stormwater sector is the lack of funding, as noted in the 2018 National MS4 Needs Assessment Survey led by the Water Environment Federation's Stormwater Institute and supported by NMSA¹. An estimated annual funding gap for municipalities of \$7.5 billion was determined through this survey. In addition, the EPA report titled, "Evaluating Stormwater Infrastructure Funding and Financing", notes that only 1,600 of the 7,550 MS4s have a dedicated funding source². Considering these facts, it is clear that any program targeting investment in the stormwater sector is welcomed and needed.

¹ <https://wefstormwaterinstitute.org/wp-content/uploads/2019/08/MS4-Survey-Report-2019.pdf>

² https://www.epa.gov/sites/production/files/2020-04/documents/efab-evaluating_stormwater_infrastructure_funding_and_financing.pdf



COMMENTS

EPA is requesting input on three topics.

- A. The methodology proposed for the allotment formula including the factors and data used in determining CSO, SSO, and stormwater infrastructure needs.
- B. Feedback on ways to more holistically assess CSO, SSO, and stormwater needs will be appreciated and evaluated for the initial and future formulas.
- C. Input on the collection method, frequency, and source of the information used for the proposed allotment formula.

As with the nature of stormwater management itself, the dynamics of MS4 programs and the factors that drive funding needs are complex. Comments and suggestions provided in this letter reflect these complexities.

METHODOLOGY FOR ALLOTMENT FORMULA

The proposed allotment formula is based upon four factors with associated weights:

- (1) needs identified in the most recent Clean Watershed Needs Survey (CWNS)(50%);
- (2) annual average precipitation (16.67%);
- (3) total population (16.67%); and
- (4) urban population (16.67%).

NMSA believes these factors, and the associated weights, do not result in the most equitable and effective allotment of funds to states for this program.

Shortcomings of the Formula

Regarding factors (3) and (4), NMSA performed an analysis of rankings for states based upon total population and urban population and found these factors to be highly correlated. The use of two such highly correlated factors is redundant and over-emphasizes the aspect of population in the allotment formula. In addition, the nature of stormwater infrastructure is closely associated with land use and landcover as well as overall area. For other water sectors, such as drinking water and wastewater, the demand for services is driven by population, but the connection between population and stormwater runoff is less direct, and therefore, the expression of need in stormwater is not as well defined by population as in other water sectors.

Regarding factor (2), the scale and need of stormwater programs are not highly correlated with average annual precipitation for MS4 programs; two states with similar annual average precipitation can have very different precipitation patterns. For instance, Washington State and Ohio have similar rankings in terms of average annual precipitation; however, the former experiences Type IA rainfall distribution, which is the least intense rainfall type while the latter experiences Type II storms, which is the most intense storm type. Similarly, the distribution of precipitation across seasons varies by region, which drives further variation in the landscape of stormwater management design. How stormwater infrastructure is selected, sized and designed will differ in various contexts, which reflects the complexity of stormwater management. Lastly, stormwater management conveyance systems and treatment facilities are event-based in design. For instance, a stormwater pipe is sized based upon the anticipated depth of precipitation associated with storm events expressed in probabilistic terms that falls across a given area with certain hydrologic properties. To illustrate, a stormwater facility or pipe



may be required to treat or drain a 10-acre area for the 10-year storm event (i.e., the largest storm event that may occur within a 10-year period based upon past storm data). The variable of aspect of land area draining to a stormwater facility is independent of precipitation pattern or scale, and while the amount of precipitation used for designing a stormwater facility or conveyance feature is likely to be correlated with the annual average precipitation for that area, the variability of storm types and related rainfall intensities across the country makes the connection between annual average precipitation and the scale of needs for stormwater infrastructure a less clear and direct correlation.

A more representative way to estimate the need of an MS4 system is based upon the scale of the components associated with the system; how many miles of storm sewer pipe, drainage inlets, and stormwater treatment facilities have been constructed. If the average annual precipitation were to be a driving factor on the scale of these components, there could be a correlation recognized between the two factors. Studies conducted in various regions in the U.S. have estimated the storm sewer density, or the average length of storm sewer pipe per unit area, for some communities. Clarksburg, Maryland, for example, is estimated to have 10,000 meters of storm sewer pipe per square kilometer³, which is similar to Polk County, Iowa (7,360)⁴. Yet Maryland has a significantly higher average annual precipitation than Iowa. Bloomington, Illinois, has an average storm sewer density that is four times that of Clarksburg, yet it has an annual average precipitation amount similar to Iowa⁵. Another example is the use of green stormwater infrastructure (GSI) in cities. Using a similar density metric as storm sewer density, the number of GSI facilities per square mile in Baltimore, Maryland was found to be less than 1/3 of that found in Phoenix, Arizona, based upon a peer-reviewed study⁶. This higher GSI density in Phoenix is surprising considering its relatively low annual average precipitation (9 inches), while Maryland is a much wetter state (44 inches average annual rainfall).

While these examples represent isolated cases, they illustrate the problematic nature of relying upon the average annual precipitation to define the scale and need of MS4 programs across the country. If left as it is, arid and semi-arid states will receive limited funds when it is clear that the needs for communities to address stormwater investments is just as significant, then those in more water-rich climates. Many communities in arid areas not only need to invest in stormwater management to reduce runoff-driven pollutants and localized flooding, but there is now a growing need to invest in projects to capture and repurpose rainfall and urban runoff. Therefore, the use of average annual precipitation is not an appropriate factor to use when estimating the need of stormwater management investments.

Regarding the largest component of the allocation formula (1), needs as identified in the most recent CWNS report, this component is the most critical in the potential misallocation of grant program funds. Historically, the Clean Water State Revolving Fund (SRF) programs devote less than 5% of available funds nationally to urban stormwater⁷. It should come as no surprise, then, that the 2012 CWNS report reported data for only 21% of MS4 facilities⁸, as this document relies upon information from SRF Intended Use Plans (IUPs) provided by states to identify needs. It should be noted that the needs identified by four states comprise over 2/3 of the total needs of \$19.2 billion in this category (CA, NY,

³ <https://onlinelibrary.wiley.com/doi/full/10.1002/hyp.13144>

⁴ <https://www.fs.usda.gov/treesearch/pubs/46916>

⁵ <https://ir.library.illinoisstate.edu/etd/399/>

⁶ <https://www.frontiersin.org/articles/10.3389/fbuil.2018.00026/full>

⁷ https://www.epa.gov/sites/production/files/2016-10/documents/bloomberg_bna_financing_gi_greeninfoct2016.pdf

⁸ https://www.epa.gov/sites/production/files/2015-12/documents/cwns_2012_report_to_congress-508-opt.pdf



MD, TX), and further, that Phase I communities comprise a majority (50.2%) of identified needs⁹. This suggests that many small- and mid-sized communities, especially in those states outside of those identified previously (CA, NY, MD, TX), are likely to be missed in the needs assessment. NMSA can confidently state that few, if any, states include a significant number of projects on their IUP list nor provide assistance through their SRF program compared with the total need in the sector. Lastly, NMSA and other groups have recently engaged with EPA staff who lead the CWNS report development to assist with identification of additional pathways and resources for stormwater sector need information. One specific source to be considered is the WEF MS4 Needs Assessment Survey, which has estimated an annual funding gap in the MS4 sector to be \$7.5 billion. Note that this value reflects funding that is needed beyond existing budgetary investments.

Considering that needs identified in the CWNS for the stormwater sector over the next 20 years is \$19.2 billion, the \$150 billion of additional needs identified through the WEF survey over this time period illustrates that the CWNS report is not a comprehensive source for information on stormwater needs in the MS4 sector. To rely upon the CWNS to play the largest role in the allotment of funds for the grant program would mean to greatly under-fund the MS4 sector. The spirit of this would be counter to the recently released report from the Environmental Finance Advisory Board (EFAB), which states that this group, “concluded that current stormwater funding mechanisms...are not sufficient to confront the significant needs across the nation,” and further that, “federal investment is needed to address the lack of state and local funding and to improve multi-jurisdictional stormwater management.”¹⁰ An over-investment in overflow needs (CSOs, SSOs) would limit funding for areas outside the Mid-Atlantic, Midwest, and New England regions.

Suggestions for the Improvement of the Formula

NMSA has a number of suggestions for EPA to consider that would provide equity between overflows and MS4 investments across the US and would more accurately represent the needs for states and communities.

The first and most fundamental NMSA suggestion is that an initial, high-level allocation be done providing an equal amount of funding, across the entire country, for overflows and stormwater. This suggestion accurately expresses the intent of Congress when they specifically amended the general provisions for this grant program to include stormwater. This suggestion is based upon a review and analysis of the 2012 CWNS Report to Congress, which reflect relatively similar needs exist in each sector if an adjustment is made to scale up the identified needs in the MS4 sector to represent the full sector needs. Specifically, the total documented needs listed for SSOs in the 2012 CWNS report is \$32.7 billion and the needs for CSOs is \$48.0 billion; yielding total needs for overflows of \$80.7 billion. The needs for Phase I MS4 communities is listed as \$10.1 billion and Phase II MS4s as \$6.7 billion; for a total for MS4-permitted communities of \$16.8 billion. Earlier in the Report, it is stated that data was reported for only 21% of the MS4 communities. Extrapolating the MS4 needs to the full 100% of the MS4 communities yields total needs of \$80.0 billion, almost exactly the number for overflow needs (both CSOs and SSOs).

NMSA also suggests that it is necessary and appropriate to have two different allocation formulas and prioritization recommendations, one for overflows and one for stormwater. The two sectors are too

⁹ https://www.epa.gov/sites/production/files/2015-12/documents/cwns_2012_report_to_congress-508-opt.pdf

¹⁰ https://www.epa.gov/sites/production/files/2020-01/documents/final_draft_stormwater_finance_task_force_report_for_board_review.pdf



different for one formula and one set of recommendations to be accurate and to yield reasonable results. The available data to document needs for each sector is highly variable and the relationship between precipitation and the sector needs are not the same. Because NMSA's expertise and experience is in the stormwater sector, please see below for NMSA's suggestions for an allocation formula recommendation for the stormwater sector. This suggestion also matches well with the concept of providing the high-level even allocation of funds to overflows and stormwater. NMSA's suggestion on project prioritization for States is provided at the end of this letter, as this information is outside of the input requested.

NMSA's suggestion for allocation of funds for the stormwater/MS4 sector that would provide equitable distribution of funding to this sector is to determine the total population served by MS4s across the entire country and then allocate funding for this sector by the total population served by MS4s within each state. To determine the information needed to meet the spirit of this suggested allocation approach, NMSA suggests that there are multiple methods to derive the population number for MS4-permitted communities. In the "Quick Facts" section of the EPA document titled "Municipal Separate Storm Sewer System Permits: Compendium of Clear, Specific & Measurable Permitting Examples," released in 2018, it was stated that the "Regulated MS4 area represents 4% of the U.S. land area and greater than 80% of the population"¹¹. This would suggest that EPA staff checked the population numbers for permittees when these documents were prepared. Using State demography data, it is relatively easy to get population numbers based on the list of regulated communities. Finally, it is also relatively easy to get the pollution numbers for the Urbanized Areas (U.S. Census Bureau). Most of the MS4 communities are in the Urbanized Areas.

HOLISTIC ASSESSMENT OF NEEDS IN STORMWATER, CSOs AND SSOs

As previously noted, the CWNS has historically not accurately nor comprehensively captured the extent of needs in the MS4 sector. This is primarily due to the reliance on the IUP listings provided by each state and overall lack of assistance from SRF programs in stormwater projects in state programs across the US. The 2012 CWNS Report to Congress identifies the limited data provided on stormwater/MS4 sector needs. As previously noted, EPA is seeking to find better ways to identify and gather this information for the next anticipated CWNS. If EPA is able to gather this data, the CWNS may be a good future source of information on stormwater/MS4 sector needs. NMSA suggests that EPA engage and coordinate with NMSA and other groups that are affiliated with the MS4 sector as these groups can provide insights on how best to engage with MS4s, and these groups may help to disseminate information about data collection to encourage and enhance efforts by EPA to gather this information. Lastly, NMSA suggests that EPA confer with the Water Environment Federation's Stormwater Institute as this group has led national surveys of the MS4 sector in 2018 and 2020.

INPUT ON THE COLLECTION METHOD, FREQUENCY, AND SOURCE OF INFORMATION FOR ALLOTMENT FORMULA

Input on specific aspects of the allotment formula will depend upon the final version of the formula that is used after EPA receives input via this FR notice. As previously noted, if the CWNS successfully captures stormwater/MS4 sector needs in future efforts, this may be a strong basis for future allotment formula integration. Considering the nascent and dynamic nature of the stormwater/MS4 sector, it is

¹¹ http://34551721.com/sites/production/files/2018-11/documents/final_compendium_intro_document_rev-11-15-18.pdf



suggested that data be gathered at the most frequent intervals available/reasonable, with a 4-year window being identified as the minimum period between data gathering and needs assessments updates. Finally, NMSA suggests that EPA engage with groups in the MS4 sector after the final allotment formula is determined in order to gather input from these groups.

INPUT ON THE PRIORITIZATION FOR STATES

While it is understood that EPA has not requested input on the prioritization of funds to be used by States, NMSA would like to take the opportunity to share thoughts on this topic. Significant aspects of the prioritization listed in the 2018 AWIA legislative language is targeted for overflows rather than MS4/stormwater investments. These priorities are listed out in statute 33 U.S. Code § 1301, section (b) as:

In selecting from among municipalities applying for grants under subsection (a), a State or the Administrator shall give priority to an applicant that-

- (1) is a municipality that is a financially distressed community under subsection (c);
- (2) has implemented or is complying with an implementation schedule for the nine minimum controls specified in the CSO control policy referred to in section 1342(q)(1) of this title and has begun implementing a long-term municipal combined sewer overflow control plan or a separate sanitary sewer overflow control plan;
- (3) is requesting a grant for a project that is on a State's intended use plan pursuant to section 1386(c) of this title; or
- (4) is an Alaska Native Village.

Regarding item (1), the definition of “financially distressed” as defined in subsection (c) defers to State affordability criteria or in reference to a “significant increase in any water or sewer rate charged by the community’s publicly owned wastewater treatment facility.” While the portion of this definition deferring to State affordability criteria may be relevant to the stormwater sector, the later portion listed in the definition is directly tied to the wastewater sector that neglects the stormwater/MS4 sector.

Item (2) is directly tied overflows and not associated with stormwater/MS4 communities, and while Item (3) does not officially preclude the inclusion of stormwater/MS4 projects, the historical record of assistance provided for stormwater projects through the SRF programs across the country suggests that this item is also very limiting towards the stormwater/MS4 sector. Item (4) may have relevance for the stormwater/MS4 sector; however, recent focus for Alaska Native Villages has been on the need for basic drinking water and wastewater infrastructure investment, which suggests that stormwater/MS4 issues are a much lower priority.

Considering the lack of tie of the current prioritization to the stormwater/MS4 sector in the context of the suggestion to bifurcate the program to fund the overflow and the MS4 sectors equally, NMSA suggests that the existing prioritization language should be used for the overflow funding and new and different prioritization language should be developed for the stormwater/MS4 funding. NMSA suggests the following prioritization language for the stormwater/MS4 funding:



In selecting from among municipalities applying for grants for stormwater projects under subsection (a), a State or the Administrator shall give priority to an applicant that-

- (1) is a municipality that is a financially distressed community as defined by State criteria;*
- (2) is a municipality covered under an MS4 permit;*
- (3) is in good standing with State or other pertinent regulatory authority;*
- (4) is a municipality with a stormwater utility or another similar form of dedicated revenue to support stormwater infrastructure investments and programmatic activities;*
- (5) has developed a stormwater infrastructure capital and maintenance plan as defined in subsection (d); or*
- (6) is a municipality with a Waste Load Allocation from an EPA-approved TMDL.*

(d) Stormwater Infrastructure Capital and Maintenance Plan

(1) Definition: In subsection (b), the term “stormwater infrastructure capital and maintenance plan” means a multi-year plan established by a community with an MS4 permit that provides details on the number and type of investments in infrastructure providing urban runoff conveyance or treatment services. The plan should also include information on funding and/or financing source or plan as well as funding identified for robust inspection and maintenance.

CONCLUSION

NMSA thanks EPA for the opportunity to provide input on this important topic and stands ready to provide further input now or at a later time if there is a need for further explanation or enhanced contextual framing for the comments provided in this letter. We also respectfully request a meeting with EPA staff along with a subset of our states members to provide additional and more contextually-specified input on this matter.

Thank you for considering our support and our input. Please contact me at seth.brown@nationalstormwateralliance.org or (202) 774-8097 with any questions regarding this material covered in this document.

Sincerely,

A handwritten signature in black ink, appearing to read "Seth P. Brown".

Seth P. Brown, PE, PhD
Executive Director
National Municipal Stormwater Alliance