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Maryland Department of the Environment Water and Science Administration

Basis for Final Determination to Modify Anne Arundel County's National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Permit

DISCHARGE PERMIT NO. 11-DP-3316 NPDES NO. MD0068306

Effective Date:	December 7, 2018
Expiration Date:	February 11, 2019

Introduction

The Maryland Department of the Environment (the Department) made a tentative determination on August 31, 2018 to modify the National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system permit ("stormwater permit" or "MS4 permit") issued to Anne Arundel County (the County). The stormwater permit that was originally issued on February 12, 2014 established specific conditions for regulating discharges from Anne Arundel County's storm drain system. Public notice of the Department's tentative determination appeared in the Maryland Register on August 31 and September 14, 2018 and in The Capital newspaper on September 5 and 9, 2018 as required by Maryland's Administrative Procedures Act (APA). Additionally, the Department maintains an interested parties list that includes federal, State, and local municipal officials as well as numerous citizens of Anne Arundel County and Maryland that were notified of the tentative determination.

In addition to the notification of tentative determination, the Department conducted a public hearing regarding the proposed modifications to the County's permit. The hearing to accept testimony and comment regarding the modifications was held on October 18, 2018. Three individuals representing various environmental groups testified at the hearing and an official transcript of the proceedings furnished by For The Record, Inc. is available on the Department's website.

After the hearing, the public record regarding the modifications to Anne Arundel County's stormwater permit remained open until November 29, 2018 to accept further comment in accordance with the APA. In aggregate, the comments received during the public hearing offered various perspectives on the major tenets of water quality trading and with respect to Anne Arundel County's stormwater permit. The issues receiving the most comments included procedures for water quality trading, how trading affects the existing impervious surface restoration requirement, and how trading will affect future permit requirements. Each of these issues will be addressed below as part of the Department's Basis for Final Determination.

Background

When the Chesapeake Bay Total Maximum Daily Load (TMDL) was published in December 2010, each state in the Chesapeake Bay watershed was required to develop a Watershed Implementation Plan (WIP) for how they would achieve the pollution load reductions required by the TMDL. Maryland's WIP established a State framework for meeting the water quality goals for the Chesapeake Bay by 2025. Much of the urban stormwater goals were to be implemented through NDPES MS4 permits. Specifically, the Department's NPDES MS4 permits address stormwater concerns related to local and Chesapeake Bay TMDLs via a 20 percent restoration requirement for impervious surfaces that have no treatment.

Anne Arundel County's NPDES MS4 Phase I permit that requires the 20 percent impervious surface restoration was issued on February 12, 2014. In an August 10, 2018 letter from Anne Arundel County, requesting an MS4 permit modification, the County stated that it would be able to complete the restoration of 2,000 impervious acres by the end of its permit term on

February 11, 2019. This is equal to 34% of the County's restoration requirement of 5,862 impervious acres.

Restoration control practices implemented by the County include traditional methods (e.g., ponds, filters, wetlands) and alternative methods (e.g., street sweeping, tree planting, stream restoration) based on the Department's "Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits" (MDE, August 2014), also known as the MS4 Accounting Guidance.

1. Water Quality Trading Program Regulations

Numerous comments received by the Department were directly related to the recently adopted Water Quality Trading Program regulations, Code of Maryland Regulations (COMAR) 26.08.11, which became effective on July 16, 2018. These regulations were originally published in the Maryland Register, 44:25 Md. R. 1189-1195, on December 7, 2017, and republished with nonsubstantive changes, 45:14 Md. R. 698-702, on July 6, 2018. Comments regarding Maryland's Water Quality Trading Program that have been addressed through prior regulation adoption and citizen participation opportunities found in State Government Article (SG) Annotated Code of Maryland, Title 10, Subtitle 1, and 7-213 include:

A. Local Water Quality Provisions

Comment: It must be made clear that credits must only be applied in close proximity to where they're generated; otherwise we are sacrificing local water quality and quality of life.

Department Response: Water quality trading regulations in COMAR 26.08.11.08 stipulate how local water quality is addressed and limitations on where the credits can be generated.

B. Major/Minor Permit Modifications

Comment: If the permit modification is approved by MDE, any actual use of a credit should be considered a major modification that should be subject to public notice.

Department Response: Water quality trading regulations in COMAR 26.08.11.07 - 12 contain specific rules for crediting, certification, verification, registration, enforcement, and an appeal process for ensuring public transparency.

C. Nonpoint Source Trading Ratios

Comment: MDE should only allow trading between NPDES permitted facilities where water quality benefits are certain OR if trading with a nonpoint source generated credit, then impose a 2:1 uncertainty trading ratio.

Department Response: Water quality trading regulations in COMAR 26.08.11.08.C include criteria on uncertainty ratios, edge of tide ratios, and reserve ratios.

D. Performance Standards and Associated Pollutant Reductions

Comment: Looking at the waste water treatment plants (WWTPs) operating below three (3) parts per million (ppm), if MDE doesn't prohibit it, they can potentially use a loophole where you could have literally thousands of credits being generated for free or for little cost.

Department Response: WWTP performance criteria are stipulated in COMAR 26.08.11.06 for total nitrogen and total phosphorus and ensure that additional pollutant reduction credits are generated.

E. Best Management Practice (BMP) Certification, Verification, and Registration

Comment: The amount of the pollutant reduction must be quantifiable, durable, verifiable, and enforceable.

Department Response: Water quality trading regulations in COMAR 26.08.11.11 - 14 ensure that nutrient credits are certifiable, verifiable, publicly registered, enforceable, and open to an appeal process.

2. Timing/Necessity of the Proposed Modifications

Numerous comments received by the Department questioned the timing of the proposed modifications. There were also questions asking why trading is necessary or should be allowed. Specific comments regarding the timing and practicality of the proposed modification include:

A. Nutrient Trading Does Not Seem Critical to Meet MS4 Permit Requirements

Comment: Why is [the County] now requesting permit modifications to introduce nutrient trading? Financial Assurance Plans (FAP) submitted to the Department indicates the County has a realistic budget for meeting the impervious surface restoration (ISR) requirement. There seems no explanation for why a permit modification is now necessary, nor that nutrient trading should be the mechanism used to meet permit requirements.

Department Response: The Permit Modification Fact Sheet explains that each County has maintained adequate funding to meet the ISR requirement. However, in all cases, timing delays encountered during the project design and permitting process and other contractual arrangements impacted project completion deadlines. Therefore, each County has requested the ability to utilize the new trading option to address these limitations in a cost effective manner.

B. Uncertainty of County MS4 Programs and Continued Restoration Implementation

Comment: If trading is allowed, will the [County] maintain commitments to projects in communities that have been planned?

Department Response: The Permit Modification Fact Sheet notes that nutrient load reductions achieved through the trading program shall be replaced by stormwater practices during the next permit term. Permittees shall continue to pursue current restoration efforts and track progress in annual reports as specified in the permit modification.

C. Compliance Period

Comment: What is the effect of an administratively continued permit in the trading modification scheme?

Department Response: Federal regulations specify that expired NPDES permits remain in effect until a new permit is issued. The modification specifies that the permittee shall report BMP implementation, trading credits, and required documentation to the Department on an annual basis until re-issuance of the permit.

3. Future Permits, Modifications, and Legal Action Related To Permit Compliance

A. Extended Compliance and Additional ISR Requirements

Comment(s): Several comments received by the Department were related to compliance with the current permit and/or the transition to the next permit. More specifically, there were requests for additional ISR requirements in the next permit and questions on whether the ISR compliance could be extended into the next permit. There were also questions on the process if the permittees are not in compliance with the ISR requirement after utilizing trading provisions. Finally, the Department was asked if there are other Phase I NPDES MS4 permits that will be modified.

Department Response: As noted above, the Fact Sheet provides information on how trading under the current permit will affect requirements in future permits. More specifically, nutrient trading to meet the MS4 permit's 20 percent ISR requirement shall be continued annually until a new permit is issued to Anne Arundel County. The trading regulations (see COMAR 26.08.11.08) specify that if there is a default in a trade contract, expiration of a credit, or suspension or revocation of a credit, the buyer (e.g., the County) using the credit remains responsible for complying with the permit. In any of these events, the permit modification requires the County to inform the Department annually of how it is maintaining compliance with the restoration requirement of the permit.

With respect to the new permit, the Department will notify and engage stakeholders in the process when it is drafted. There will be further opportunity for public comment and participation on this matter in future permits. This applies to any other NPDES permit modification and compliance actions taken by the Department under the terms of this permit.

B. Transparency and Nutrient Credit Calculations

Comment(s): Concern was expressed that there should be more transparency as to how nutrient credits are calculated.

Department Response: PART IV.E.3 of the permit (Nutrient Trading) specifies that "[T]he basis for an equivalent impervious acre restored through trading is the difference in pollutant loads between urban and forest stormwater runoff according to [the Accounting Guidance]." Appendix D of the Accounting Guidance explains the nutrient conversion process and provides example calculations to determine impervious acres treated based on given pollutant load reductions. Specifically, Tables D.1 and D.6 provide the level of nutrient load reductions per acre of nutrient trading credit. Therefore, this information is already available and is incorporated by reference into the modified portion of the permit.

C. Specificity on Nutrient Amounts

Comment(s): There were several comments that recommended specific changes to address the need for transparency. These changes included adding specific amounts (e.g., pounds per acre) of nitrogen, phosphorus, and sediment in the permit and/or identifying a "pound-to-acre" conversion factor to be used in determining compliance.

Department Response: With respect to including specific amounts of each nutrient in the permit, the County is currently working to meet the ISR requirement using practices identified in its annual reports and FAPs. The results of these efforts will be reported in the upcoming annual report(s). Until then, the Department cannot determine how much nutrient trading each jurisdiction will need to comply with the current permit. Because of this uncertainty, it would be inappropriate for the Department to assign specific amounts within the permit.

D. Nutrient Trading is a "Free" Credit

Comment(s): Concern was expressed that nutrient trading was a "free pass" for meeting the ISR requirements within the current permit, especially for those jurisdictions that have reduced or eliminated stormwater fees.

Department Response: Nutrient trading is not a "free pass." The County currently contributes to the operation and upgrades of wastewater treatment plants within its jurisdiction or that are shared. Additionally, performance criteria are stipulated in COMAR 26.08.11.03 to ensure that additional pollutant reduction credits are generated. With respect to local stormwater fees, these are not required as long as each jurisdiction demonstrates a fiscal capability to address permit requirements. This capability is assessed through each jurisdiction's FAP.

Conclusion

Anne Arundel County's permit represents a major step forward in meeting the water quality objectives of the Clean Water Act (CWA). Requirements in the permit include restoring 20 percent of the County's impervious area (i.e., the ISR requirement), and developing restoration plans to meet stormwater wasteload allocations (WLAs) to address Chesapeake Bay and local water quality impacts. With respect to the ISR requirement, the County has documented that capital and operational funds necessary to meet this requirement are available. However, the physical capacity for implementing BMPs within the five-year permit timeframe has limited implementation.

In July 2018, Maryland adopted a program that allows MS4 permittees to use nutrient credit trading. Because this option was not available at the time of issuance, the existing permit must be modified to allow nutrient credit trading as an option for meeting ISR goals within the framework of the permit. Therefore, the Department has reached a final determination to modify Anne Arundel County's MS4 permit to use Maryland's newly authorized nutrient trading program as an option to meet its 20 percent ISR requirement.

Comments Submitted by:	Comment(s) or Question(s)	Relevant Response
Chesapeake Bay Foundation	Please provide the methodology, including an example, of how pounds listed on the registry will be converted to the remaining impervious surface restoration acreage required under the permit. ¹	§3, pp. 4-5
(oral & written comments)	Will MS4s be required to purchase nitrogen, phosphorus, and sediment credits from the registry in the same amounts that would be anticipated to be reduced by impervious surface restoration? ¹	§1, pp. 2-3
	How will COMAR 26.08.11.08(E), restricting the use of a credit in an impaired watershed to credits purchased within that watershed, be applied to MS4 permits that cross multiple watersheds? ¹	§1, pp. 2-3
	"In order to ensure that the trading approach achieves the same benefits that impervious surface restoration would, we believe the modification should stipulate the purchase of equivalent credits for the amount of nitrogen, phosphorous and sediment associated with the difference between an acre of impervious surface and an acre of forest. In part, our basis for that is that the guidance document itself specifies one to one credit awarded only for the conversion of impervious surface to forest." ²	§3, pp. 4-5
	"[W]e also recommend that the permit modification use a simple pound-to-acre conversion, instead of referencing the guidance that does not directly speak to this issue. We feel the pounds required to be purchased per acre should be stated outright numerically in the permit modification itself." ²	§3, pp. 4-5
	"[T]he modification should clarify how the credits purchased will comply with COMAR 26.08.11.08-E, which is the local water quality protection provision." ²	§1, pp. 2-3
	MDE should finalize and publish the [Trading] Registry in conjunction with these permit modifications, so that Baltimore County can proceed and complete trades to accomplish their permit obligations. ²	§1, pp. 2-3
	"CBF is concerned that the majority of the stormwater reductions required by the permit will now be replaced by the purchase of credits from other sources and in other watersheds Allowing unlimited credit purchasing instead of local restoration will endanger local water quality and delay progress towards attainment of local TMDLs. Furthermore, setting the expectation that all unmet permit obligations may be met through trading will exacerbate the delay and disruptions in program implementation. Therefore, CBF recommends setting a clear limit on the ability to purchase credits in lieu	§2, pp. 3-4

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	of restoration obligations, and also setting clear expectations that the ability to trade will also be limited in the future." ³	
	"The proposed modification language incorporates MDE's "Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits" (Guidance Manual) as the basis for required credit purchases For the sake of public transparency and ease of tracking pounds of credits needed against pounds of credits purchased from the trading registry, CBF recommends that the permit modification specifically identify the number of nitrogen, phosphorus, and sediment credits needed for each acre of impervious surface restoration. Since the purpose of the impervious surface restoration requirement is to address runoff from impervious areas, the appropriate loading rate would be from an urban impervious acre to forest. Under Model version 5.3.0, which was in effect when the current permits were issued, the delta between urban impervious and forest is 7.68 pounds per acre per year for nitrogen, 1.91 pounds per acre per year for phosphorus, and 0.43 tons per acre per year for sediment. These values should be listed directly in the permit modification with a clear directive that permittees much purchase these values for each acre of impervious surface restoration that is being replaced with credit purchases." ³	§3, pp. 4-5
	"[I]t should be made clear in the permit modification language itself what the strategy is for the "trading in time" approach CBF recommends the inclusion of language in the permit modification itself that formalizes the expectation that credits must be maintained until converted into stormwater practices, and that the conversion must happen in the next permit term The permit modification language should also make it clear that those purchased credits will be required to be maintained annually until the conversion is done." ³	§2, pp. 3-4
	¹ Email from Ms. Elaine Lutz, CBF, to Raymond Bahr, MDE, 10/08/2018 ² Comments provided at public hearings, 10/11, 10/18, & 10/25/2018 ³ Written comments received 11/29/2018	
Maryland League of Conservation Voters; Choose Clean Water Coalition	"Number one is trading being injected into a permit that's about to expire. You know, it seems inappropriate, since it could set a dangerous precedent if trading is used as basically a way to give [Baltimore] County a free pass or walking away from their commitments from water quality. And it's a concern that this, if introduced it could basically weaken this permit and potentially reward noncompliance, both in the present and into the future, for future permits." ¹	§1, pp. 2-3

Comments Submitted by:	Comment(s) or Question(s)	Relevant Response
(oral & written comments)	"[W]e really, really feel strongly that nutrient trading has to finance real and true projects on the ground." ¹	§2, pp. 3-4
	"[L]ooking at the wastewater treatment plants and the ones operating below 3 ppm, if MDE doesn't prohibit it, they can potentially use a loophole where you could have literally thousands of credits being generated for free or for little to no cost. And so what this would potentially do is flood the market and crash it, jeopardizing basically the purpose of that trading system to create a demand for new and innovated cost-effective projects. You know trading should create new pollution reduction that's not already being accomplished elsewhere, right?" ¹	§1, pp. 2-3
	[Expresses concern about the County allocating \$0 to 1,000 acres of restoration via trading in their FAP, assuming no need to spend money to obtain credits, and points out that County documented sufficient funds to meet the 20% ISRP; County should have no issue investing in credits.] "However, what we saw happening is that the County getting rid of [the stormwater fee], having the [FAP] saying they get free creditwe fear that Baltimore County, with this trend, is looking for a way to have a free way to make it look like they're reducing pollution whileescaping their clean-up obligations." [Does not want MDE to "give a free pass to Baltimore County."] ¹	§3, pp. 4-5
	[How trading will work between jurisdictions] "[W]e're very curious about where these credits will be bought, since we don't think Baltimore County has any [WWTPs] within the jurisdiction that they could trade with that are below the baseline. So it looks like they're going to be having to go elsewherethat could compound the issue of [having] impaired local waterways and you're now buying things potentially from outside that watershed." ¹	§1, pp. 2-3
	"[W]ethink that there really needs to be more information made clearto the public of exactly how these credits are going to be calculated[for example,] one acre of impervious surface that translates to how much nitrogen, [phosphorus and sediment]transparency, I think, is paramount there." ¹	§3, pp. 4-5
	"[W]e remain considerably concerned about hotspots of pollution and trading causing potential environmental justice issues where underserved communities suffer the brunt of the environmental pollution." ²	Noted
	"The modification must have limitations so that a county cannot use trading to obtain the majority of its permit obligations." ²	§3, pp. 4-5
	"We object to the current system which could potentially allow mistakes and fraud due to	§1, pp. 2-3

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	the lack of oversight of engineers. During the October 22nd Nutrient Trading Webinar, MDE admitted that the only thing stopping unscrupulous engineers from certifying counterfeit credits is their oath and the code of ethics of professional engineers. Temptation for fraud is too great. It is imperative that MDE do more to ensure counterfeit credits are not certified. MDA is spot checking a percentage of their certified credit projects. Oversight is imperative to the credibility of any market or trading system." ²	
	¹ Comments provided at public hearings, 10/11, 10/18, & 10/25/2018 ² Written comments received 11/29/2018	
Blue Water Baltimore	"[T]he proposed modification could weaken protections for local waters and communitiesby allowing trading as a substitution for restoration practices."	§1, pp. 2-3
(oral comments)	"How exactly would the trading be executed? The modification doesn't make it clear whether trading can occur between jurisdictions or what the guidelines are for implementing a trade."	§1, pp. 2-3
	"[I]t must be made clear that credits must only be applied in close proximity to where they're generated, otherwise we are sacrificing local water quality and quality of life to residents."	§1, pp. 2-3
	[If permit mod is approved by MDE,] "any actual use of a credit should be considered a major modification that should be subject to public notice and comment on each trade, as required by EPA regulations to ensure transparency and verification of those credits."	§1, pp. 2-3
	[Concern about issuance of modification close to expiration] "It is concerning, as it sends a signal to permit holders who won't meet their requirements during this permit term, that they won't be held accountable by MDE in this permit or in future permits."	§1, pp. 2-3
	"[W]e urge the Department to establish a minimum impervious surface restoration requirement that cannot be traded, require credits to be used in close proximity to where they were generated to prevent pollution hotspots, and to minimize uncertainty of credits by using a 2:1 trading ratio to avoid sacrificing local water quality"	§1, pp. 2-3
Audubon Naturalist Society	[Implications if BaltCo does not meet the 20% ISRP, even with trading?] ¹	§3, pp. 4-5
(oral & written comments)	[Can current compliance period be extended into new permit period, and if permittee is not in compliance with permit, even after trading is added, can they still trade past the expiration date, or during a new permit term, i.e., "during a new yet-to-be-issued permit period"] ¹	§3, pp. 4-5
	[Any other MD Phase I jurisdictions plan to modify permit for trading besides BaltCo,	§2, pp. 3-4

Comments Submitted by:	Comment(s) or Question(s)	Relevant Response
	AA and PG?] ¹	
	"What is the effect of an "administratively continued" permit in the trading modification scheme? Can the new Phase I MS4 permits be administratively continued for the sole purpose of enabling trading completion and certification? Would this be an allowable extension of the 'compliance period'?" ¹	§3, pp. 4-5
	[Request for additional ISR requirement in next permit on top of any trades used to meet current permit requirements] ¹	§3, pp. 4-5
	"MDE must continue to push the counties to achieve the 20% level of impervious surface restorationeach permittee jurisdiction should complete the full 20% ISR." ²	§2, pp. 3-4
	"Nitrogen loads are to be reduced through vigorous impervious surface restoration and this requirement must be a new and separate requirement in the new permit." ²	§3, pp. 4-5
	"The use of trading does not excuse, reduce or replace the new permits' ISR and nutrient reduction requirements; purchased credits must be maintained until replaced with stormwater practices; trading is to be allowed only to the extent that it is needed above and beyond ISR to meet nitrogen targets; and trading for stormwater must be time-and space limited and focused on nitrogen reduction" ²	§2, pp. 3-4
	"MDE and the counties must incorporate more green infrastructure to insure that local streams are protected from stormwater pollution" ²	Noted
	¹ Comments provided at public hearings, 10/11, 10/18, & 10/25/2018 ² Written comments received 11/29/2018	
Maryland Clean Agriculture Coalition (written comments)	"We must reiterate our consistent concern that any credits used to comply with NPDES permit requirements must result from the actual implementation of pollution reduction measures, and the amount of the pollution reduction must be quantifiable, durable, verifiable and enforceable."	§1, pp. 2-3
	"MCAC is also concerned about the use of trading to comply with NPDES permit requirements because one of the purposes of those regulations, as stated by MDE and the Maryland Department of Agriculture (MDA), has been to encourage the farming community to generate and sell credits based on installation and maintenance of best management practices (BMPs)."	§1, pp. 2-3
	"[I]f the modifications proposed by MDE are included in these MS4 permits, a subsequent decision by the permittee to use a particular credit should be subject to public notice and opportunity for comment, pursuant to 40 C.F.R. 122.62 and 40 C.F.R. 124.5,	§1, pp. 2-3

Comments Submitted by:	Comment(s) or Question(s)	Relevant Response
	of the permit that would not be a "minor modification" under 40 C.F.R 122.63. Such notice and comment is essential so that the public can evaluate and comment on whether the credit has been properly calculated and documentedComment would be limited to this specific proposed credit use."	
Potomac Conservancy (oral comments)	"Nutrient trading does not seem critical for Prince George's County to meet its MS4 permit requirements." [Wondering why PG County is requesting permit modification and expressed concern that in issuing this modification, MDE would avoid/skirt enforcement actions in the event of noncompliance]	§2, pp. 3-4
	"The modification language is too vague to result in real, meaningful water quality improvements." [Request for transparency in means and methods regarding credits and trades, with information, including trade transactions, being publicly available.]	§1, pp. 2-3
	"How will MDE enforce this new program when levels of staffing and enforcement actions continue to decline?"	Noted
	"The timing and process for these modifications is inconsistent and creates uncertainty regarding the future of the state's MS4 program"	§2, pp. 3-4
Maryland Municipal Stormwater Association (MAMSA) (written comments)	"MAMSA supports the modification of MS4 permits to include trading authorization, which will allow MS4 permittees to acquire total nitrogen (TN), total phosphorus (TP), and total suspended solids (TSS) credits consistent with the Maryland Water Quality Trading Program regulations at COMAR 26.08.11 The modification is appropriate because it will bring the permits into alignment with current regulations adopted after the issuance of the permits."	Noted
	"MAMSA supports nutrient and sediment trading MAMSA notes that the State's program is very stringent and includes numerous safeguards to ensure that trading is implemented in a transparent fashion"	Noted
	"It is imperative that MDE issue MS4 modified permits as soon as possible to allow permittees to avail themselves of the new trading option. These are the first of potentially several deadlines in permits for related action. MDE must complete the modifications well in advance of deadlines to which trading is relevant."	Noted