CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

June 4, 2010

Mr. Garrison D. Miller
U.S. Environmental Protection Agency
Office of NPDES Permits and Enforcement (3WP41)
1650 Arch Street
Philadelphia, PA 19103-2029

By US Mail and e-mail: miller.garrison@epa.gov

RE: Draft NPDES Permit No. DC0000221

Dear Mr. Miller:

Please accept the following comments of the Chesapeake Bay Foundation, Inc. concerning the above-titled draft Municipal Separate Storm Sewer System ("MS4") Permit for Washington, D.C. The Chesapeake Bay Foundation ("CBF") is a non-profit organization dedicated to the restoration of the Chesapeake Bay ecosystem; CBF has more than 230,000 members nationwide, with almost 6,000 residing in Washington, D.C. We note that the Natural Resources Defense Council ("NRDC") has submitted comments on this draft permit, and to the extent they are consistent with our own, we wish to adopt and incorporate their comments by reference.

This Permit renewal is a substantial advance over the 2004 Permit. It has gone through several Permit cycles as well as it has been legally challenged on multiple occasions. In this April 2010 iteration, the U.S. Environmental Protection Agency ("EPA" or "the Agency") proposes its reissuance with such improvements as some measurable benchmarks and specific stormwater performance standards; the integration of various "green infrastructure" techniques and practices, MS4-wide; an off-site mitigation program; a retrofit and stormwater remediation program; and the incorporation of the District's Total Maximum Daily Loads ("TMDLs") for several pollutants.

We commend the Agency for many of these improvements, although before they are either finalized in this Permit or can be replicated in the dozen or so other Phase I MS4 permits still to be reissued within the Chesapeake Bay watershed (*See* paragraph 9.c of the Settlement Agreement between CBF and US EPA dated May 10, 2010 ["Settlement Agreement."]), they will require substantial change, clarification and enhancement. Indeed, a significant number of changes must be made to improve this Permit's performance, clear its ambiguities, and make certain that it follows the law. In

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addition to the extensive comments by our colleagues at NRDC, below please find our detailed comments identified by Draft Permit section number.

Please note that we do not doubt the difficulty or challenge to be faced by the District in implementing a new Permit based on some of these principles. We do, however, believe that an aggressive new Permit is required under the Clean Water Act and the forthcoming Bay TMDL, and is absolutely necessary to accomplish the clean water goals so important to restoring to health the Chesapeake and its tributary rivers and streams. Until the serious legal and technical defects of this draft Permit are remedied, it should not be issued, and it cannot begin to do its important job.

3.3 Source Identification

This section directs the permittee to implement controls "to minimize and prevent discharges of pollutants…to receiving waters." It directs that "Controls shall be designed to prevent and restrict pollutants from coming into contact with stormwater, *e.g.*, restricting the use of lawn fertilizers rather than end-of-pipe treatment." It seeks a set of program priorities and a schedule of activities for the implementation of strategies, in subsequent Annual Reports. This is a very useful and commendable, although ambitious, permit element. Without further elaboration or emphasis, however, it will simply get lost in the "noise" of the larger Permit. For example, the full suite of controls expected should be discussed, and deadlines should be set for implementing them.

4.1.1.a-d. Performance Standards for New and Redevelopment; Code and Policy changes; Mitigation Program

Federal and non-federal developers disturbing 5,000 square feet or more have the option of designing and constructing stormwater controls that retain and treat through evapo-transpiration, infiltration, and/or stormwater harvesting 1.2" of stormwater (i.e., from the 90th percentile 24 hour storm) for non-federal development, and 1.7" (i.e., from the 95th percentile 24-hour storm) for federal development activities, OR achieving retention of "predevelopment runoff volume" through these techniques. Meeting these standards will be considered as being below excursion levels of applicable TMDL waste load allocations ("WLAs") and DC water quality standards.

We believe these standards are implementable, affordable, and required in order to advance the meeting of water quality standards in the District, the Potomac and Anacostia Rivers, and the Chesapeake Bay. Managing for 1.2 inches is similar to the 90th percentile storm performance standards established and already working in several other states (e.g. North Carolina and Delaware), and localities (e.g. Philadelphia, Pennsylvania and Ventura County, California). Even local governments in our own metropolitan region, such as Montgomery County, Maryland, utilize a performance standard that is at least as stringent; indeed, there the standard is substantially higher – achievement of the so-called Channel Protection volume (CPv) or 2.6" of management, 1" of which must be

accomplished via "Environmental Site Design" or green infrastructure-type practices, even in dense Central Business Districts such as Bethesda and along Rockville Pike. Managing for the 95th percentile 24-hour storm event, which is required for federal facilities, is consistent with the Guidance published to implement §438 of the Energy Independence and Security Act of 2007 and has been demonstrated to be feasible.

What is not specified in the Permit, but should be, is a characterization of the kinds of practices that are *preferred* in order to meet these standards. The practices that should be so specified are accorded different names in different places around the country. In Maryland, the process and practice is known as Environmental Site Design ("ESD"); elsewhere it is known as Low Impact Development ("LID") or "Green Infrastructure." For the most part these are all comparable, and refer to techniques and practices which attempt to mimic natural hydrology and attenuated flow through as natural a set of means as possible, with "softer," vegetation-based infiltration methods, or similar techniques to promote the evapo-transpiration, filtration, and re-use that is named in the standard. Volume control, without more, will not adequately meet such standards.

CBF agrees that there should be available an off-site mitigation and fee-in-lieu program for projects where severe physical site constraints (with severity being further defined and clarified in this Permit) in highly urban settings could prevent meeting these standards. There may also be an economic basis for providing an off-site mitigation option. For either to be used as a premise for off-site mitigation or a fee-in-lieu, however, an applicant must first be required to clearly *demonstrate* what such obstacles are, and that it has gone through a thorough, step-wise analysis of every possible solution to them. As regards economics, no such alternative should be made available unless stormwater management costs are shown to exceed 10 percent of total project costs. It should be noted that all indications are that management under this standard will customarily cost substantially less than that.

We also agree that some adjustment to the retention standards might be warranted where proposed high density, mixed use, walkable, well-designed and well-located, highly energy-efficient or energy-producing, and transit-oriented projects can sufficiently *quantify* their water quality, air quality, or other environmental benefits. Several additions are necessary to create some certainty within the mitigation program for its users and regulators. First, EPA should specify a ratio of required off-site mitigation, in order to: (1) overcome the possibility of off-site mitigation failure or lesser benefit, and (2) to provide an additional incentive for first meeting the standard on-site. We recommend a 2:1 ratio as one that is commonly used in comparable environmental mitigation programs and situations.

Second, any adjustments to the performance standards permitted due to the provision by redevelopment projects of "other environmental benefits" must be closely circumscribed within this Permit. The maximum adjustment permitted should be down to a performance standard "floor"of 0.9 inches of water retention and management, and a

project could earn such an adjustment only with: (1) a development program having a minimum of three or more of the qualities or attributes noted in the paragraph above, and (2) strong and convincing evidence of the other environmental benefits. Such benefits must be specified and quantified particularly to the project in question. Thus, for example, it would not be sufficient for an applicant to claim that its commercial office project, locating "downtown," would be "better for the environment" than it would were it to have located in a distant suburb. On the other hand, it might be appropriate to claim, *and quantify* that, since a project (for example) includes secure, covered bicycle lockers and showers, charging stations for five electric vehicles, is located two blocks from a Metro station, and has designed into it a broad mix of different uses, certain quantified air quality benefits accrue.

Third, it is important that such mitigation be as certain and enforceable as possible. A requirement for a systematic assessment of water quality within all of the District's watersheds, and an ordinal identification of the best, most pressing, most appropriate and cost-effective watershed improvement opportunities, is necessary. Indeed, within the first year of this Permit, the District should provide a schedule for both the completion of such assessments, and for developing and implementing design plans for remediation that can then immediately be undertaken, in specific locations, in priority order. By the end of Year Two under this Permit, the District should have completed at least one significant watershed analysis and plan, and it should at least complete a similar analysis and plan every year thereafter. The District should be required to certify under this Permit the completion of mitigation projects that incorporate particular mitigation funds or materials.

Finally in this regard, it should be specified that mitigation should if at all feasible occur in the same watershed, and preferably in the same sub-watershed, as the particular development impact.

4.1.2 Retrofit Program

The retrofit program is a strong and necessary addition to this Permit, in order to begin – and complete after several permit cycles -- the process of restoring to highly urbanized, impervious parts of the District those water quality characteristics necessary to reestablish the Clean Water Act's fishable/swimmable standards for its rivers and streams, and to help achieve WLAs in the Chesapeake Bay/Potomac TMDLs. It is appropriate to peg such retrofits at the performance standards set out in § 4.1.1.a and b, and to provide some flexibility for difficult site conditions, although again, flexibility without a "floor" is inappropriate. We believe that the outward bound or floor should be the effective management of 0.9 inches of stormwater, and that the use of off-site mitigation and fees-in-lieu should be constrained in the same manner as recommended above, *i.e.*, more than mere relative difficulty in achieving the performance standards needs to be shown. Rather, it must be *demonstrated* that a thorough, step-wise analytic process was undertaken to evaluate the water quality impacts of every possible site-

appropriate retrofit/restoration alternative, and that the best results that can reasonably be expected would be those yielding a somewhat lesser standard -- though no lower than the 0.9 inches lower bound.

It is commendable that the Permit sets a management objective for implementing retrofits over the course of the Permit. It is not clear, however, how the 18,000,000 square feet (413 acres) of impervious surface which is to be modified over five years (just 83 acres per year) compares to the thousands of acres of impervious surface that are to be modified under Montgomery County, Maryland's new MS4 permit (*30 percent* of its imperviousness is now required to be treated, not 20 percent as noted in this Permit's fact sheet, since the County must complete the previously required 10 percent, and add an additional 20 percent).

It is true that Montgomery County has five times more pervious area (or five times less imperviousness), expressed as a percentage of its total area, than does the District. To be exactly proportional, then, the District would only be charged with retrofitting six (6) percent (i.e., 0.30 ÷ 5) of the total uncontrolled impervious area within the MS4. Such a calculation (0.06 x 9,200 ac) would result in an initial retrofit objective of 552 acres over the five year permit life, instead of 413 acres. The problem with such exact proportionality, however, is that such a number would result in a completely unacceptable *16+ permit cycles, or 83 years*, to complete this task. We recommend tripling that amount to a reasonable 1,656 acres, which is equivalent to 18 percent of the MS4's impervious area; this would reduce the completion time to about 25 years or five permit cycles.

Finally in this regard, as noted previously with respect to mitigation (see above), the Permit should require the District to undertake retrofit work systematically, applying retrofit projects in priority order, as each watershed is analyzed in the process outlined above.

4.1.3, 4.1.4, and 4.2.1 Tree Canopy and Green Roofs, District-owned properties' rehab

These components of the proposed stormwater management program are useful both for what they can individually achieve by way of water quality improvements over time, and as on-going examples for the private sector and the federal government. Attaining an objective of planting almost 21,000 trees over this Permit cycle, wherever they can provide the best opportunity to retain or help treat stormwater runoff, is commendable. By the same token, having the Permittee commit to installing 350,000 square feet (about 8 acres) of green roofs over the Permit cycle is useful for the stormwater it would retain and treat, as well as providing a model for such coverage in private development projects across the City. Finally, it is of equal importance to provide, as this Permit does, that the District shall "ensure that every new building and major renovation...for District-owned properties" include stormwater practices and measures that can achieve the stormwater performance standards of § 4.1.1.

4.6 Stormwater Management for Construction Sites

It is our firm belief that the current federal requirements (EPA NPDES Construction General Permit, and EPA's Construction Effluent Limitation Guidelines) are not stringent enough to be applied here in the Chesapeake Bay watershed, where sediment, nitrogen, and phosphorus problems are significant and where stormwater is such a key source of problem pollutants. We provided comments to that effect when the later rule was under consideration in 2008-2009. Therefore, we strongly recommend that this Permit be strengthened, at a minimum in the following regards:

- The triggering site impact size should be ¼ of the current one acre size, or 10,000 square feet, since the one acre size allows too many residential and urban projects through the screen without sufficient controls in place, and since 5,000 square feet is the number used in the District to trigger post-construction stormwater planning requirements in any case.

- Site stabilization is crucial. Sites should be stabilized within 72 hours of site work ceasing, or temporarily ceasing.

- Phasing is also important. In the District's mostly highly urban setting, no more than five acres should be permitted to be "opened" and worked at any time.

4.9.4 Public Involvement and Participation

The Permit establishes a number of outreach and education/communication objectives (including, at § 8.1 F., requirements for involving the public in a meaningful way in the development of TMDL implementation plans). Many of these "minimum performance measures" are very general, however, and should be accompanied by measurable metrics. Additionally, the development of the Stormwater Management Plan should be accompanied by extensive public outreach and involvement.

6 Reporting Requirements

Table 5 in Section 6 sets out five permit deliverables. It is not clear why the Rock Creek metals, bacteria, and "organics and metals" (renewed and revised) TMDL Implementation Plans are not among them, nor would seem to be any renewals/revisions to the 2007 and 2008 Anacostia nutrients/BOD, PCBs and Sediment TMDLs. See below for further commentary on this problem.

8 Other Applicable Provisions

This section discusses the critically important water quality standards and TMDLs, and their implementation plans. While it is commendable that for the first time in a District MS4 Permit, certain TMDLs and their implementation plans are specifically (or purportedly) made a part of it, this section is extremely unclear, incomplete, and quite poorly organized. The District MS4 Permit must be consistent with the developing Chesapeake Bay TMDL. (*See* paragraph 11 of the Settlement Agreement.)

§8.1, Paragraph 1 states that: "*The Permit includes all TMDL WLAs applicable to the District MS4 approved or established as of the effective date of this Permit.*" First, instead of the word "includes," the phrase "incorporates by reference" should be used. The latter is a legal term of art that means that a matter referenced merely by name is fully and in all respects made a part of the extant document. The phrase is readily understood by regulators, permittees, and the legal system, whereas the word "includes" is simply not as straightforward or unambiguous. Second, the entire TMDL, not just the TMDL's wasteload allocations, should be incorporated by reference. Only including "WLAs" presents further ambiguity as to whether various TMDL operative sections, requirements, or processes also become part of this Permit. If they do not, the Permit will not adequately reflect what must be a major intention: to make the District fully responsible, *under this Permit*, for implementing these TMDLs and meeting WLAs. Finally in this regard, it must expressly be made clear that applicable WLAs essentially serve as numeric effluent limits for purposes of this Permit.

The language of Paragraph 2 of this section is also very poorly worded. It is unclear whether the first two sentences of that paragraph mean that updates to Implementation Plans for <u>previously approved</u> Anacostia and Rock Creek TMDLs must be submitted within a year, i.e., those pertaining to nutrients and biological oxygen demand (Anacostia, 2008), PCBs (Anacostia, 2007), and sediment (Anacostia, 2007); and those pertaining to metals (Rock Creek, 2004), fecal coliform (Rock Creek, 2004), and "organics and metals" (Rock Creek, 2004). The Permit should make clear such updates must be submitted.

Will new TMDLs and their implementation plans, once completed per Table 5, be incorporated by reference into this Permit? That appears to be the case, but one must repair all the way to Paragraph 3, the end of the next to last sub-paragraph on p.40 -- two pages later -- for confirmation: "*upon approval by EPA, the TMDL implementation plan(s) shall be incorporated into the SWMP in accordance with the compliance schedule in Part III.A and Table 4 of this Permit.*" There are several problems with this language, however: first, the reference and table numbers are not supported by the format of the Permit itself (there is no "Part IIIA."); second, it appears that this reference is only to the Anacostia and Potomac <u>Trash</u> TMDLs currently under development, and not to any future TMDLs with respect to other pollutants. These problems must be corrected, as <u>all</u> future TMDLs must be so incorporated.

It is further unclear and confusing why the "sediment TMDLs" are specifically and solely called out in the fifth sentence of Paragraph 2 as being "incorporated by reference" (the implication is that others may not be). Further, the sentence makes no sense: first (substantively), because sediment TMDLs cannot and will not achieve the reductions necessary for all nutrients or other pollutants, only phosphorus, since not all pollutants adhere or are adsorbed to sediment particles; and second (structurally), because there is a long, descriptive subject clause, but no object clause. The sentences which follow attempt to make up for this inartful construction, but as an initial matter it is not scientifically accurate. While turbidity and sediment management will be helpful, it simply cannot achieve (for example) nitrogen runoff reductions that may be necessary for any of these waterways.

Additionally, nowhere does the permit itself specify and require *compliance* with these TMDL's WLAs, or that such WLAs must actually be *achieved*, although we firmly believe that such is <u>required</u> under the Clean Water Act.

Finally in regard to Paragraph 2, the Permit notes that "*Water quality-based effluent limits for stormwater discharges that implement WLAs in TMDLs may be expressed in the form of management practices under specified circumstances,*" then cites to the statute and regulations. This is completely insufficient guidance for a Permit that will be utilized by many staff unfamiliar with those sources and the implications of those regulations, and that purports to substitute "practices" for numeric limits. The Permit itself must clearly discuss and interpret such guidance and such circumstances, providing parameters for when particular management practices can serve in that fashion, which specific practices are to be so used (and then articulate and adequately describe them, including performance characteristics), and how there will be sufficient "reasonable assurances" provided that such BMPs will perform well enough to essentially substitute for numeric water quality based effluent limits.

Paragraph 3, sub-paragraphs A-H set out the necessary components of the TMDL Implementation Plans. These sub-paragraphs appear to adequately explain those components, with sub-paragraph H making clear that the implementation plans themselves become enforceable permit terms upon their approval.

Sections 8.1.1 and 8.1.2 reference the "Potomac River TMDL Implementation Plan" and the "Anacostia River Trash TMDL Implementation Plan," respectively. Given all the wording above that virtually says the same thing (or could be modified to do so) these paragraphs add little, other than their last sentences, which also could be placed within any of several of the paragraphs referenced above. Placing these paragraphs here raises a question about whether the Rock Creek TMDL(s) Implementation Plan(s) are also to be incorporated into this Permit, and if not, why not?

Summary

In sum, we believe that this draft Permit is an advance from earlier versions, but that as written it has numerous legal problems with its structure and omissions (see NRDC commentary) and various technical problems as noted herein. Many of its technical components represent those that we would like to see replicated in concept in other Phase I Permits across the Chesapeake Bay watershed (See paragraph 9.c of the Settlement Agreement), but only if they are clarified and changed as recommended herein and in the commentary presented by NRDC. Unless these standards and requirements are further explicated, this Permit will not realize its potential either for helping to remediate water quality problems in District waters and ultimately in the Bay, or for use as a model for other Phase I Permits elsewhere. Indeed, unless many of its defects are remedied, we do not believe that this Permit as currently written is lawful in the first instance.

Thank you for the opportunity to provide comments on this draft Permit.

Yours sincerely,

Lee R. Epstein
Director, Lands Program

Cc: Christophe Tolou, Director, DDOE
Jon Capacasa, US EPA Region III