

NPDES Permit No. DC0000221

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT**

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §§ 1251 *et seq.*

Government of the District of Columbia
The John A. Wilson Building
1350 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

is authorized to discharge from all portions of the municipal separate storm sewer system owned and operated by the District of Columbia to receiving waters named:

Potomac River, Anacostia River, Rock Creek and stream segments
tributary to each such water body

in accordance with the Stormwater Management Program(s) dated February 19, 2009,
subsequent updates, and related reports, strategies, effluent limitations, monitoring requirements
and other conditions set forth in Parts I through IX herein.

The effective issuance date of this permit is: October 7, 2011.

This permit and the authorization to discharge shall expire at midnight, on: October 7, 2016.

Signed this 30th day of September, 2011.



Jon M. Capacasa, Director
Water Protection Division
U.S. Environmental Protection Agency
Region III

PERMIT FOR THE DISTRICT OF COLUMBIA
MUNICIPAL SEPARATE STORM SEWER SYSTEM

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1. DISCHARGES AUTHORIZED UNDER THIS PERMIT

1.1 Permit Area

This permit covers all areas within the jurisdictional boundary of the District of Columbia served by, or otherwise contributing to discharges from, the Municipal Separate Storm Sewer System (MS4) owned or operated by the District of Columbia. This permit also covers all areas served by or contributing to discharges from MS4s owned or operated by other entities within the jurisdictional boundaries of the District of Columbia unless those areas have separate NPDES MS4 permit coverage or are specifically excluded herein from authorization under the District's stormwater program. Hereinafter these areas collectively are referred to as "MS4 Permit Area".

1.2 Authorized Discharges

This permit authorizes all stormwater point source discharges to waters of the United States from the District of Columbia's MS4 that comply with the requirements of this permit. This permit also authorizes the discharge of stormwater commingled with flows contributed by process wastewater, non-process wastewater, or stormwater associated with industrial activity provided such discharges are authorized under separate NPDES permits.

This permit authorizes the following non-stormwater discharges to the MS4 when appropriate stormwater activities and controls required through this permit have been applied and which are: (1) discharges resulting from clear water flows, roof drainage, dechlorinated water line flushing, landscape irrigation, ornamental fountains, diverted stream flows, rising ground waters, uncontaminated ground water infiltration to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation waters, springs, footing drains, lawn watering, individual resident car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, wash water, fire fighting activities, and similar types of activities; and (2) which are managed so that water quality is not further impaired and that the requirements of the federal Clean Water Act, 33 U.S.C. §§ 1251 *et seq.*, and EPA regulations are met.

1.3 Limitations to Coverage

1.3.1 Non-stormwater Discharges

The permittee, as defined herein, shall effectively prohibit non-stormwater discharges into the MS4, except to the extent such discharges are regulated with an NPDES permit.

1.3.2 Waivers and Exemptions

This permit does not authorize the discharge of any pollutant from the MS4 which arises from or is based on any existing waivers and exemptions that may otherwise apply and are not consistent with the Federal Clean Water Act and other pertinent guidance, policies, and regulations. This narrative prohibition on the applicability of such waivers and exemptions extends to any activity that would otherwise be authorized under District law, regulations or

ordinance but which impedes the reduction or control of pollutants through the use of stormwater control measures and/or prevents compliance with the narrative /numeric effluent limits of this permit. Any such discharge not otherwise authorized may constitute a violation of this permit.

1.4 Discharge Limitations

The permittee must manage, implement and enforce a stormwater management program (SWMP) in accordance with the Clean Water Act and corresponding stormwater NPDES regulations, 40 C.F.R. Part 122, to meet the following requirements:

1.4.1. Effectively prohibit pollutants in stormwater discharges or other unauthorized discharges into the MS4 as necessary to comply with existing District of Columbia Water Quality Standards (DCWQS);

1.4.2. Attain applicable wasteload allocations (WLAs) for each established or approved Total Maximum Daily Load (TMDL) for each receiving water body, consistent with 33 U.S.C. § 1342(p)(3)(B)(iii); 40 C.F.R. § 122.44(k)(2) and (3); and

1.4.3. Comply with all other provisions and requirements contained in this permit, and in plans and schedules developed in fulfillment of this permit.

Compliance with the performance standards and provisions contained in Parts 2 through 8 of this permit shall constitute adequate progress toward compliance with DCWQS and WLAs for this permit term.

2. LEGAL AUTHORITY, RESOURCES AND STORMWATER PROGRAM ADMINISTRATION

2.1 Legal Authority

2.1.1 The permittee shall use its existing legal authority to control discharges to and from the Municipal Separate Storm Sewer System in order to prevent or reduce the discharge of pollutants to achieve water quality objectives, including but not limited to applicable water quality standards. To the extent deficiencies can be addressed through regulation or other Executive Branch action, the permittee shall remedy such deficiencies within 120 days. Deficiencies that can only be addressed through legislative action shall be remedied within 2 years of the effective date of this permit, except where otherwise stipulated, in accordance with the District's legislative process. Any changes to or deficiencies in the legal authority shall be explained in each Annual Report.

2.1.2 No later than 18 months following the effective date of this permit, the District shall update and implement Chapter 5 of Title 21 of District of Columbia Municipal Regulations (Water Quality and Pollution) ("updated DC Stormwater Regulations"), to address the control of stormwater throughout the MS4 Permit Area. Such regulations shall be consistent with this

permit, and shall be at least as protective of water quality as the federal Clean Water Act and its implementing regulations require.

2.1.3 The permittee shall ensure that the above legal authority in no way restricts its ability to enter into inter-jurisdictional agreements with other District agencies and/or other jurisdictions affected through this permit.

2.1.4 Review and revise, where applicable, building, health, road and transportation, and other codes and regulations to remove barriers to, and facilitate the implementation of the following standards: (1) standards resulting from issuance of District stormwater regulations required by Section 2.1, paragraph 1 herein; and (2) performance standards required by this permit.

2.2 Fiscal Resources

The permittee, including all agencies and departments of the District as specified in section 2.3 below, shall provide adequate finances, staff, equipment and support capabilities to implement the existing Stormwater Management Program (SWMP) and the provisions of this permit. For the core program the District shall provide a dedicated funding source. Each annual report under Part 6 of this permit shall include a demonstration of adequate fiscal capacity to meet the requirements of this permit.

2.3 Stormwater Management Program Administration/Permittee Responsibilities

2.3.1 The Government of the District of Columbia is the permittee, and all activities of all agencies, departments, offices and authorities of the District must comply with the requirements of this permit. The permittee has designated the District Department of the Environment (DDOE) as the agency responsible for managing the MS4 Stormwater Management Program and all activities necessary to comply with the requirements of this permit and the Comprehensive Stormwater Management Enhancement Amendment Act of 2008 by coordinating and facilitating a collaborative effort among other city agencies and departments including but not limited to departments designated as "Stormwater Agencies" by the Comprehensive Stormwater Management Enhancement Amendment Act of 2008:

District Department of Transportation (DDOT);
Department of Public Works (DPW);
Office of Planning (OP);
Office of Public Education Facilities Modernization (OPEFM);
Department of Real Estate Services (DRES);
Department of Parks and Recreation; and
DC Water and Sewer Authority (also known as and hereinafter referred to as DC Water).

Each named entity is responsible for complying with those elements of the permit within its jurisdictional scope and authorities.

2.3.2 DDOE shall coordinate, and all agencies, offices, departments and authorities shall implement provisions of the existing MS4 Task Force Memorandum of Understanding (MOU) dated 2000, updated matrix of responsibilities (January 2008), any subsequent updates, and other institutional agreements to coordinate compliance activities among agency partners to implement the provisions of this permit. DDOE's major responsibilities under these MOUs and institutional agreements shall include:

1. Convening regular meetings and communication with MS4 Task Force agencies and other committees established to implement this permit to budget, assign and implement projects, and monitor, inspect and enforce all activities required by the MS4 permit.
2. Providing technical and administrative support for the MS4 Task Force and other committees established to implement this permit
3. Evaluating, assessing, and synthesizing results of the monitoring and assessment programs and the effectiveness of the implementation of management practices and coordinating necessary adjustments to the stormwater management program in order to ensure compliance.
4. Coordinating the completion and submission of all deliverables required by the MS4 Permit.
5. Projecting revenue needs to meet MS4 Permit requirements, overseeing the District's stormwater fees to fulfill revenue needs, and coordinating with DC Water to ensure the District's stormwater fee is collected.
6. Making available to the public and other interested and affected parties, the opportunity to comment on the MS4 stormwater management program.

2.3.3 Within 180 days of permit issuance, the permittee shall complete an assessment of additional governmental agencies and departments, non-governmental organizations, watershed groups or other community organizations in the District and adjacent states to partner with to administer required elements of the permit. Intra- and inter-agency agreements between relevant governmental and nongovernmental organizations shall be established to ensure successful coordination and implementation of stormwater management activities in accordance with the requirements of this permit. Additional government and nongovernmental organizations and programs to consider include; land use planning, brownfields redevelopment, fire department, building and safety, public health, parks and recreation, and federal departments and agencies, including but not limited to, the National Park Service, Department of Agriculture, Department of Defense, and General Services Administration, responsible for facilities in the District.

3. STORMWATER MANAGEMENT PROGRAM (SWMP) PLAN

The permittee shall continue to implement, assess and upgrade all of the controls, procedures and management practices, described in this permit, and in the SWMP dated

February 19, 2009, and any subsequent updates. This Program has been determined to reduce the discharge of pollutants to the maximum extent practicable. The Stormwater Management Program is comprised of all requirements in this permit. All existing and new strategies, elements, initiatives, schedules or programs required by this permit must be documented in the SWMP Plan, which shall be the consolidated document of all stormwater program elements. Updates to the plan shall be consistent with all compliance deadlines in this permit. A current plan shall be posted on the District’s website at an easily accessible location at all times.

New Stormwater Management Program strategies, elements, initiatives and plans required to be submitted to EPA for review and approval are included in Table 1.

TABLE 1
Elements Requiring EPA Review and/or Approval

Element	Submittal Date (from effective date of this permit)
Anacostia River Watershed Trash Reduction Calculation Methodology (4.10)	1 year
Catch Basin Operation and Maintenance Plan (4.3.5.1)	18 months
Outfall Repair Schedule (4.3.5.3)	18 months
Off-site Mitigation/Payment-in-Lieu Program (4.1.3)	18 months
Retrofit Program (4.1.6)	2 years
Consolidated TMDL Implementation Plan (4.10.3)	2 years
Revised Monitoring Program (5.1)	2 years
Revised Stormwater Management Program Plan (3)	4 years

No later than 3 years from the issuance date of this permit the permittee shall public notice a fully updated Plan including all of the elements required in this permit. No later than 4 years from the issuance date of this permit the permittee shall submit to EPA the fully updated plan for review and approval, as part of the application for permit renewal.

The measures required herein are terms of this permit. These permit requirements do not prohibit the use of 319(h) funds for other related activities that go beyond the requirements of this permit, nor do they prohibit other sources of funding and/or other programs where legal or contractual requirements preclude direct use for stormwater permitting activities.

TABLE 2
Legal Authority for Selected Required Program Stormwater Elements

Required Program Application Element	Regulatory References
Adequate Legal Authority	40 C.F.R. § 122.26(d)(2)(I)(C)-(F)

Green technology stormwater management practices, which incorporate technologies and practices across District activities.	Chapter 5 of Title 21 of District of Columbia Municipal Regulations (Water Quality and Pollution)
Existing Structural and Source Controls	40 C.F.R. § 122.26(d)(2)(iv)(A)(1)
Roadways	40 C.F.R. § 122.26(d)(2)(iv)(A)(3)
Pesticides, Herbicides, and Fertilizers Application	40 C.F.R. § 122.26(d)(2)(iv)(A)(6)
Municipal Waste Sites	40 C.F.R. § 122.26(d)(2)(iv)(A)(5)
Spill Prevention and Response	40 C.F.R. § 122.26(d)(2)(iv)(B)(4)
Infiltration of Seepage	40 C.F.R. § 122.26(d)(2)(iv)(B)(7)
Stormwater Management Program for Commercial and Residential Areas	40 C.F.R. § 122.26(d)(2)(iv)(A)
Manage Critical Source Areas	40 C.F.R. § 122.26(d)(iii)(B)(6)
Stormwater Management for Industrial Facilities	40 C.F.R. § 122.26(d)(2)(iv)(C)
Industrial and High Risk Runoff	40 C.F.R. § 122.26(d)(2)(iv)(C), (iv)(A)(5)
Identify Priority Industrial Facilities	40 C.F.R. § 122.26(d)(2)(iv)(C)(1)
Illicit Discharges and Improper Disposal	40 C.F.R. § 122.26(d)(2)(iv)(B)(1)-(5), (iv)(B)(7)
Flood Control Projects	40 C.F.R. § 122.26(d)(2)(iv)(A)(4)
Public Education and Participation	40 C.F.R. § 122.26(d)(2)(iv)(A)(6), (iv)(B)(5), (iv)(B)(6)

Monitoring and Assessment and Reporting	40 C.F.R. § 122.26(d)(2)(iv)(D)(v)
Monitoring Program	40 C.F.R. § 122.26(d)(2)(iv)(B)(2), (iii), iv(A), (iv)(C)(2)
Characterization Data	40 C.F.R. § 122.26(d)(2)(iii)(B)-(D), 40 C.F.R. § 122.21(g)(7)
Reporting	40 C.F.R. § 122.41(l)

4. IMPLEMENTATION OF STORMWATER CONTROL MEASURES

4.1 Standard for Long-Term Stormwater Management

The permittee shall continue to develop, implement, and enforce a program in accordance with this permit and the permittee’s updated SWMP Plan that integrates stormwater management practices at the site, neighborhood and watershed levels that shall be designed to mimic pre-development site hydrology through the use of on-site stormwater retention measures (e.g., harvest and use, infiltration and evapotranspiration), through policies, regulations, ordinances and incentive programs

4.1.1 Standard for Stormwater Discharges from Development

No later than 18 months following issuance of this permit, the permittee shall, through its Updated DC Stormwater Regulations or other permitting or regulatory mechanisms, implement one or more enforceable mechanism(s) that will adopt and implement the following performance standard for all projects undertaking development that disturbs land greater than or equal to 5,000 square feet:

Require the design, construction and maintenance of stormwater controls to achieve on-site retention of 1.2” of stormwater from a 24-hour storm with a 72-hour antecedent dry period through evapotranspiration, infiltration and/or stormwater harvesting and use for all development greater than or equal to 5,000 square feet.

The District may allow a portion of the 1.2” volume to be compensated for in a program consistent with the terms and requirements of Part 4.1.3.

4.1.2 Code and Policy Consistency, Site Plan Review, Verification and Tracking

By the end of this permit term the District must review and revise, as applicable, stormwater, building, health, road and transportation, and other codes and regulations to remove barriers to, and facilitate the implementation of the retention performance standard required in

Section 4.1.1. The District must also establish/update and maintain a formal process for site plan reviews and a post-construction verification process (e.g., inspections, submittal of as-builts) to ensure that standards are appropriately implemented. The District must also track the on-site retention performance of each project subject to this regulatory requirement.

4.1.3 Off-Site Mitigation and/or Fee-in Lieu for all Facilities

Within 18 months of the effective date of this permit the District shall develop, public notice, and submit to EPA for review and comment an off-site mitigation and/or fee-in-lieu program to be utilized when projects will not meet stormwater management performance standard as defined in Section 4.1.1. The District has the option of implementing an off-site mitigation program, a fee-in-lieu program, or both. Any allowance for adjustments to the retention standard shall be defined in the permittee's regulations. The program shall include at a minimum:

1. Establishment of baseline requirements for on-site retention and for mitigation projects. On-site volume plus off-site volume (or fee-in-lieu equivalent or other relevant credits) must equal no less than the relevant volume in Section 4.1.1;
2. Specific criteria for determining when compliance with the performance standard requirement for on-site retention cannot technically be met based on physical site constraints, or a rationale for why this is not necessary;
3. For a fee-in-lieu program, establishment of a system or process to assign monetary values at least equivalent to the cost of implementation of controls to account for the difference in the performance standard, and the alternative reduced value calculated; and
4. The necessary tracking and accounting systems to implement this section, including policies and mechanisms to ensure and verify that the required stormwater practices on the original site and appropriate required off-site practices stay in place and are adequately maintained.

The program may also include incentives for achieving other important environmental objectives such as ongoing measurable carbon sequestration, energy savings, air quality reductions in green house gases, or other environmental benefits for which the program can develop methods for quantifying and documenting those outcomes. Controls implemented to achieve those outcomes are subject to the same level of site plan review, inspection, and operation and maintenance requirements as stormwater controls.

District-owned transportation right-of-way projects are subject to a similarly stringent process for determining an alternate performance volume, but for the duration of this permit term need not conduct off-site mitigation or pay into a fee-in-lieu program to compensate for the difference.

4.1.4 Green Landscaping Incentives Program

No later than one year following permit issuance, the permittee shall develop an incentive program to increase the quantity and quality of planted areas in the District while allowing flexibility for developers and designers to meet development standards. The Incentive Program

shall use such methods as a scoring system to encourage green technology practices such as larger plants, permeable paving, green roofs, vegetated walls, preservation of existing trees, and layering of vegetation along streets and other areas visible to the public.

4.1.5 Retrofit Program for Existing Discharges

4.1.5.1 Within two years of the effective date of this permit the District shall develop, public notice, and submit to EPA for review and approval a program that establishes performance metrics for retrofit projects. The District shall fully implement the program upon EPA approval. The starting point for the performance metrics shall be the standard in Section 4.1.1. Performance metrics may be established generally for all retrofit projects, or for categories of projects, e.g., roads, sidewalks, parking lots, campuses. Specific site conditions may constitute justifications for setting a performance standard at something less than the standard in Section 4.1.1, and a similar calculator or algorithm process may be used in conjunction with a specific site analysis.

4.1.5.2 The District, with facilitation assistance from EPA Region III, will also work with major Federal landholders, such as the General Services Administration and the Department of Defense, with the objective of identifying retrofit opportunities, documenting federal commitments, and tracking pollutant reductions from relevant federal actions.

4.1.5.3 For each retrofit project estimate the potential pollutant load and volume reductions achieved through the DC Retrofit program by major waterbody (Rock Creek, Potomac, Anacostia) for the following pollutants: Bacteria (*E. coli*), Total Nitrogen, Total Phosphorus, Total Suspended Solids, Cadmium, Copper, Lead, Zinc, and Trash. These estimates shall be included in the annual report following implementation of the project.

4.1.5.4 The DC Retrofit Program shall implement retrofits for stormwater discharges from a minimum of 18,000,000 square feet of impervious surfaces during the permit term. A minimum of 1,500,000 square feet of this objective must be in transportation rights-of-way.

4.1.5.5 No later than 18 months following issuance of this permit, the permittee shall, through its Updated DC Stormwater Regulations or other permitting or regulatory mechanisms, implement an enforceable mechanism that will adopt and implement stormwater retention requirements for properties where less than 5,000 square feet of soil is being disturbed but where the buildings or structures have a footprint that is greater than or equal to 5,000 square feet and are undergoing substantial improvement. Substantial improvement, as consistent with District regulations at 12J DCMR § 202, is any repair, alteration, addition, or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started. The characteristics of these types of projects may constitute justifications for setting a performance standard at something less than the standard in Section 4.1.1.

4.1.5.6 The permittee shall ensure that every major renovation/rehabilitation project for District-owned properties within the inventory of DRES and OPEFM (e.g., schools and school administration buildings) includes on-site stormwater retention measures, including but not

limited to green roofs, stormwater harvest/reuse, and/or other practices that can achieve the retention performance standard.

4.1.6 Tree Canopy

4.1.6.1 No later than one year following issuance of this permit, the District shall develop and public notice a strategy to reduce the discharge of stormwater pollutants by expanding tree canopy throughout the city. The strategy shall identify locations throughout the District where tree plantings and expanded tree boxes are technically feasible and commit to specific schedules for implementation at locations throughout the District, with highest priority given to projects that offer the greatest stormwater retention potential. The strategy shall also include the necessary elements to achieve the requirements of Section 4.1.6.2.

4.1.6.2 The District shall achieve a minimum net annual tree planting rate of 4,150 plantings annually within the District MS4 area, with the objective of a District-wide urban tree canopy coverage of 40% by 2035. The annual total tree planting shall be calculated as a net increase, such that annual mortality is also included in the estimate. The District shall ensure that trees are planted and maintained, including requirements for adequately designed and sized tree boxes, to achieve optimal stormwater retention and tree survival rate. Trees shall be planted in accordance with the Planting Specifications issued by the International Society of Arboriculture as appropriate to the site conditions.

4.1.6.3 The District shall annually document the total trees planted and make an annual estimate of the volume of stormwater that is being removed from the MS4 (and combined system, as relevant) in a typical year of rainfall as a result of the maturing tree canopy over the life of the MS4 permit. Also report annually on the status of achieving 40% canopy District-wide.

4.1.7 Green Roof Projects

4.1.7.1 Complete a structural assessment of all District properties maintained by DRES and slated for redevelopment to determine current roof conditions and the feasibility for green roof installation. These assessments shall be performed on an ongoing basis for all properties as they are considered for redevelopment. Based on the structural assessment and other factors, identify all District-owned properties where green roof projects are technically feasible and commit to specific schedules for implementing these projects. Highest priority shall be given to projects that offer the greatest stormwater capture potential.

4.1.7.2 The permittee shall install at a minimum 350,000 square feet of green roofs on District properties during the term of the permit (including schools and school administration buildings).

4.1.7.3 Document the square footage of green roof coverage in the District, whether publicly or privately owned, report any incentive programs implemented during the permit term, and estimate the volume of stormwater that is being removed from the MS4 (and combined

system, as relevant) in a typical year of rainfall as a result of the combined total green roof facilities in the District.

4.2 Operation and Maintenance of Stormwater Capture Practices

4.2.1 District Owned and Operated Practices.

Within two years of the effective date of this permit, develop and implement operation and maintenance protocols and guidance for District-owned and operated on-site retention practices (development and retrofits) to include maintenance needs, inspection frequencies, estimated maintenance frequencies, and a tracking system to document relevant information. Provide training to all relevant municipal employees and contractors, with regular refreshers, as necessary.

4.2.2 Non-District Owned and Operated Practices.

In conjunction with updating of relevant ordinances and policies, develop accountability mechanisms to ensure maintenance of stormwater control measures on non-District property. Those mechanisms may include combinations of deed restrictions, ordinances, maintenance agreements, or other policies deemed appropriate by the District. The District must also include a long-term verification process of O&M, which may include municipal inspections, 3rd party inspections, owner/operator certification on a frequency deemed appropriate by the District, and/or other mechanisms. The District must continue to maintain an electronic inventory of practices on private property to include this information.

4.2.3 Stormwater Management Guidebook and Training

4.2.3.1 No later than 18 months from the permit issuance date, the permittee shall finalize a Stormwater Management Guidebook to be available for wide-spread use by land use planners and developers. The Stormwater Management Guidebook shall provide regular updates, as applicable, in a format that facilitates such regular updates, and shall include objectives and specifications for integration of stormwater management technologies, including on site retention practices, in the areas of:

- a. Site Assessment.
- b. Site Planning and Layout.
- c. Vegetative Protection, Revegetation, and Maintenance.
- d. Techniques to Minimize Land Disturbance.
- e. Techniques to Implement Measures at Various Scales.
- f. Integrated Water Resources Management Practices.
- g. Designing to meet the required performance standard(s).
- h. Flow Modeling Guidance.
- i. Hydrologic Analysis.
- j. Construction Considerations.
- k. Operation and Maintenance

4.2.3.2 The permittee shall continue to provide key industry, regulatory, and other stakeholders with information regarding objectives and specifications of green infrastructure practices contained in the Stormwater Management Guidebook through a training program. The Stormwater Management training program will include at a minimum the following:

- a. Stormwater management/green technology practices targeted sessions and materials for builders, design professionals, regulators, resource agencies, and stakeholders.
- b. Materials and data from stormwater management/green technology practices pilot projects and demonstration projects including case studies.
- c. Design and construction methods for integration of stormwater management/green technology practices measures at various project scales.
- d. Guidance on performance and cost of various types of stormwater management/green technology practices measures in the District.

4.3 Management of for District Government Areas

Procedures to reduce the discharge of pollutants in stormwater runoff shall include, but not be limited to:

4.3.1 Sanitary Sewage System Maintenance Overflow and Spill Prevention Response

The permittee shall coordinate with DC Water to implement an effective response protocol for overflows of the sanitary sewer system into the MS4. The response protocol shall clearly identify agencies responsible and telephone numbers and e-mail for any contact and shall contain at a minimum, procedures for:

1. Investigating any complaints received within 24 hours of the incident report.
2. Responding within two hours to overflows for containment.
3. Notifying appropriate sewer, public health agencies and the public within 24 hours when the sanitary sewer overflows to the MS4.

This provision in no way authorizes sanitary sewer overflow discharges either directly or via the MS4.

4.3.2 Public Construction Activities Management

The permittee shall implement and comply with the Development and Redevelopment and the Construction requirements in Part 4.6 of this permit at all permittee-owned or operated public construction projects.

The permittee shall obtain discharge authorization under the applicable EPA Construction General permit for construction activities and comply with provisions therein.

4.3.3 Vehicle Maintenance/Material Storage Facilities/ Municipal Operations.

The permittee shall implement stormwater pollution prevention measures at all permittee-owned, leased facilities and job sites including but not limited to vehicle/ equipment maintenance facilities, and material storage facilities.

For vehicle and equipment wash areas and municipal facilities constructed, redeveloped, or replaced, the permittee shall eliminate discharges of wash waters from vehicle and equipment washing into the MS4 by implementing any of the following measures at existing facilities with vehicle or equipment wash areas:

1. Self-contain, and haul off-site for disposal;
2. Equip with a clarifier; or
3. Equip with an alternative pre-treatment device.

4.3.4 Landscape and Recreational Facilities Management, Pesticide, Herbicide, Fertilizer and Landscape Irrigation

4.3.4.1 The permittee shall further reduce pollutants and pollutant discharges associated with the storage and application of pesticides, fertilizers, herbicides, the use of other toxic substances and landscape irrigation according to an integrated pest management program (IPM). The IPM shall be an ecosystem based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, use of resistant varieties, and use of low or no chemical and irrigation input landscapes, in accordance with the provisions of this permit, procedures and practices described in the SWMP and regulations.

The permittee shall further utilize IPM controls to reduce pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied by employees or contractors, to public rights-of-way, parks, and other District property to ensure that:

- a. Pesticides are used only if monitoring indicates they are needed according to established guidelines;
- b. Fertilizers are used only when soil tests indicate that they are necessary, and only in minimum amounts and for needed purposes (e.g., seed germination).
- c. Treatments are made with the purpose of removing only the target organism;
- d. Pest controls are selected and applied in a manner that minimizes risks to human health, beneficial, non-target organisms, and the environment;
- e. No pesticides or fertilizers are applied to an area immediately prior to an expected rain event, or during or immediately following a rain event, or when water is flowing off the area;
- f. No banned or unregistered pesticides are stored or applied;

- g. All staff applying pesticides are certified or are under the direct supervision of a pesticide applicator certified in the appropriate category;
- h. Procedures are implemented to encourage the retention and planting of native and/or non-invasive, naturalized vegetation to reduce water, pesticide and fertilizer needs;
- i. Pesticides and fertilizers are stored indoors or under cover on paved surfaces or enclosed in secondary containment and storage areas inspected regularly to reduce the potential for spills; and
- j. Landscapes that maximize on-site retention of stormwater, while minimizing mowing, chemical inputs and irrigation are given preference for all new landscape installation.

4.3.4.2 The District shall coordinate internally among departments for the purpose of ensuring that pesticide and fertilizer use within its jurisdiction does not threaten water quality.

4.3.4.3 The District shall partner with other organizations to ensure that pesticide and fertilizer use within their jurisdiction does not threaten water quality.

4.3.4.4 The District shall continue to conduct education and outreach, as well as provide incentives, to curtail the use of turf-grass fertilizers for the purpose of reducing nitrogen and phosphorous discharges to surface waters. The program shall incentivize the use of vegetative landscapes other than turf grass and other measures to restrict the use of turf grass fertilizers.

4.3.4.5 The District shall use GIS layers of public land and sewersheds, as well as background data, to identify priority areas for a targeted strategy to reduce the sources of pesticides, herbicides, and fertilizers that contaminate the stormwater runoff, and report progress toward completing the screening characterization in the next Updated SWMP.

4.3.4.6 The District shall include in each Annual Report a report on the implementation of the above application procedures, a history of the improvements in the control of these materials, and an explanation on how these procedures will meet the requirements of this permit.

4.3.5 Storm Drain System Operation and Management and Solids and Floatables Reduction

4.3.5.1 Within 18 months of the effective date of this permit, the District shall complete, public notice and submit to EPA for review and approval a plan for optimal catch basin inspections, cleaning and repairs. The District shall fully implement the plan upon EPA approval.

4.3.5.2 Until such time as the catch basin maintenance study has been completed and approved, the permittee shall ensure that each catch basin within the DC MS4 Permit Area is cleaned at least once annually during the life of the permit. The permittee shall continue to use strategies for coordinated catch basin cleaning and street-sweeping that will optimize reduction of stormwater pollutants.

4.3.5.3 Within 18 months of the effective date of this permit, and consistent with the 2006 Outfall Survey, the District shall complete, public notice and submit to EPA for review and approval an outfall repair schedule to ensure that approximately 10% of all outfalls needing repair are repaired annually, with the overall objective of having all outfalls in good repair by 2022. This schedule may be combined with the catch basin maintenance study outlined in 4.3.5.1. The repair schedule shall be fully implemented upon EPA approval.

4.3.5.4 The permittee shall comply with the Anacostia River Trash TMDL implementation provisions in Part 4.10 of this permit and apply the technologies and other activities developed in the Anacostia River Watershed Trash TMDL throughout the entire MS4 Permit Area. The permittee shall continue to report the progress of trash reduction in the Consolidated Annual Report.

4.3.6 Streets, Alleys and Roadways

4.3.6.1 Street sweeping shall be conducted on no less than 641 acres of roadway in the MS4 area annually in accordance with the following schedule:

TABLE 3
Street Sweeping

Area/Street Classification	Frequency
Arterials-heavily developed commercial and central business districts with considerable vehicular and pedestrian traffic	At least nine (9) times per year
Industrial areas	At least six (6) times per year
Residential-residential areas with limited throughway and pedestrian traffic AND neighborhood streets which are used for local purposes only	At least four (4) times per year
Central Business District/Commercial-neighborhood business districts and main streets with moderate vehicular and pedestrian traffic	At least one (1) time every two weeks
Environmental hot spots in the	At least two (2) times per month

Anacostia River Watershed

March through October

4.3.6.2 Standard road repair practices shall include limiting the amount of soil disturbance to the immediate area under repair. Stormwater conveyances which are denuded shall be resodded, reseeded and mulched, or otherwise stabilized for rapid revegetation, and these areas should have effective erosion control until stabilized.

4.3.6.3 The permittee shall continue to evaluate and update the use, application and removal of anti-icers, chemical deicers, salt, sand, and/or sand/deicer mixtures in an effort to minimize the impact of these materials on water quality. The permittee shall investigate and implement techniques available for reducing pollution from deicing salts in snowmelt runoff and runoff from salt storage facilities. The permittee shall evaluate and implement the use of porous/permeable surfaces that require less use of deicing materials and activities. This evaluation shall be made a part of an overall investigation of ways to meet the requirements of the Clean Water Act and reported in each Annual Report.

4.3.6.4 The permittee shall continue to implement and update a program to ensure that excessive quantities of snow and ice control materials do not enter the District's water bodies. The permittee shall report its progress in implementing the program in each Annual Report. Except during a declared Snow Emergency when the permittee determines that the foremost concern of snow removal activities is public health and safety, it shall avoid snow dumping or storage in areas adjacent to water bodies, wetlands, and areas near public or private drinking water wells which would ultimately reenter the MS4.

4.3.7 Infrastructure Maintenance/Pollution Source Control Maintenance

The permittee shall continue to implement an operation and maintenance program that incorporates good housekeeping components at all municipal facilities located in the DC MS4 Permit Area, including but not limited to; municipal waste water treatment facility, potable drinking water facility, municipal fleet operations, maintenance garages, parks and recreation, street and infrastructure maintenance, and grounds maintenance operations, libraries and schools. The permittee shall document the program in the Annual Report, as required at Section 6.2 herein. The permittee shall, at a minimum:

1. Continue to implement maintenance standards at all municipal facilities that will protect the physical, chemical and biological integrity of receiving waters.
2. Continue to implement an inspection schedule in which to perform inspections to determine if maintenance standards are being met. Inspections shall be performed no less than once per calendar year and shall provide guidance in Stormwater Pollution Prevention Plan development and implementation, where needed.
3. Continue to implement procedures for record keeping and tracking inspections and maintenance at all municipal facilities.

4. Continue to implement an inspection and maintenance program for all permittee-owned management practices, including post-construction measures.
5. Continue to ensure proper operation of all treatment management practices and maintain them as necessary for proper operation, including all post-construction measures.
6. Ensure that any residual water following infrastructure maintenance shall be self-contained and disposed of legally in accordance with the Clean Water Act.

4.3.8 Public Industrial Activities Management/Municipal and Hazardous Facilities

For any municipal activity associated with industrial activity, as defined by 40 C.F.R. § 122.26, which discharges stormwater to, from and through the DC MS4, the permittee shall obtain separate coverage under either: (1) the EPA Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP) (As modified May 27, 2009); or (2) an individual permit.

4.3.9 Emergency Procedures

The permittee may conduct repairs of essential public service systems and infrastructure in emergency situations. An emergency includes only those situations included as conditions necessary for demonstration of an upset at 40 C.F.R. 122.41(n). For each claimed emergency, the permittee shall submit to the Permitting Authority a statement of the occurrence of the emergency, an explanation of the circumstances, and the measures that were implemented to reduce the threat to water quality, no later than required by applicable Clean Water Act regulations.

4.3.10 Municipal Official Training

The permittee shall continue to implement an on-going training program for those employees specified below, and any other employees whose job functions may impact stormwater program implementation. The training program shall address the importance of protecting water quality, the requirements of this permit, design, performance, operation and maintenance standards, inspection procedures, selecting appropriate management practices, ways to perform their job activities to prevent or minimize impacts to receiving waters, and procedures for tracking, inspecting and reporting, including potential illicit discharges. The permittee shall provide follow-up and refresher training at a minimum of once every twelve months, and shall include any changes in procedures, techniques or requirements.

The training program shall include, but is not limited to, those employees who work in the following areas:

1. Municipal Planning
2. Site plan review

3. Design
4. Construction
5. Transportation planning and engineering
6. Street/sewer and right-of-way construction and maintenance
7. Water and sewer departments
8. Parks and recreation department
9. Municipal water treatment and waste water treatment
10. Fleet maintenance
11. Fire and police departments
12. Building maintenance and janitorial
13. Garage and mechanic crew
14. Contractors and subcontractors who may be contracted to work in the above described
15. areas
16. Personnel responsible for answering questions about the permittee's stormwater program,
17. including persons who may take phone calls about the program
18. Any other department of the permittee that may impact stormwater runoff

4.4 Management of Commercial and Institutional Areas

The District shall establish and implement policies and procedures to reduce the discharge of pollutants in stormwater runoff from all commercial and institutional (including federal) areas covered by this permit.

The permittee shall ensure maintenance of all stormwater management controls in commercial and institutional land areas in accordance with the following provisions:

1. Tracking all controls;
2. Inspecting all controls on a regular basis, according to an inspection schedule;
3. Ensure compliance with the MS4 permit and municipal ordinances at commercial and institutional facilities.

4.4.1 Inventory of Critical Sources and Source Controls

4.4.1.1 The permittee shall continue to maintain a watershed-based inventory or database of all facilities within its jurisdiction that are critical sources of stormwater pollution. Critical sources to be tracked shall include the following:

- a. Automotive service facilities, *e.g.*, service, fueling and salvage facilities;
- b. Industrial activities, as defined at 40 C.F.R. §§ 122.26(b)(14); and
- c. Construction sites exceeding one acre, or sites under one acre that are part of a larger common plan of development.
- d. Dry cleaners
- e. Any other facility the District has identified as a Critical Source

4.4.1.2 The permittee shall include the following minimum fields of information for each industrial and commercial facility identified as a critical source:

- a. Name of facility and name of owner/ operator;
- b. Address of facility;
- c. Size of facility; and
- d. Activities conducted at the facility that could impact stormwater.
- e. Practices and/or measures to control pollutants.
- f. Inspection and maintenance schedules, dates and findings.

4.4.1.3 The permittee shall update its inventory of critical sources at least annually. The update may be accomplished through collection of new information obtained through field activities or through other readily available inter and intra-agency informational databases (*e.g.*, business licenses, pretreatment permits, sanitary sewer hook-up permits, and similar information).

4.4.2 Inspection of Critical Sources

The permittee shall continue to inspect all commercial facilities identified in Part 4.4.1. herein and any others found to be critical sources twice during the five-year term of the permit. A minimum interval of six months between the first and the second mandatory compliance inspection is required, unless a follow-up inspection to ensure compliance must occur sooner.

4.4.3 Compliance Assurance.

At each facility identified as a critical source, the permittee's inspector(s) shall verify that the operator is implementing a control strategy necessary to protect water quality. Where the permittee determines that existing measures are not adequate to protect water quality, the permittee shall require additional site-specific controls sufficient to protect water quality.

4.5 Management of Industrial Facilities and Spill Prevention

4.5.1 The District shall continue to implement a program to monitor and control pollutants in stormwater discharged from Industrial Facilities located within the MS4 Permit Area, as defined herein, pursuant to the requirements in 40 C.F.R. § 122.26(d)(2)(iv)(C). These facilities shall include, but are not limited to:

- a. Private Solid Waste Transfer Stations
- b. Hazardous Waste Treatment, Disposal, and/or Recovery Plants
- c. Industrial Facilities subject to SARA or EPCRA Title III
- d. Industrial Facilities with NPDES Permits
- e. Industrial facilities with a discharge to the MS4

4.5.2 The District shall continue to maintain and update the industrial facilities database.

4.5.3 The District shall continue to perform or provide on-site assistance/inspections and outreach focused on the development of stormwater pollution prevention plans and NPDES permit compliance.

4.5.4 The District shall continue to refine and implement procedures to govern the investigation of facilities suspected of contributing pollutants to the MS4, including at a minimum: (i) a review, if applicable, of monitoring data collected by the facility pursuant to its NPDES permit; and (ii) wet weather screening as required by Part 5.2.1 herein (including collecting data on discharges from industrial sites). These procedures shall be submitted as part of each Annual Report required by Part 6.2 herein.

4.5.5 The District shall continue to implement the prohibition against illicit discharges, control spills, and prohibit dumping. Continue to implement a program to prevent, contain, and respond to spills that may discharge to the MS4, and report on such implementation submitted in each Annual Report. The spill response program may include a combination of spill response actions by the permittee and/or another public or private entity.

4.5.6 The District shall report progress in developing and carrying out industrial-related programs in each Annual Report required by Section 6 herein. Provide an explanation as to how the implementation of these procedures will meet the requirements of the Clean Water Act.

4.6 Stormwater Management for Construction Sites

4.6.1 Continue implementation of the Program that reduces the discharge of pollutants from construction sites. In each Annual Report, the permittee shall evaluate and report to determine if the existing practices meet the requirements of 40 C.F.R. § 122.26(d)(2)(iv)(A) and (D).

4.6.2 Continue the review and approval process of the sediment and erosion control plans under this program. Also, the permittee shall ensure that all construction projects impacting one acre or greater, or less than one acre when part of a larger common plan of development or sale equal to or larger than one acre, are not authorized until documentation is provided that they have received EPA NPDES Construction General Permit Coverage.

4.6.3 Continue to implement inspection and enforcement procedures, including but not limited to inspection of permitted construction sites that disturb more than 5,000 square feet of soil as follows:

1. First inspection prior to ground disturbing activities to review planned sediment and erosion control measures;
2. Second inspection to verify proper installation and maintenance of sediment and erosion control measures;
3. Third inspection to review planned installation and maintenance of stormwater BMPs;

4. Fourth inspection to verify proper installation of stormwater management practices following final stabilization of the project site; and
5. Other inspections as necessary to ensure compliance with relevant standards and requirements.

4.6.4 When a violation of local erosion and sediment control ordinances occurs, the permittee shall follow existing enforcement procedures and practices using standardized reports as part of the inspection process to provide accurate record keeping of inspections of construction sites. The permittee shall use a listing of all violations and enforcement actions to assess the effectiveness of the Enforcement Program in each Annual Report.

4.6.5 Continue with educational measures for construction site operators (Section 4.9 of this permit) that consist, at a minimum, of providing guidance manuals and technical publications.

4.6.6 Report progress in developing and carrying out the above construction-related programs in each Annual Report required by Parts 6.2 herein, including: (i) an explanation as to how the implementation of these procedures will meet the requirements of the Clean Water Act; (ii) an explanation as to how the implementation of these procedures, particularly with regard to District "waivers and exemptions", will meet the requirements of the Clean Water Act; and (iii) discussion of progress toward meeting TMDL and the District Watershed Implementation Plan deadlines.

4.7 Illicit Discharges and Improper Disposal.

4.7.1 The District shall continue to implement an ongoing program to detect illicit discharges, pursuant to the SWMP, and Part 4 of this permit, and to prevent improper disposal into the storm sewer system, pursuant to 40 C.F.R. § 122.26(d)(2)(iv)(B)(1). Such program shall include, at a minimum the following:

- a. An updated schedule of procedures and practices to prevent illicit discharges, as defined at 40 C.F.R. § 122.26(b)(2), and, pursuant to 40 C.F.R. § 122.26(d)(2)(iv)(B)(1), to detect and remove illicit discharges as defined herein;
- b. An updated inventory (organized by watershed) of all outfalls that discharge through the MS4 including any changes to the identification and mapping of existing permitted outfalls. Such inventory shall include, but not be limited to, the name and address, and a description (such as SIC code) which best reflects the principal products or services provided by each facility which may discharge to the MS4;
- c. Continue to implement an illicit connection detection and enforcement program to perform dry weather flow inspections in target areas;
- d. Visual inspections of targeted areas;

- e. Issuance of fines, tracking and reporting illicit discharges, and reporting progress on stopping targeted illicit discharges, and in appropriate cases, chemical testing immediately after discovery of an illicit discharge;
- f. Enforcement procedures for illicit discharges set forth in Part 4 herein;
- g. All necessary inspection, surveillance, and monitoring procedures to remedy and prevent illicit discharges. The permittee shall submit an inspection schedule, inspection criteria, documentation regarding protocols and parameters of field screening, and allocation of resources as a part of each Annual Report.
- h. The permittee shall continue to implement procedures to prevent, contain, and respond to spills that may discharge into the MS4. The permittee shall provide for the training of appropriate personnel in spill prevention and response procedures.
- i. The permittee shall report the accomplishments of this program in each Annual Report.

4.7.2 The District shall continue to ensure the implementation of a program to further reduce the discharge of floatables (e.g. litter and other human-generated solid refuse). The floatables program shall include source controls and, where necessary, structural controls.

4.7.3 The District shall continue to implement the prohibition against the discharge or disposal of used motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, and animal waste into separate storm sewers. The permittee shall ensure the implementation of programs to collect used motor vehicle fluids (at a minimum oil and anti-freeze) for recycle, reuse, and proper disposal and to collect household hazardous waste materials (including paint, solvents, pesticides, herbicides, and other hazardous materials) for recycle, reuse, or proper disposal. The permittee shall ensure that such programs are readily available within the District, and that they are publicized and promoted on a regular basis, pursuant to Public Education provisions in this permit at Part 4.9 herein.

4.7.4 The District shall continue to work with members of the Metropolitan Police Department to enhance illegal dumping enforcement.

4.7.5 The District shall implement the District's ban on coal tar pavement products, including conducting outreach and enforcement activities.

4.7.6 The District shall implement the Anacostia Clean Up and Protection Act of 2009, to ban the use of disposable non-recyclable plastic carryout bags and restrict the use on disposable carryout bags in certain food establishments.

4.8 Flood Control Projects

4.8.1 The District shall update the impervious surface analysis of floodplains six months after the approval of the revised Flood Insurance Rate Maps by the Federal Emergency Management Agency.

4.8.2 The District shall assess potential impacts on the water quality and the ability of the receiving water to support beneficial uses for all flood management projects. Evaluate the feasibility of retrofitting existing flood control devices to provide additional pollutant and volume removal from stormwater. Report results of such assessment, mapping program, and feasibility studies in the Annual Report (Part 6.2 herein).

4.8.3 The District shall review all development proposed in flood plain areas to ensure that the impacts on the water quality of receiving water bodies have been properly addressed. Information regarding impervious surface area located in the flood plains shall be used (in conjunction with other environmental indicators) as a planning tool. The permittee shall collect data on the percentage of impervious surface area located in flood plain boundaries for all proposed development beginning six months after the effective date of this permit. The permittee shall collect similar data for existing development in flood plain areas, in accordance with the mapping program and other activities designed to improve water quality. Critical unmapped areas shall be prioritized by the permittee with an emphasis on developed and developing acreage. Reports of this work shall be summarized in the Annual Report.

4.9 Public Education and Public Participation

The District shall continue to implement a public education program including but not limited to an education program aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the permittee. The purpose of education is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. Education initiatives may be developed locally or regionally.

4.9.1 Education and Outreach.

4.9.1.1 The District shall continue to implement its education and outreach program for the area served by the MS4 that was established during the previous permit cycle. The outreach program shall be designed to achieve measurable improvements in the target audience's understanding of stormwater pollution and steps they can take to reduce their impacts.

4.9.1.2 The permittee shall assess current education and outreach efforts and identify areas where additional outreach and education are needed. Audiences and subject areas to be considered include:

a. General public

- 1) General impacts of stormwater flows into surface waters
- 2) Impacts from impervious surfaces
- 3) Source control practices and environmental stewardship actions and opportunities in the areas of pet waste, vehicle maintenance, landscaping, and rain water reuse.

- 4) A household hazardous waste educational and outreach program to control illicit discharges to the MS4 as required herein
- 5) Information and education on proper management and disposal of used oil, other automotive fluids, and household chemicals
- 6) Businesses, including home-based and mobile businesses
- 7) Management practices for use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials
- 8) Impacts of illicit discharges and how to report them including information for industries about stormwater permitting and pollution prevention plans and the requirement that they develop structural and non-structural control systems

b. Homeowners, landscapers and property managers

- 1) Use of low or no phosphorus fertilizers, alternatives to fertilizers, alternative landscaping requiring no fertilizers
- 2) Landscape designs to reduce runoff and pollutant loadings
- 3) Car washing alternatives with the objective of eliminating phosphorus detergent discharges
- 4) Yard care techniques that protect water quality
- 5) Management practices for use and storage of pesticides and fertilizers
- 6) Management practices for carpet cleaning and auto repair and maintenance
- 7) Runoff Reduction techniques, including site design, on-site retention, pervious paving, retention of forests and mature trees
- 8) Stormwater pond maintenance

c. Engineers, contractors, developers, review staff and land use planners

- 1) Technical standards for construction site sediment and erosion control
- 2) Runoff Reduction techniques, including site design, on-site reduction, pervious pavement, alternative parking lot design, retention of forests and mature trees
- 3) Stormwater treatment and flow control controls
- 4) Impacts of increased stormwater flows into receiving water bodies

4.9.2 Measurement of Impacts.

The permittee shall continue to measure the understanding and adoption of selected targeted behaviors among the targeted audiences. The resulting measurements shall be used to direct education and outreach resources most effectively, as well as to evaluate changes in adoption of the targeted behaviors.

4.9.3 Recordkeeping.

The permittee shall track and maintain records of public education and outreach activities.

4.9.4 Public Involvement and Participation.

The permittee shall continue to include ongoing opportunities for public involvement through advisory councils, watershed associations and/or committees, participation in developing updates to the stormwater fee system, stewardship programs, environmental activities or other similar activities. The permittee shall facilitate opportunities for direct action, educational, and volunteer programs such as riparian planting, volunteer monitoring programs, storm drain marking or stream clean up programs.

4.9.4.1 The permittee shall continue to create opportunities for the public to participate in the decision making processes involving the implementation and update of the permittee's SWMP. The permittee shall continue to implement its process for consideration of public comments on their SWMP.

4.9.4.2 The permittee shall continue to establish a method of routine communication to groups such as watershed associations and environmental organizations that are located in the same watershed(s) as the permittee, or organizations that conduct environmental stewardship projects located in the same watershed(s) or in close proximity to the permittee. This is to make these groups aware of opportunities for their direct involvement and assistance in stormwater activities that are in their watershed.

4.9.4.3 The permittee shall make all draft and approved MS4 documents required under this permit available to the public for comment. The current draft and approved SWMP and the MS4 annual reports deliverable documents required under this permit shall be posted on the permittee's website.

4.9.4.4 The permittee shall continue to develop public educational and participation materials in cooperation and coordination with other agencies and organizations in the District with similar responsibilities and objectives. Progress reports on public education shall be included in the Annual Report. An explanation shall be provided as to how this effort will reduce pollution loadings to meet the requirements of this permit.

4.9.4.5 The permittee shall periodically, and at least annually, update its website.

4.10 Total Maximum Daily Load (TMDL) Wasteload Allocation (WLA) Planning and Implementation

4.10.1 Anacostia River Watershed Trash TMDL Implementation

The permittee shall attain removal of 103,188 pounds of trash annually, as determined in the Anacostia River Watershed Trash TMDL, as a specific single-year measure by the fifth year of this permit term.

Reductions must be made through a combination of the following approaches:

1. Direct removal from waterbodies, e.g., stream clean-ups, skimmers
2. Direct removal from the MS4, e.g., catch basin clean-out, trash racks

3. Direct removal prior to entry to the MS4, e.g., street sweeping
4. Prevention through additional disposal alternatives, e.g., public trash/recycling collection
5. Prevention through waste reduction practices, regulations and/or incentives, e.g., bag fees

At the end of the first year the permittee must submit the trash reduction calculation methodology with Annual Report to EPA for review and approval. The methodology should accurately account for trash prevention/removal methods beyond those already established when the TMDL was approved, which may mean crediting a percentage of certain approaches. The calculation methodology must be consistent with assumptions for weights and other characteristics of trash, as described in the 2010 Anacostia River Watershed Trash TMDL.

Annual reports must include the trash prevention/removal approaches utilized, as well as the overall total weight (in pounds) of trash captured for each type of approach.

The requirements of this Section, and related elements as appropriate, shall be included in the Consolidated TMDL Implementation Plan (Section 4.10.3).

4.10.2 Hickey Run TMDL Implementation

The permittee shall implement and complete the proposed replacement/rehabilitation, inspection and enforcement, and public education aspects of the strategy for Hickey Run as described in the updated Plan to satisfy the requirements of the oil and grease wasteload allocations for Hickey Run. If monitoring or other assessment determine it to be necessary, the permittee shall install or implement appropriate controls to address oil & grease in Hickey Run no later than the end of this permit term. As appropriate, any requirement of this Section not completed prior to finalization of the Consolidated TMDL Implementation Plan (Section 4.10.3) shall be included in that Plan.

4.10.3 Consolidated TMDL Implementation Plan

For all TMDL wasteload allocations assigned to District MS4 discharges, the District shall develop, public notice and submit to EPA for review and approval a consolidated TMDL Implementation Plan within 2 years of the effective date of this permit. This Plan shall include, at a minimum, the following TMDLs and any subsequent updates:

1. TMDL for Biochemical Oxygen Demand (BOD) in the Upper and Lower Anacostia River (2001)
2. TMDL for Total Suspended Solids (TSS) in the Upper and Lower Anacostia River (2002)
3. TMDL for Fecal Coliform Bacteria in the Upper and Lower Anacostia River (2003)
4. TMDL for Organics and Metals in the Anacostia River and Tributaries (2003)
5. TMDL for Fecal Coliform Bacteria in Kingman Lake (2003)
6. TMDL for Total Suspended Solids, Oil and Grease and Biochemical Oxygen Demand in Kingman Lake (2003)

7. TMDL for Fecal Coliform Bacteria in Rock Creek (2004)
8. TMDL for Organics and Metals in the Tributaries to Rock Creek (2004)
9. TMDL for Fecal Coliform Bacteria in the Upper, Middle and Lower Potomac River and Tributaries (2004)
10. TMDL for Organics, Metals and Bacteria in Oxon Run (2004)
11. TMDL for Organics in the Tidal Basin and Washington Ship Channel (2004)
12. TMDL for Sediment/Total Suspended Solids for the Anacostia River Basin in Maryland and the District (2007) [pending resolution of court vacature, *Anacostia Riverkeeper, Inc. v. Jackson*, No. 09-cv-97 (RCL)]
13. TMDL for PCBs for Tidal Portions of the Potomac and Anacostia Rivers in the District of Columbia, Maryland and Virginia (2007)
14. TMDL for Nutrients/Biochemical Oxygen Demand for the Anacostia River Basin in Maryland and the District (2008)
15. TMDL for Trash for the Anacostia River Watershed, Montgomery and Prince George's Counties, Maryland and the District of Columbia (2010)
16. TMDL for Nitrogen, Phosphorus and Sediment for the Chesapeake Bay Watershed (2010)

This Plan shall place particular emphasis on the pollutants in Table 4, but shall also evaluate other pollutants of concern for which relevant WLAs exist. The District shall fully implement the Plan upon EPA approval. This Plan shall preempt any existing TMDL implementation plans for the relevant WLAs. For any new or revised TMDL approved during the permit term with wasteload allocations assigned to District MS4 discharges, the District shall update this Plan within six months and include a description of revisions in the next regularly scheduled annual report. The Plan shall include:

1. A specified schedule for compliance with each TMDL that includes numeric benchmarks that specify annual pollutant load reductions and the extent of control actions to achieve these numeric benchmarks.
2. Interim numeric milestones for TMDLs where final attainment of applicable waste load allocations requires more than one permit cycle. These milestones shall originate with the third year of this permit term and every five years thereafter.
3. Demonstration using modeling of how each applicable WLA will be attained using the chosen controls, by the date for ultimate attainment.
4. The Consolidated TMDL Implementation Plan elements required in this section will become enforceable permit terms upon approval of such Plans, including the interim and final dates in this section for attainment of applicable WLAs.
5. Where data demonstrate that existing TMDLs are no longer appropriate or accurate, the Plan shall include recommended solutions, including, if appropriate, revising or withdrawing TMDLs.

4.10.4 Adjustments to TMDL Implementation Strategies

If evaluation data, as outlined in the monitoring strategy being developed per Part 5.1, indicate insufficient progress towards attaining any WLA covered in 4.10.1, 4.10.2 or 4.10.3, the

permittee shall adjust its management programs within 6 months to address the deficiencies, and document the modifications in the Consolidated TMDL Implementation Plan. The Plan modification shall include a reasonable assurance demonstration of the additional controls to achieve the necessary reductions. Annual reports must include a description of progress as evaluated against all implementation objectives, milestones and benchmarks, as relevant, outlined in Part 4.10.

4.11 Additional Pollutant Sources

For any additional pollutant sources not addressed in sections 4.1 through 4.9, the permittee shall continue to compile pertinent information on known or potential pollution sources, including significant changes in:

1. land use activities,
2. population estimates,
3. runoff characteristics,
4. major structural controls,
5. landfills,
6. publicly owned lands, and
7. industries impacting the MS4.

For purposes of this section, “significant changes” are changes that have the potential to revise, enhance, modify or otherwise affect the physical, legal, institutional, or administrative characteristics of the above-listed potential pollution sources. This information shall be submitted in each of the Annual Reports submitted to EPA pursuant to the procedures in Part 6.2 herein. For the Stormwater Model, analysis of data for these pollution sources shall be reported according to Part 7 herein.

The permittee shall implement controls to minimize and prevent discharges of pollutants from additional pollutant sources, including but not limited to Bacteria (*E. coli*), Total Nitrogen, Total Phosphorus, Total Suspended Solids, Cadmium, Copper, Lead, Zinc, and Trash, to receiving waters. Controls shall be designed to prevent and restrict priority pollutants from coming into contact with stormwater, *e.g.*, restricting the use of lawn fertilizers rather than end-of-pipe treatment. These strategies shall include program priorities and a schedule of activities to address those priorities and an outline of which agencies will be responsible for implementing those strategies. The strategies used to reduce or eliminate these pollutants shall be documented in updates to the Stormwater Management Program Plan.

5. **MONITORING AND ASSESSMENT OF CONTROLS**

5.1 Revised monitoring program

5.1.1 Design of the Revised Monitoring Program

Within two years of the effective date of this permit the District shall develop, public notice and submit to EPA for review and approval a revised monitoring program. The District shall fully implement the program upon EPA approval. The revised monitoring program shall meet the following objectives:

1. Make wet weather loading estimates of the parameters in Table 4 from the MS4 to receiving waters. Number of samples, sampling frequencies and number and locations of sampling stations must be adequate to ensure data are statistically significant and interpretable.
2. Evaluate the health of the receiving waters, to include biological and physical indicators such as macroinvertebrates and geomorphologic factors. Number of samples, frequencies and locations must be adequate to ensure data are statistically significant and interpretable for long-term trend purposes (not variation among individual years or seasons).
3. Include any additional necessary monitoring for purposes of source identification and wasteload allocation tracking. This strategy must align with the Consolidated TMDL Implementation Plan required in Part 4.10.3 For all pollutants in Table 4 monitoring must be adequate to determine if relevant WLAs are being attained within specified timeframes in order to make modifications to relevant management programs, as necessary.

Table 4
Monitoring Parameters

Parameter
<i>E. coli</i>
Total nitrogen
Total phosphorus
Total Suspended Solids
Cadmium
Copper
Lead
Zinc
Trash

4. All chemical analyses shall be performed in accordance with analytical methods approved under 40 C.F.R. Part 136. When there is not an approved analytical method, the applicant may use any suitable method as described in Section 5.7 herein, but must provide a description of the method.

5.1.2 Utilization of the Revised Monitoring Program

The permittee must use the information to evaluate the quality of the stormwater program and the health of the receiving waters at a minimum to include:

1. The permittee shall estimate annual cumulative pollutant loadings for pollutants listed in Table 4. Pollutant loadings and, as appropriate, event mean concentrations, will be reported in DMRs and annual reports on TMDL implementation for pollutants listed in Table 4 in discharges from the monitoring stations in Table 5.
2. The permittee shall perform the following activities at least once during the permit term, but no later than the fourth year of this permit:
 - a. Identify and prioritize additional efforts needed to address water quality exceedances, and receiving stream impairments and threats;
 - b. Identify water quality improvements or degradation

Upon approval of the Revised Monitoring Program by EPA Region III, or 2 years from the effective date of this permit, whichever comes first, the permittee shall begin implementation of the Revised Monitoring Program.

5.2 Interim Monitoring

Until such time as EPA has approved the Revised Monitoring Program, the permittee shall implement the following monitoring program:

5.2.1 Wet Weather Discharge Monitoring

The permittee shall monitor for the parameters identified in Table 4 herein, at the locations listed in Table 5 herein. Monitoring frequency for chemical/physical parameters shall be taken by at least three times per year at a minimum. This does not include a geomorphologic assessment and/or physical habitat assessment. The permittee shall conduct sampling as provided in 40 C.F.R. § 122.21(g)(7).

The permittee shall monitor and provide an annual Discharge Monitoring Report for the period of interim monitoring.

**TABLE 5
Monitoring Stations**

A. Anacostia River Sub Watershed Monitoring Sites
1. Gallatin Street & 14 th Street N.E. across from the intersection of 14 th St. and Gallatin St. in

an outfall (MS-2)
2. Anacostia High School/Anacostia Recreation Center – Corner of 17 th St and Minnesota Ave SE
B. Rock Creek Subwatershed Monitoring Sites
1. Walter Reed -- Fort Stevens Drive -- 16 th Street and Fort Stevens Road, N.W. at an outfall (MS-6)
2. Soapstone Creek -- Connecticut Avenue and Ablemarle Street N.W. at an outfall (MS-5)
C. Potomac River Subwatershed Monitoring Sites
1. Battery Kemble Creek-49th and Hawthorne Streets, N.W. at an outfall (MS-4)
2. Oxon Run-Mississippi Avenue and 15 th Street, S.E. into Oxon Run via an outfall (MS-1)

The District may revise this list of sites in accordance with its revised monitoring program in Section 5.1 herein. Otherwise, changes to the above MS4 monitoring stations and/or sites for any reason shall be considered a major modification to the permit subject to the reopening clause.

During the interim monitoring period for the pollutants listed in Table 4, demonstration of compliance will be calculated using the procedures identified in the SWMP, the approved Anacostia River TMDL Implementation Plan, and/or other appropriate modeling tools and data on management practices efficiencies. The annual report will provide all monitoring data, and a brief synthesis of whether the data indicate that relevant wasteload allocations and other relevant targets are being achieved.

5.2.2 Storm Event Data

In addition to the parameters listed above, the permittee shall continue to maintain records of the date and duration (in hours) of the storm events sampled; rainfall measurements or estimates (in inches) of the storm event which generated the sampled runoff; the duration (in hours) between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and a calculated flow estimate of the total volume (in gallons) and nature of the discharge sampled.

5.2.3 Sample Type, Collection, and Analysis

The following requirements apply only to samples collected for Part 5.2.1, Representative Monitoring.

1. For discharges from holding ponds or other impoundments with a retention period greater than 24 hours, (estimated by dividing the volume of the detention pond by the estimated volume of water discharged during the 24 hours previous to the time that the sample is collected) a minimum of one sample shall be taken for pollutants listed in Table 4 including temperature, DO, pH and specific conductivity. For all parameters, data shall be reported for the entire event of the discharge pursuant to 40 C.F.R. § 122.26(d)(2)(iii).
2. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Samples may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire discharge, with each aliquot being separated by a minimum period of fifteen minutes.
3. Analysis and collection of samples shall be done in accordance with the most recent EPA approved laboratory methods and procedures specified at 40 C.F.R. Part 136 and its subsequent amendments.

5.2.4 Sampling Waiver

When a discharger is unable to collect samples due to adverse climatic conditions, the discharger must submit in lieu of sampling data a description of why samples could not be collected, including available documentation of the event.

Adverse climatic conditions which may prohibit the collection of samples includes weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.).

5.3 Dry Weather Monitoring

5.3.1 Dry Weather Screening Program

The permittee shall continue with ongoing efforts to detect the presence of illicit connections and improper discharges to the MS4 pursuant to the District SWMP. The permittee shall perform the following: (1) continue to screen known problem sewersheds within the District based on past screening activities; (2) continue to inventory all MS4 outfalls in the District and inspect all outfalls by the end of the permit term; and (3) ensure that the dry weather screening program has addressed all watersheds within the permit term. The screening shall be sufficient to estimate the frequency and volume of dry weather discharges and their environmental impact.

5.3.2 Screening Procedures

Screening may be developed and/or modified based on experience gained during actual field screening activities. The permittee shall establish a protocol which requires screening to ensure that such procedures are occurring, but such protocol need not conform to the procedures published at 40 C.F.R. § 122.26(d)(1)(iv)(D). The permittee shall describe the protocol actually used in each Annual Report with a justification for its use. The procedures described in the SWMP shall be used as guidance.

5.3.3 Follow-up on Dry Weather Screening Results

The permittee shall continue to implement its enforcement program for locating and ensuring elimination of all suspected sources of illicit connections and improper disposal identified during dry weather screening activities. The permittee shall report the results of such implementation in each Annual Report.

5.4. Area and/or Source Identification Program

The permittee shall continue to implement a program to identify, investigate, and address areas and/or sources within its jurisdiction that may be contributing excessive levels of pollutants to the MS4 and receiving waters, including but not limited to those pollutants identified in Table 4 herein.

5.5 Flow Measurements

The permittee shall continue to select and use appropriate flow measurement devices and methods consistent with accepted scientific practices to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device.

5.6 Monitoring and Analysis Procedures

5.6.1 Monitoring must be conducted according to laboratory and test procedures approved under 40 C.F.R. Part 136 and subsequent amendments, unless other test procedures have been specified in the permit.

5.6.2 The permittee is authorized to use a more current or sensitive (i.e., lower) detection method than the one identified in 40 C.F.R. Part 136 exists for a particular parameter, including but not limited to PCBs (Method 1668B) and mercury (Method 1631E). If used, the permittee shall report using the more current and/or more sensitive method for compliance reporting and monitoring purposes.

5.6.3 EPA reserves the right to modify the permit in order to require a more sensitive method for measuring compliance with any pollutant contamination levels, consistent with 40 CFR, Part 136, should it become necessary.

5.7 Reporting of Monitoring Results

The permittee shall continue to report monitoring results annually in a Discharge Monitoring Report. If NetDMR (<http://www.epa.gov/netdmr/>) is unavailable to any of the following then the original and one copy of the Report are to be submitted at the following addresses:

NPDES Permits Branch
(3WP41)

U.S. EPA Region III
Water Protection Division
1650 Arch Street
Philadelphia, PA 19103-2029

National Marine Fisheries Service/Northeast Region
Protected Resource Division
55 Great Republic Drive

Gloucester, Massachusetts
01930-2276

Monitoring results obtained during the previous year shall be summarized and reported in the Annual Report.

5.8 Additional Monitoring by the Permittee

If the permittee monitors (for the purposes of this permit) any pollutant more frequently than required by this permit, using laboratory and test procedures approved under 40 C.F.R. Part 136 and subsequent amendments or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual Discharge Monitoring Report. Such frequency shall also be indicated.

5.9 Retention of Monitoring Information

The permittee shall continue to retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation for a period of at least five(5) years from the date of the sample, measurement or report. This period may be extended by request of EPA at any time.

5.10 Record Content

Records of monitoring information shall include:

1. The date, exact location, time and methods of sampling or measurements;
2. The individual(s) who performed the sampling or measurements;
3. The date(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and

6. The results of such analyses.

6. **REPORTING REQUIREMENTS**

The permittee shall comply with the reporting requirements identified in this section, including but not limited to the deliverables identified in Table 6 below.

TABLE 6
Reporting Requirements

Submittal	Deadline
Discharge Monitoring Report	Each year on the anniversary of the effective date of the permit (AEDOP)
Annual Report	Each year on the AEDOP.
MS4 Permit Application	Six months prior to the permit expiration date.

6.1 **Discharge Monitoring Reports**

The permittee shall provide discharge monitoring reports per Part 5.7 of this permit on the quality of stormwater discharges from the MS4 for all analytical chemical monitoring stipulated in Part 5 of this permit.

6.2 **Annual Reporting**

The permittee shall submit an Annual Report to EPA on or by the effective yearly date of the permit for the duration of the permitting cycle. At the same time the Annual Report it submitted to EPA it shall also be posted on the District’s website at an easily accessible location. If the annual report is subsequently modified per EPA approval (part 6.2.3 of this permit) the updated report shall be posted on the District’s website.

6.2.1 **Annual Report.**

The Annual Report shall follow the format of the permit as written, address each permit requirement, and also include the following elements:

- a. A review of the status of program implementation and compliance (or non-compliance) with all provisions and schedules of compliance contained in this permit, including documentation as to compliance with performance standards and other provisions and deliverables contained in Section 4 herein;
- b. A review of monitoring data and any trends in estimated cumulative annual pollutant loadings, including TMDL WLAs and TMDL implementation activities;

- c. An assessment of the effectiveness of controls established by the SWMP;
- d. An assessment of the projected cost of SWMP implementation for the upcoming year (or longer) and a description of the permittee's budget for existing stormwater programs, including: (i) an overview of the permittee's financial resources and budget, (ii) overall indebtedness and assets, (iii) sources for funds for stormwater programs; and (iv) a demonstration of adequate fiscal capacity to meet the requirements of this permit, subject to the (a) the federal Anti-Deficiency Act, 31 U.S.C. §§ 1341, 1342, 1349, 1351, (b) the District of Columbia Anti-Deficiency Act, D.C. Official Code §§ 47-355.01-355.08 (2001), (c) D.C. Official Code § 47-105 (2001), and (d) D.C. Official Code § 1-204.46 (2006 Supp.), as the foregoing statutes may be amended from time to time;
- e. A summary describing the number and nature of enforcement actions, inspections, and public education programs and installation of control systems;
- f. Identification of water quality improvements or degradation through application of a measurable performance standard as stated throughout this permit;
- g. Results of storm and water quality modeling and its use in planning installation of control systems and maintenance and other activities;
- h. An assessment of any SWMP modifications needed to meet the requirements of this permit;
- i. Revisions, if necessary, to the assessments of controls and the fiscal analysis reported in the permit application under 40 C.F.R. § 122.26(d)(2)(iv) and (v);
- j. Methodology to assess the effects of the Stormwater Management Program (SWMP);
- k. Annual expenditures and budget for the year following each annual report;
- l. A summary of commitments for the next year and evaluation of the commitments from the previous year;
- m. A summary of the monitoring data for stormwater and ambient sampling that is collected in the previous year and the plan, including identification of monitoring locations, to collect additional data for the next year;
- n. The amount of impervious cover within the District, and within the three major watersheds in the District (Anacostia, Potomac and Rock Creek);
- o. The percentage of effective impervious cover reduced annually, including but not limited to the number and square footage of green roofs installed in the District, including the square footage of drainage managed by practices that meet the performance standard in 4.1.1; and
- p. An analysis of the work to be performed in the next successive year, including performance measures for those tasks. In the following year, progress with those performance measures shall be part of the Annual Report. The basis for each of the performance standards, which will be used as tools for evaluating environmental results and determining the success of each MS4 activity, shall be described incorporating an integrated program approach that considers all programs and projects which have a direct as well as an indirect affect on stormwater management quantity and quality within the District. The report shall also provide an update of the fiscal analysis for each year of the permit as required by 40 C.F.R. § 122.26(d)(2)(vi).

6.2.2 Annual Report Meeting

Within 12 months of the effective date of this permit the District shall convene an annual report meeting with EPA to present annual progress and plans for the following year. In conjunction with this meeting the annual written report may consist of presentation materials summarizing all required elements of the annual report rather than a lengthy written report, as long as all required elements are included. Following this first annual reporting meeting EPA and the District shall determine if the meeting and associated presentation materials constitute an effective reporting mechanism. With the agreement of both EPA and the District the annual reporting meeting and the use of summarized presentation materials in lieu of a lengthy written report may be extended for the remainder of the permit term.

6.2.3 Annual Report Revisions

Each Annual Report may be revised with written approval by EPA. The revised Report will become effective after its approval.

6.2.4 Signature and Certification

The permittee shall sign and certify the Annual Report in accordance with 40 C.F.R §122.22(b), and include a statement or resolution that the permittee's governing body or agency (or delegated representative) has reviewed or been appraised of the content of such submissions. The permittee shall provide a description of the procedure used to meet the above requirement.

6.2.5 EPA Approval

In reviewing any submittal identified in Table 1 or 6, EPA may approve or disapprove each submittal. If EPA disapproves any submittal, EPA shall provide comments to the permittee. The permittee shall address such comments in writing within thirty (30) days of receipt of the disapproval from EPA. If EPA determines that the permittee has not adequately addressed the disapproval/comments, EPA may revise that submittal or portions of that submittal. Such revision by EPA is effective thirty (30) days from receipt by the permittee. Once approved by EPA, or in the event of EPA disapproval, as revised by EPA, each submission shall be an enforceable element of this permit.

6.3 MS4 Permit Application

The permittee develop a permit Application based on the findings presented in each of the Annual SWMP Reports submitted during the permitting cycle to be submitted six months prior to the expiration date of the permit. The permit application shall define the next iterative set of objectives for the program and provide an analysis to demonstrate that these objectives will be achieved in the subsequent permit term.

7. STORMWATER MODEL

The permittee shall continue to update and report all progress made in developing a Stormwater Model and Geographical Information System (GIS) to EPA on an annual basis as an attachment to each Annual Report required herein.

On an annual basis, the permittee shall report on pollutant load reductions throughout the area covered by this permit using the statistical model developed by DDOE or other appropriate model. In the annual update, the permittee shall include, at a minimum, other applicable components which are not only limited to those activities identified in Section 6 herein, but which are necessary to demonstrate the effectiveness of the permittee's Stormwater Management Program toward implementing a sustainable strategy for reducing stormwater pollution runoff to the impaired waters of the District of Columbia.

Assess performance of stormwater on-site retention projects through monitoring, modeling and/or estimating storm retention capacity to determine the volume of stormwater removed from the MS4 in a typical year of rainfall as a result of implementing stormwater controls. This provision does not require all practices to be individually monitored, only that a reasonable evaluation strategy must provide estimates of overall volume reductions by sewershed.

8. STANDARD PERMIT CONDITIONS FOR NPDES PERMITS

8.1 Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and may result in an enforcement action; permit termination, revocation and reissuance, or modification; and denial of a permit renewal application.

8.2 Inspection and Entry

The permittee shall allow EPA, or an authorized representative, and/or the District's contractor(s)/subcontractor(s), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises at reasonable times where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be maintained under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), processes, or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

8.3 Civil and Criminal Penalties for Violations of Permit Conditions

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

The Clean Water Act provides that any person who violates Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act, or any permit condition or limitation implementing such section, or any requirement imposed in an approved pretreatment program and any person who violates any Order issued by EPA under Section 301(a) of the Act, shall be subject to a civil penalty not to exceed \$25,000 per day for each violation. Pursuant to the Civil Monetary Penalty Inflation Adjustment Rule, EPA has raised the statutory maximum penalty for such violations to \$37,500 per day for each such violation. 74 Fed. Reg. 626 (Jan. 7, 2009). The Clean Water Act also provides for an action for appropriate relief including a permanent or temporary injunction.

Any person who negligently violates Section 301, 302, 305, 307, 308, 318, or 405 of the Clean Water Act, any permit condition or limitation implementing any such section, shall be punished by a criminal fine of not less than \$5,000 nor more than \$50,000 per day of such violation, or by imprisonment for not more than 3 years, or by both. Any person who knowingly violates any permit condition or limitation implementing Section 301, 302, 305, 307, 308, 318, or 405 of the Clean Water Act, and who knows at the time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000, or by imprisonment of not more than 15 years, or by both.

8.4 Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

In the event that the permittee or permitting authority determines that discharges are causing or contributing to a violation of applicable WQS, the permittee shall take corrective action to eliminate the WQS exceedance or correct the issues and/or problems by requiring the party or parties responsible for the alleged violation(s) comply with Part I.C.1 (Limitations to Coverage) of this permit. The methods used to correct the WQS exceedances shall be documented in subsequent annual reports and in revisions to the Stormwater Management Program Plan.

8.5 Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

1. Violation of any terms or conditions of this permit;
2. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
3. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge;
4. Information newly acquired by the Agency, including but not limited to the results of the studies, planning, or monitoring described and/or required by this permit;
5. Material and substantial facility modifications, additions, and/or expansions;
6. Any anticipated change in the facility discharge, including any new significant industrial discharge or changes in the quantity or quality of existing industrial discharges that will result in new or increased discharges of pollutants; or
7. A determination that the permitted activity endangers human health or the environment and that it can only be regulated to acceptable levels by permit modification or termination.

The effluent limitations expressed in this permit are based on compliance with the District of Columbia's water quality standards in accordance with the Clean Water Act. In the event of a revision of the District of Columbia's water quality standards, this document may be modified by EPA to reflect this revision.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition. When a permit is modified, only conditions subject to modification are reopened.

8.6 Retention of Records

The permittee shall continue to retain records of all documents pertinent to this permit not otherwise required herein, including but not limited copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five (5) years from the expiration date of this permit. This period may be extended by request of EPA at any time.

8.7 Signatory Requirements

All Discharge Monitoring Reports, plans, annual reports, certifications or information either submitted to EPA or that this permit requires be maintained by the permittee shall be signed by either a principal executive officer or ranking elected official, or a duly authorized representative of that person. A person is a duly authorized representative only if: (i) the

authorization is made in writing by a person described above and submitted to EPA; and (ii) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for an agency. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new notice satisfying the requirements of this paragraph must be submitted to EPA prior or together with any reports, information, or applications to be signed by an authorized representative.

8.8 Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act, 33 U.S.C. § 1321.

8.9 District Laws, Regulations and Ordinances

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable District law, regulation or ordinance identified in the SWMP. In the case of "exemptions and waivers" under District law, regulation or ordinance, Federal law and regulation shall be controlling.

8.10 Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

8.11 Severability

The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstances is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

8.12 Transfer of Permit

In the event of any change in ownership or control of facilities from which the authorized discharge emanates, the permit may be transferred to another person if:

1. The current permittee notifies the EPA, in writing of the proposed transfer at least 30 days in advance of the proposed transfer date;

2. The notice includes a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
3. The EPA does not notify the current permittee and the new permittee of intent to modify, revoke and reissue, or terminate the permit and require that a new application be submitted.

8.13 Construction Authorization

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

8.14 Historic Preservation

During the design stage of any project by the Government of the District of Columbia within the scope of this permit that may include ground disturbance, new and existing or retrofit construction, or demolition of a structure, the Government of the District of Columbia shall notify the Historic Preservation liaison and provide the liaison planning documents for the proposed undertaking. The documents shall include project location; scope of work or conditions; photograph of the area/areas to be impacted and the methods and techniques for accomplishing the undertaking. Depending on the complexity of the undertaking, sketches, plans and specifications shall also be submitted for review. The documentation will enable the liaison to assess the applicability of compliance procedures associated with Section 106 of the National Historic Preservation Act. Among the steps in the process are included:

1. The determination of the presence or absence of significant historic properties (architectural, historic or prehistoric). This can include the evaluation of standing structures and the determination of the need for an archaeological survey of the project area.
2. The evaluation of these properties in terms of their eligibility for nomination to the National Register of Historic Places.
3. The determination of the effect that the proposed undertaking will have on these properties.
4. The development of mitigating measures in conjunction with any anticipated effects.

All such evaluations and determinations will be presented to the Government of the District of Columbia for its concurrence.

If an alternate Historic Preservation procedure is approved by EPA in writing during the term of this permit, the alternate procedure will become effective after its approval.

8.15 Endangered Species

The U.S. Fish and Wildlife Service (FWS) has indicated that Hay's Spring Amphipod, a Federally listed endangered species, occurs at several locations in the District of Columbia. The National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) has indicated that the endangered shortnose sturgeon occurs in the Potomac River drainage and may occur within the District of Columbia. The FWS and NOAA Fisheries indicate that at the present time there is no evidence that the ongoing stormwater discharges covered by this permit are adversely affecting these Federally-listed species. Stormwater discharges, construction, or any other activity that adversely affects a Federally-listed endangered or threatened species are not authorized under the terms and conditions of this permit.

The monitoring required by this permit will allow further evaluation of potential effects on these threatened and endangered species once monitoring data has been collected and analyzed. EPA requires that the permittee submit to NOAA Fisheries, at the same time it submits to EPA, the Annual Outfall Discharge Monitoring Report of the monitoring data which will be used by EPA and NOAA Fisheries to further assess effects on endangered or threatened species. If this data indicates that it is appropriate, requirements of this NPDES permit may be modified to prevent adverse impacts on habitats of endangered and threatened species.

The above-referenced Report of monitoring data is required under this permit to be sent on an annual basis to:

The United States Environmental Protection Agency
Region III (3WP41)
Water Protection Division
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

National Marine Fisheries Service/Northeast Region
Protected Resource Division
55 Great Republic Drive
Gloucester, Massachusetts 01930-2276

8.16 Toxic Pollutants

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under section 307(a) of the Act, 33 U.S.C. § 1317(a), for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, the permittee shall comply with such standard or prohibition even if the permit has not yet been modified to comply with the requirement.

8.17 Bypass

8.17.1 Bypass not exceeding limitations. In accordance with 40 C.F.R. § 122.41(m), the permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation.

8.17.2 Notice

1. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it must submit prior notice at least ten days before the date of the bypass. See 40 C.F.R. § 122.41(m)(3)(i).
2. Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required by 40 C.F.R. § 122.41(l)(6) (24-hour notice). See 40 C.F.R. § 122.41(m)(3)(ii).

8.17.3 Prohibition of bypass. See 40 C.F.R. § 122.41(m)(4).

1. Bypass is prohibited, and EPA may take enforcement action against the permittee for bypass, unless:
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage as defined herein;
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - c. The permittee submitted notices as required herein.
2. EPA may approve an anticipated bypass, after considering its adverse effects, if EPA determines that it will meet the three conditions listed above.

8.18 Upset

Effect of an upset: An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of 40 C.F.R. § 122.41(n) are met.

8.19 Reopener Clause for Permits

The permit may be modified or revoked and reissued, including but not limited to, any of the following reasons:

1. To incorporate any applicable effluent standard or limitation issued or approved under Sections 301, 304, or 307 of the Clean Water Act, and any other applicable provision, such as provided for in the Chesapeake Bay Agreements based on water quality considerations, and if the effluent standard or limitation so issued or approved:
 - a. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - b. Controls any pollutant not limited in the permit. The permit, as modified or reissued under this paragraph, shall also contain any other requirements of the Act then applicable; or
2. To incorporate additional controls that are necessary to ensure that the permit effluent limits are consistent with any applicable TMDL WLA allocated to the discharge of pollutants from the MS4; or
3. As specified in 40 C.F.R. §§ 122.44(c), 122.62, 122.63, 122.64, and 124.5.

8.20 Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, it must apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit. EPA may grant permission to submit an application less than 180 days in advance but no longer than the permit expiration date. In the event that a timely and complete reapplication has been submitted and EPA is unable through no fault of the permittee, to issue a new permit before the expiration date of this permit, the terms and conditions of this permit are automatically continued and remain fully effective and enforceable.

9. PERMIT DEFINITIONS

Terms that are not defined herein shall have the meaning accorded them under section 502 of the Clean Water Act, 33 U.S.C. §§ 1251 *et seq.*, or its implementing regulations, 40 C.F.R. Part 122.

“Annual Report” refers to the consolidated Annual Report that the permittee is required to submit annually.

“Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. See 40 C.F.R. § 122.41(m)(1)(i).

"CWA" means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. (6-483 and Pub. L. 97-117, 33 U.S.C. §§ 1251 *et seq.*

"Development" is the undertaking of any activity that disturbs a surface area greater than or equal to 5,000 square feet, including new development projects and redevelopment projects. For purposes of Parts 4.1.1 through 4.1.4 of the permit the requirements apply to discharges from sites for which design or construction commenced after 18 months from the effective date of this permit or as required by District of Columbia law, whichever is sooner. The District may exempt development projects receiving site plan approval prior to this date from these requirements.

"Director" means the Regional Administrator of USEPA Region 3 or an authorized representative.

"Discharge" for the purpose of this permit, unless indicated otherwise, refers to discharges from the Municipal Separate Storm Sewer System (MS4).

"Discharge Monitoring Report", "DMR" or "Outfall Discharge Monitoring Report" includes the monitoring and assessment of controls identified in Section 5 herein.

"EPA" means USEPA Region 3.

"Green Roof" is a low-maintenance roof system that stores rainwater where the water is taken up by plants and/or transpired into the air.

"Green Technology Practices" means stormwater management practices that are used to mimic pre-development site hydrology by using site design techniques that retain stormwater on-site through infiltration, evapotranspiration, harvest and use.

"Guidance" means assistance in achieving a particular outcome or objective.

"Illicit connection" means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

"Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to an NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities, pursuant to 40 C.F.R. § 122.26(b)(2).

"Impaired Water" (or "Water Quality Impaired Water" or "Water Quality Limited Segment"): A water is impaired for purposes of this permit if it has been identified by the District or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards (these waters are called "water quality limited segments" under 40 C.F.R. 30.2(j)). Impaired waters include both waters with approved or established TMDLs, and those for which a TMDL has not yet been approved or established.

"Landfill" means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit (i.e., an area where wastes are applied onto or incorporated into the soil surface [excluding manure spreading operations] for treatment or disposal), surface impoundment, injection well, or waste pile.

"Large or Medium municipal separate storm sewer system" means all municipal separate storm sewers that are either: (1) located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (these cities are listed in Appendices F and G of 40 C.F.R. Part 122); or (2) located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties (these counties are listed in Appendices H and I of 40 C.F.R. Part 122); or (3) owned or operated by a municipality other than those described in paragraph (i) or (ii) and that are designated by the Director as part of the large or medium municipal separate storm sewer system.

"MS4" refers to either a Large or Medium Municipal Separate Storm Sewer System.

"Municipal Separate Storm Sewer" means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (1) owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes; (2) Designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.); (3) not a combined sewer; and (4) not part of a Publicly-Owned Treatment Works as defined at 40 C.F.R. § 122.2.

"Offset" means a unit of measurement, either used as monetary or non-monetary compensation, as a substitute or replacement for mitigation of a stormwater control practice that has been determined to be impracticable to implement.

"Performance measure" means for purposes of this permit, a minimum set of criteria for evaluating progress toward meeting a standard of performance.

"Performance standard" means for purposes of this permit, a cumulative measure or provision for attainment of an outcome or objective.

"Permittee" refers to the Government of the District of Columbia and all subordinate District and independent agencies, such as the District of Columbia Water and Sewer Authority, directly accountable and responsible to the City Council and Mayor as authorized under the Stormwater Permit Compliance Amendment Act of 2000 and any subsequent amendments for administering, coordinating, implementing, and managing stormwater for MS4 activities within the boundaries of the District of Columbia.

"Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other

floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

“Pollutant of concern” means a pollutant in an MS4 discharge that may cause or contribute to the violation of a water quality criterion for that pollutant downstream from the discharge.

“Pre-Development Condition” means the combination of runoff, infiltration and evapotranspiration rates, volumes, durations and temperatures that typically existed on the site with natural soils and vegetation before human-induced land disturbance occurred. In the context of requirements in this permit the environmental objective is a stable, natural hydrologic site condition that protects or restores to the degree relevant for that site, stable hydrology in the receiving water, which will not necessarily be the hydrologic regime of that receiving water prior to any human disturbance in the watershed.

“Retention” means the use of soils, vegetation, water harvesting and other mechanisms and practices to retain a target volume of stormwater on a given site through the functions of: pore space and surface ponding storage; infiltration; reuse, and/or evapotranspiration.

“Retrofit” means improvement in a previously developed area that results in reduced stormwater discharge volumes and pollutant loads and/or improvement in water quality over current conditions.

“Stormwater” means the flow of surface water which results from, and which occurs immediately following, a rainfall event, snow melt runoff, and surface runoff and drainage.

“Stormwater management” means (1) for quantitative control, a system of vegetative or structural measures, or both, which reduces the increased volume and rate of surface runoff caused by man-made changes to the land; and (2) for qualitative control, a system of vegetative, structural, and other measures which reduce or eliminate pollutants which might otherwise be carried by surface runoff.

“SWMP” is an acronym for Stormwater Management Program. For purposes of this permit, the term includes all stormwater activities described in the District’s SWMP Plan updated February 19, 2009, or any subsequent update, and all other strategies, plans, documents, reports, studies, agreements and related correspondences developed and used pursuant to the requirements of this permit.

“Severe property damage” means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. See 40 C.F.R. § 122.41(m)(1)(ii).

“Total Maximum Daily Load (TMDL) Units” means for purposes of this permit, the sum of individual waste load allocations (WLAs) and natural background. Unless specifically permitted otherwise in an EPA-approved TMDL report covered under the permit, TMDLs are expressed in

terms of mass per time, toxicity or other appropriate measure such as pollutant pounds of a total average annual load.

“TMDL Implementation Plan” means for purposes of this permit, a plan and subsequent revisions/updates to that plan that are designed to demonstrate how to achieve compliance with applicable waste load allocations as set forth in the permit requirements described in Section 8.1.4.

“Stormwater Management Program (SWMP)” is a modified and improved SWMP based on the existing SWMP and on information in each of the Annual Reports/Discharge Monitoring Reports. The purpose of the SWMP is to describe the list of activities that need to be done to meet the requirements of the Clean Water Act, an explanation as to why these activities will meet the Clean Water Act requirements, and a schedule for those activities.

“Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond reasonable control. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. See 40 C.F.R. § 122.41(n)(1).

“Waste pile” means any non-containerized accumulation of solid, nonflowing waste.

“Water quality standards” refers to the District of Columbia’s Surface and Ground Water Quality Standards codified at Code of District of Columbia Regulations §§ 21-1100 *et seq.*, which are effective on the date of issuance of the permit and any subsequent amendments which may be adopted during the life of this permit.

“Waters of the United States” is defined at 40 C.F.R. § 122.2.

FACT SHEET

National Pollutant Discharge Elimination System (NPDES)
Municipal Separate Storm Sewer System (MS4)
Permit No. DC0000221 (Government of the District of Columbia)

NPDES PERMIT NUMBER: DC0000221 (Reissuance)

FACILITY NAME AND MAILING ADDRESS:

Government of the District of Columbia
The John A. Wilson Building
1350 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

MS4 ADMINISTRATOR NAME AND MAILING ADDRESS:

Director, District Department of the Environment
1200 First Street, N.E., 6th Floor
Washington, D.C. 20002

FACILITY LOCATION:

District of Columbia's Municipal Separate Storm Sewer System (MS4)

RECEIVING WATERS:

Potomac River, Anacostia River, Rock Creek, and Stream Segments Tributary
To Each Such Water Body

INTRODUCTION:

Today's action finalizes reissuance of the District of Columbia Municipal Separate Storm Sewer System (MS4) Permit. In the Final Permit EPA has continued to integrate the adaptive management approach with enhanced control measures to address the complex issues associated with urban stormwater runoff within the corporate boundaries of the District of Columbia, where stormwater discharges via the Municipal Separate Storm Sewer System (MS4).

Since the United States Environmental Protection Agency, Region III (EPA) issued the District of Columbia (the District) its first MS4 Permit in 2000, the Agency has responded to a number of legal challenges involving both that Permit (as well as amendments thereto) and the second-round MS4 Permit issued in 2004. For the better part of ten years, the Agency has worked with various parties in the litigation, including the District and two non-governmental organizations, Defenders of Wildlife and Friends of the Earth, to address the concerns of the various parties. The Agency has engaged in both litigation and negotiation, including formal

mediation.¹ These activities ultimately led to an enhanced stormwater management strategy in the District, consisting of measurable outputs for addressing the issues raised during the litigation and mediation process.

FACILITY BACKGROUND AND DESCRIPTION:

The Government of the District of Columbia owns and operates its own MS4, which discharges stormwater from various outfall locations throughout the District into its waterways.²

On April 21, 2010 EPA public noticed the Draft Permit. The Draft Fact Sheet published with that Draft Permit contains more extensive permit background information, and the reader is referred to that document for the history of the District of Columbia MS4 permit.

The public comment period closed on June 4, 2010. EPA received comments from 21 individual commenters and an additional 53 form letters. The Draft Permit, Draft Fact Sheet, and comments received on those documents are all available at: http://www.epa.gov/reg3wapd/npdes/draft_permits.html. The Final Permit reflects many of the comments received. EPA is simultaneously releasing a responsiveness summary responding to these comments.

ACTION TO BE TAKEN:

EPA is today reissuing the District of Columbia NPDES MS4 Permit. The Final Permit replaces the 2004 Permit, which expired on August 18, 2009 and has been administratively extended since that time. The Final Permit incorporates concepts and approaches developed from studies and pilot projects that were planned and implemented by the District under the 2000 and 2004 MS4 permits and modifying Letters of Agreement, and implements Total Maximum Daily Loads (TMDLs) that have been finalized since the prior permit was issued, including the Chesapeake Bay TMDL. A number of applicable measurable performance standards have been incorporated into the Final Permit. These and other changes between the 2004 Permit and today's Final Permit are reflected in a Comparison Document that is part of today's Permit issuance.

WATER QUALITY IN DISTRICT RECEIVING WATERS:

The District's *2008 Integrated Report to the Environmental Protection Agency and U.S. Congress Pursuant to Sections 305(b) and 303(d) Clean Water Act*³ documents the serious water

1 A procedural history of Permit appeals can be viewed at the EPA Environmental Appeals Board web: http://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/77355bee1a56a5aa8525711400542d23/b5e5b68e89edabe98525714f00731c6f!OpenDocument&Highlight=2,municipal.

2 Portions of the District are served by a combined sanitary and storm sewer system. The discharges from the combined sewer system are not subject to the MS4 permit, but are covered under NPDES Permit No. xxxx issued to the District of Columbia Water and Sewer Authority.

3 District Department of the Environment, *The District of Columbia Water Quality Assessment, 2008 Integrated Report to the Environmental Protection Agency and U.S. Congress Pursuant to Sections 305(b) and 303(d) Clean Water Act* (hereinafter "2008 Integrated Report").

quality impairments in the surface waters in and around the District. A number of the relevant designated uses are not being met, *e.g.*, aquatic life, fish consumption, and full body contact, and there are a number of specific pollutants of concern that have been identified (for additional discussion on relevant TMDLs *see* Section 4.10 of this Final Fact Sheet).

Commenters on the Draft Permit expressed some frustration over very slow progress or even lack of progress after a decade of implementation of the MS4 program and even longer for other water quality programs. EPA appreciates this concern. Although the District's receiving waters are affected by a range of discharge sources, discharges from the MS4 are a significant contributor of pollutants and cause of stream degradation. EPA also recognizes, however, that stormwater management efforts that achieve a reversal of the ongoing degradation of water quality caused by urban stormwater discharges entail a long term, multi-faceted approach.

Consistent with the federal stormwater regulations for characterizing discharges from the MS4 (40 C.F.R. §122.26(d)(2)(iii)), the first two permit terms for the District's MS4 program required end-of-pipe monitoring to determine the type and severity of pollutants discharging via the system. The monitoring program was not designed to evaluate receiving water quality *per se*, therefore detection of trends or patterns was not reasonably possible. Today's Final Permit includes requirements for a Revised Monitoring Program, and one of the objectives for the program is to use a suite of approaches and indicators to evaluate and track water quality over the long-term (*see* discussion of Section 5.1 in this Final Fact Sheet).

There have been identified improvements in some areas. For example the *2008 Integrated Report* noted improvements in the diversity of submerged aquatic vegetation in the Potomac River, as well as improvements in fish species richness in Rock Creek. Biota metrics are often the best indicators of the integrity of any aquatic system.

EPA also notes that there are a variety of indirect measures indicative of improvement. The federal stormwater regulations foresaw the difficulty, especially in the near-term, of detecting measurable improvement in receiving waters, and relied instead on indirect measures, such as estimates of pollutant load reductions (40 C.F.R. §122.26(d)(2)(v)). The District documents these types of indirect measures in its annual reports, *e.g.*, tons of solids collected from catch basin clean-outs, amount of household hazardous waste collected, number of trees planted, square footage of green roofs installed, and many other measures of success.⁴

EPA believes that documenting trends in water quality, whether improvements, no change, or even further degradation, is an important element of a municipal water quality program. Today's Final Permit recognizes this principle, both in the types of robust measures required as well as the transition to new monitoring paradigms. EPA encourages all interested parties to provide the District with input during the development of these program elements.

THIS FACT SHEET:

http://ddoe.dc.gov/ddoe/frames.asp?doc=/ddoe/lib/ddoe/information2/water.reg.leg/DC_IR_2008_Revised_9-9-2008.pdf

4 District MS4 Annual Reports can be found at: <http://ddoe.dc.gov/ddoe/cwp/view,a,1209,q,495855.asp>

This Final Fact Sheet is organized to correspond with the chronological organization and numbering in today's Final Permit. Where descriptions or discussions may be relevant to more than one element of the Final Permit the reader will be referred to the relevant section(s).

To keep today's Final Fact Sheet of readable length, many of the elements included in the fact sheet published with the Draft Permit (Draft Fact Sheet) on April 21, 2010 have not been repeated, but are referenced. Readers are referred to the Draft Fact Sheet published with the Draft Permit for additional discussion on provisions that have been finalized as proposed.⁵ The Final Fact Sheet does discuss significant changes since the 2004 Permit (even if discussed in the Draft Fact Sheet). The Final Fact Sheet also contains additional explanation of the Final Permit where commenters requested additional clarification. In addition, this Final Fact Sheet explains modifications to the Final Permit where provisions were changed in response to comments.

In many cases EPA made a number of very simple modifications to the Final Permit, *e.g.*, a word, phrase, or minor reorganization, simply for purposes of clarification. These modifications were not intended to change the substance of the permit provisions, only to clarify them. Most of those types of edits are not discussed in this Final Fact Sheet, but EPA has provided a Comparison Document of the Draft and Final Permits for readers who would like that level of detail.

Many commenters noted that the Draft Permit was not logically organized. EPA agrees. The major reorganization principles include:

- 1) There is a new Section 3, Stormwater Management Program (SWMP) Plan consolidating the various plans, strategies and other documents developed in fulfillment of permit requirements.
- 2) All implementation measures, *i.e.*, those stipulating management measures and implementation policies, are included in Section 4 of today's Final Permit. This includes "Source Identification" elements (Section 3 in the Draft Permit) and "Other Applicable Provisions" elements (Section 8 in the Draft Permit), which included TMDL requirements.
- 3) All monitoring requirements are consolidated in Section 5 of the Final Permit.
- 4) All reporting requirements are consolidated in Section 6 of the Final Permit.

EPA also refers readers to the Responsiveness Summary released today along with the Final Permit and Final Fact Sheet, for responses to comments and questions received on the Draft Permit. That document contains additional detailed explanations of the rationale for changes made to the Draft Permit in the Final Permit.

Finally, EPA made significant effort to avoid appending or incorporating by reference other documents containing permit requirements into the Final Permit. In the interest of clarity

⁵ The Permit and Fact Sheet proposed on April 21, 2010 can be viewed at:
http://www.epa.gov/reg3wapd/npdes/draft_permits.html

and transparency EPA, to the extent possible, has included all requirements directly in the permit. Thus, EPA reviewed a variety of documents with relevant implementation measures, *e.g.*, TMDL Implementation Plans and the 2008 Modified Letter of Agreement to the 2004 permit⁶, and translated elements of those plans and strategies into specific permit requirements that are now contained in the Final Permit. This Fact Sheet provides an explanation of the sources of provisions that are significant and are a direct result of one of those strategies.

1. DISCHARGES AUTHORIZED UNDER THIS PERMIT

(1.2 Authorized Discharges): The Final Permit authorizes certain non-stormwater discharges, including discharges from water line flushing. One commenter noted that many of these discharges, especially from potable water systems, contain concentrations of chlorine that may exceed water quality standards. EPA agrees, and has therefore clarified that dechlorinated water line flushing is authorized to be discharged under the Final Permit.

(1.4 Discharge Limitations): Comments on the language in Part 1.4 varied widely. Some commenters did not believe it was reasonable to require discharges to meet water quality standards. Other commenters believed this to be an unambiguous requirement of the Clean Water Act.

Today's Final Permit is premised upon EPA's longstanding view that the MS4 NPDES permit program is both an iterative and an adaptive management process for pollutant reduction and for achieving applicable water quality standard and/or total maximum daily load (TMDL) compliance. *See generally*, "National Pollutant Discharge Elimination System Permit Application Regulations for Stormwater Discharges," 55 F.R. 47990 (Nov. 16, 1990).

EPA is aware that many permittees, especially those in highly urbanized areas such as the District, likely will be unable to attain all applicable water quality standards within one or more MS4 permit cycles. Rather the attainment of applicable water quality standards as an incremental process is authorized under section 402(p)(3)(B)(iii) of the Clean Water Act, 33 U.S.C. § 1342(p)(3)(B)(iii), which requires an MS4 permit "to reduce the discharge of pollutants to the maximum extent practicable" (MEP) "and such other provisions" deemed appropriate to control pollutants in municipal stormwater discharges. To be clear, the goal of EPA's stormwater program is attainment of applicable water quality standards, but Congress expected that many municipal stormwater dischargers would need several permit cycles to achieve that goal.

Specifically, the Agency expects that attainment of applicable water quality standards in waters to which the District's MS4 discharges, requires staged implementation and increasingly more stringent requirements over several permitting cycles. During each cycle, EPA will continue to review deliverables from the District to ensure that its activities constitute sufficient progress toward standards attainment. With each permit reissuance EPA will continue to increase

⁶ District Department of the Environment, *Modification to the Letter of Agreement dated November 27, 2007 for the NPDES Municipal Separate Storm Sewer (MS4) Permit DC0000222* (2008) <http://www.epa.gov/reg3wapd/npdes/pdf/DCMS4/Letter.PDF>

stringency until such time as standards are met in all receiving waters. Therefore today's Final Permit is clear that attainment of applicable water quality standards and consistency with the assumptions and requirements of any applicable WLA are requirements of the Permit, but, given the iterative nature of this requirement under CWA Section 402(p)(3)(B)(iii), the Final Permit is also clear that "compliance with all performance standards and provisions contained in the Final Permit shall constitute adequate progress toward compliance with DCWQS and WLAs for this permit term" (Section 1.4).

EPA believes that permitting authorities have the obligation to write permits with clear and enforceable provisions and thus the determination of what is the "maximum extent practicable" under a permit is one that must be made by the permitting authority and translated into provisions that are understandable and measurable. In this Final Permit EPA has carefully evaluated the maturity of the District stormwater program and the water quality status of the receiving waters, including TMDL wasteload allocations. In determining whether certain measures, actions and performance standards are practicable, EPA has also looked at other programs and measures around the country for feasibility of implementation. Therefore today's Final Permit does not qualify any provision with MEP thus leaving this determination to the discretion of the District. Instead each provision has already been determined to be the maximum extent practicable for this permit term for this discharger.

EPA modified the language in the Final Permit to provide clarity on the expectations consistent with the preceding explanation. Specifically Section 1.4.2 of the Final Permit requires that discharges 'attain' applicable wasteload allocations rather than just 'be consistent' with them, since the latter term is somewhat ambiguous.

In addition, the general discharge limitation 'no increase in pollutant loadings from discharges from the MS4 may occur to receiving waters' was removed because of the difficulty in measuring, demonstrating and enforcing this provision. Instead, consistent with EPA's belief that the Final Permit must include all of the enforceable requirements that would achieve this principle, the following discharge limitation is substituted: "comply with all other provisions and requirements contained in this permit, and in plans and schedules developed in fulfillment of this permit."

In addition, EPA made the following modifications: "Compliance with the performance standards and provisions contained in Parts 2 through 8 of this permit shall constitute adequate progress towards compliance with DCWQS and WLAs for this permit term" (*underlined text added*) (Section 1.4 of the Final Permit). EPA eliminated circularity with the addition of "Parts 2 through 8", clarifying that this requirement does not circle back to include the statements in 1.4.1 and 1.4.2, but rather interprets them. Also, although WLAs are a mechanism for attainment of water quality standards, EPA added the specific language "and WLAs" to make this concept explicit rather than just implicit. In addition this revised language emphasizes that the specific measures contained in the Final Permit, while appropriate for this permit term, will not necessarily constitute full compliance in subsequent permit terms. It is the expectation that with each permit reissuance, additional or enhanced requirements will be included with the objective

of ensuring that MS4 discharges do not cause or contribute to an exceedance of applicable water quality standards, including attainment of relevant WLAs.

2. LEGAL AUTHORITY, RESOURCES, AND STORMWATER PROGRAM ADMINISTRATION

(2.1 Legal Authority): Several commenters pointed out that there were a number of requirements in the Draft Permit without clear compliance schedules or deadlines, or with deadlines that did not correspond well to others in the permit. In the Final Permit, EPA has made several revisions to address these comments. For example, EPA changed a requirement that deficiencies in legal authority must be remedied “as soon as possible” to a 120-day requirement for deficiencies that can be addressed through regulation, and two years for deficiencies that require legislative action (Section 2.1.1). Also, EPA increased the compliance schedule for updating the District’s stormwater regulation from twelve months to eighteen months, *id.*, so that this action could be adequately coordinated with the development of the District’s new offsite mitigation/payment-in-lieu program (for more discussion see Section 4.1.3 below).

(2.2 Fiscal Resources): One commenter suggested eliminating the reference to the District’s Enterprise Fund since funding was likely to come from a number of different budgets within the District. EPA agrees with this comment and has removed this reference.

On the other hand, many commenters noted that the implementation costs of the District’s stormwater program will be significant. EPA agrees. The federal stormwater regulations identify the importance of adequate financial resources [40 C.F.R. §122.26(d)(1)(vi) and (d)(2)(vi)]. In addition, after seeing notable differences in the caliber of stormwater programs across the country, EPA recognizes that dedicated funding is critical for implementation of effective MS4 programs.^{7,8,9} In 2009 the District established, and in 2010 revised, an impervious-based surface area fee for service to provide core funding to the stormwater program¹⁰ (understanding that stormwater-related financing may still come from other sources as they fulfill multiple purposes, *e.g.*, street and public right-of-way retrofits). In conjunction with the 2010 rule-making to revise the fee the District issued a Frequently Asked Questions document¹¹ that indicates the intent to restrict this fee to its original purpose, *i.e.*, dedicated funding to implement the stormwater program and comply with MS4 permit requirements. EPA believes this action is essential, and he expects that the District will maintain a dedicated source of funding for the stormwater program.

7 National Research Council, *Urban Stormwater Management in the United States* (2009) National Academy of Sciences http://www.nap.edu/catalog.php?record_id=12465

8 National Association of Flood and Stormwater Agencies, Funded by EPA, *Guidance for Municipal Stormwater Funding* (2006) <http://www.nafsma.org/Guidance%20Manual%20Version%202X.pdf>

9 EPA, *Funding Stormwater Programs* (2008) http://www.epa.gov/npdes/pubs/region3_factsheet_funding.pdf

10 District of Columbia, Rule 21-566 Stormwater Fees, <http://www.dcregs.dc.gov/Gateway/RuleHome.aspx?RuleID=474056>

11 District of Columbia, FAQ Document *Changes to the District’s Stormwater Fee* (2010) http://ddoe.dc.gov/ddoe/frames.asp?doc=/ddoe/lib/ddoe/information2/water.reg.leg/Stormwater_Fee_FAQ_10-5-10_-final.pdf

3. STORMWATER MANAGEMENT PROGRAM (SWMP) PLAN

A number of commenters were confused by the wide variety of plans, strategies and other written documents required by the Draft Permit. A number of commenters were also concerned about public access to several of these documents.

In today's Final Permit EPA is clarifying that any written study, strategy, plan, schedule or other element, existing or new, is part of the District Stormwater Management Program Plan. It is EPA's intent that all elements of the program be described in this central 'Plan'. This does not mean that the Plan cannot consist of separate documents. EPA understands that stand-alone elements may aid in implementation in certain situations. However, EPA is clarifying that all such documents are inherent components of the Plan.

To address the accessibility issue EPA is also requiring that the most current version of the Plan be posted on the District website. As such, all elements that may be documented in separate documents and deliverables must be posted at this location (a hyperlink to any element of the program in a different document is sufficient).

Moreover, today's Final Permit requires the District to public notice a fully updated Plan (to include all existing and new elements required by the Final Permit) within three years of the effective date of this Final Permit, and to then submit that Plan to EPA within four years of the effective date of the Final Permit. This schedule will enable this evaluation of the Plan to be part of EPA's evaluation of the Districts stormwater management program in preparation for the next reissuance of the permit.

The Final Permit requires the District to develop a number of new initiatives. Many commenters raised concerns about the rigor and suitability of these new elements in the absence of a requirement for public input, and in the absence of EPA review and approval. In light of those concerns EPA reviewed all elements of the Draft Permit, and where appropriate has added requirements to the Final Permit both for public notice and opportunity to comment and for submittal to EPA for review and approval. Not every new element has been subjected to this requirement. However, EPA agrees that the opportunity for the public and EPA to review new program elements that will become major components of the stormwater management program is reasonable. Thus, for provisions that EPA believes will be important foundations of the program in years to come, EPA has added a requirement for public notice and EPA review and approval. A new Table 1 in the Final Permit summarizes the elements that must now be submitted to EPA for review and approval.

TABLE 1
Elements Requiring EPA Review and Approval

Element	Submittal Date (from effective date of this permit)
Anacostia River Watershed Trash Reduction Calculation Methodology (4.10)	1 year
Catch Basin Operation and Maintenance Plan (4.3.5.1)	18 months
Outfall Repair Schedule (4.3.5.3)	18 months
Off-site Mitigation/Payment-in-Lieu Program (4.1.3)	18 months
Retrofit Program (4.1.6)	2 years
Consolidated TMDL Implementation Plan (4.10.3)	2 years
Revised Monitoring Program (5.1)	2 years
Revised Stormwater Management Program Plan (3)	4 years

4. IMPLEMENTATION OF STORMWATER CONTROL MEASURES

(4.1 Standard for Long-Term Stormwater Management): One of the fundamental differences between today’s Final Permit and earlier permits is the inclusion of measurable requirements for green technology practices, sometimes referred to as “low-impact development” or “green infrastructure.” These requirements, which include green roofs, enhanced tree plantings, permeable pavements, and a performance standard to promote practices such as bioretention and water harvesting, are designed to increase the effectiveness of stormwater controls by reducing runoff volumes and associated pollutant loads.^{12,13} In past years, stormwater management requirements in permits did not include clear performance goals, numeric requirements or environmental objectives. Today’s Final Permit stipulates a specific standard for newly developed and redeveloped sites, and also emphasizes the use of “green infrastructure” controls to be used to meet the performance standard. These permit requirements are intended to improve the permit by providing clarity regarding program performance and promoting the use of technologies and strategies that do not rely solely on end-of-pipe detention measures to manage runoff. EPA notes that much of this emphasis is based on changing paradigms in stormwater science, technology and policy (see discussion below), but also points out that the groundwork for this framework was laid during the prior permit term, and all of the green infrastructure elements agreed to in the 2008 Modified Letter of Agreement to the 2004 Permit.¹⁴

In the natural, undisturbed environment precipitation is quickly intercepted by trees and other vegetation, or absorbed by soils and humic matter on the surface of the ground where it is

12 The performance of green infrastructure control measures is well-established through numerous studies and reports, many of which are available at <http://cfpub2.epa.gov/npdes/greeninfrastructure/research.cfm#research>

13 Jay Landers, *Stormwater Test Results Permit Side-by-Side Comparisons of BMPs* (2006) Civil Engineering News http://www.unh.edu/erg/civil_eng_4_06.pdf

14 District Department of the Environment, *Modification to the Letter of Agreement dated November 27, 2007 for the NPDES Municipal Separate Storm Sewer (MS4) Permit DC0000222*, (2008) <http://www.epa.gov/reg3wapd/npdes/pdf/DCMS4/Letter.PDF>

used by plants, becomes baseflow (shallow groundwater feeding waterways) or infiltrates more deeply to aquifers. During most storms very little rainfall becomes stormwater runoff where the landscape is naturally vegetated or in cases where there are permeable soils. Runoff generally only occurs with larger precipitation events, which constitute a very small proportion of the storms that occur in Washington, DC. In contrast to natural settings, traditional development practices cover large areas of the ground with impervious surfaces such as roads, driveways, sidewalks, and buildings. In addition, the remaining soils are often heavily compacted and are effectively impervious. Under developed conditions, stormwater runs off or is channeled away even during small precipitation events. The collective force of the increased stormwater flows entering the MS4 and discharging through outfalls into receiving streams scours streambeds, erodes stream banks, and causes large quantities of sediment and other entrained pollutants, such as metals, nutrients and trash, to enter the water body each time it rains^{15,16,17}. Stormwater research generally shows a high correlation between the level of imperviousness in a watershed and the degree of overall degradation of water quality and habitat. This principle is so well-settled that EPA has not included individual study results here, but refers interested readers to an excellent compendium of relevant studies compiled by the Maryland Department of Natural Resources at <http://www.dnr.state.md.us/irc/bibs/effectsdevelopment.html>.

To date stormwater management approaches generally have been focused primarily on flood management, in particular extended detention controls, such as wet ponds or dry detention basins, or on in-pipe or end-of-pipe treatment systems. Extended detention approaches are intended to reduce downstream flooding to the extent necessary to protect the public safety and private and public property. End-of-pipe systems are intended to filter or settle specific pollutants, but typically do not reduce the large suite of pollutants in storm water, nor do anything to address degradation attributable to increased discharge volumes. These approaches occurred largely by default since stormwater permits and regulations, including those with water quality objectives, did not stipulate specific, measurable standards or environmental objectives. In addition, water quality was not the primary concern during the early evolution of stormwater management practices.

There are multiple potential problems with extended detention as a water quality management practice, including the fact that receiving stream dynamics are generally based on balances of much more than just discharge rates.¹⁸ Stream stability, habitat protection and water quality are not necessarily protected by the use of extended detention practices and systems. In fact the use of practices such as wet detention basins often results in continued stream bank

15 National Research Council, *Urban Stormwater Management in the United States* (2009) National Academy of Sciences http://www.nap.edu/catalog.php?record_id=12465

16 Schueler, Thomas R., *The Importance of Imperviousness* (2000) Center for Watershed Protection, [http://yosemite.epa.gov/R10/WATER.NSF/840a5de5d0a8d1418825650f00715a27/159859e0c556f1c988256b7f007525b9/\\$FILE/The%20Importance%20of%20Imperviousness.pdf](http://yosemite.epa.gov/R10/WATER.NSF/840a5de5d0a8d1418825650f00715a27/159859e0c556f1c988256b7f007525b9/$FILE/The%20Importance%20of%20Imperviousness.pdf)

17 E. Shaver, R. Horner, J. Skupien, C. May, and G. Ridley. *Fundamentals of Urban Runoff Management: Technical and Institutional Issues – 2nd Edition*, (2007) North American Lake Management Society, Madison, WI. [http://www.deq.state.ms.us/mdeq.nsf/0/A8E8B82B89DCDDCE862573530049EEE0/\\$file/Fundamentals_full_manual_lowres.pdf?OpenElement](http://www.deq.state.ms.us/mdeq.nsf/0/A8E8B82B89DCDDCE862573530049EEE0/$file/Fundamentals_full_manual_lowres.pdf?OpenElement)

18 Low Impact Development Center, *A Review of Low Impact Development Policies: Removing Institutional Barriers to Adoption* (2007) http://pepi.ucdavis.edu/mapinfo/pdf/CA_LID_Policy_Review_Final.pdf

destabilization and increased pollutant loadings of sediment, phosphorus and other pollutants due to bank and channel erosion. Numerous studies have documented the physical, chemical and biological impairments of receiving waters caused by increased volumes, rates, frequencies, and durations of stormwater discharges, and the critical importance of managing stormwater flows and volumes to protecting and restoring our nation's waters^{19,20}.

Traditional stormwater management is very heavily focused on extended detention approaches, *i.e.*, collecting water short-term (usually in a large basin), and discharging it to the receiving water over the period of one to several days, depending on the size of the storm. Extended detention practices are first and foremost designed to prevent downstream flooding and not to protect downstream channel stability and water quality. For decades, water quality protection has been a secondary goal, or one omitted entirely during the design of these facilities. Over time it has become apparent through research and monitoring that these traditional practices do not effectively protect the physical, chemical or biological integrity of receiving waters²¹. Furthermore, operation and maintenance of these systems to ensure they perform as designed requires a level of managerial and financial commitment that is often not provided, further diminishing the effectiveness of these practices from a water quality performance perspective. A number of researchers have documented that extended detention practices fail to maintain water quality, downstream habitat and biotic integrity of the receiving waters.^{22,23,24,25} As a result, today's Final Permit shifts the District's practices from extended detention approaches to water quality protection approaches based on retention of discharge volumes and reduced pollutant loadings.

(4.1.1 Standard for Stormwater Discharges from Development): The 2008 National Research Council Report (NRC Report) on urban stormwater confirmed that current stormwater control efforts are not fully adequate. Three of the NRC Report's findings on stormwater management approaches are particularly relevant:

19 Daren M Carlisle, David M Wolock, and Michael R Meador, *Alteration of streamflow magnitudes and potential ecological consequences: a multiregional assessment*, Front Ecol Environ, (2010)

20 National Research Council, *Urban Stormwater Management in the United States* (2009) National Academy of Sciences http://www.nap.edu/catalog.php?record_id=12465

21 EPA, *Protecting Water Quality from Urban Runoff* (2003) http://www.epa.gov/npdes/pubs/nps_urban-facts_final.pdf

22 C.R. MacRae, *Experience from Morphological Research on Canadian Streams: Is Control of the Two Year Frequency Runoff Event the Best Basis for Stream Channel Protection?* (1997) in *Effects of Watershed Development and Management on Aquatic Ecosystems*, ASCE

23 R. Horner, C. May, E. Livingston, D. Blaha, M. Scoggins, J. Tims & J. Maxted, *Structural and Nonstructural BMPs for Protecting Streams* (2002) Seventh Biennial Stormwater Research & Watershed Management Conference <http://www.p2pays.org/ref/41/40364.pdf>

24 D.B. Booth & C.R. Jackson, *Urbanization of Aquatic Systems – Degradation Thresholds, Stormwater Detention and the Limits of Mitigation* (1997) *Journal of the American Water Resources Association* 22(5) http://clear.uconn.edu/projects/TMDL/library/papers/BoothJackson_1997.pdf

25 E. Shaver, R. Horner, J. Skupien, C. May, and G. Ridley. *Fundamentals of Urban Runoff Management: Technical and Institutional Issues – 2nd Edition*, (2007) North American Lake Management Society, Madison, WI. [http://www.deq.state.ms.us/mdeq.nsf/0/A8E8B82B89DCDDCE862573530049EEEE0/\\$file/Fundamentals_full_manual_lowres.pdf?OpenElement](http://www.deq.state.ms.us/mdeq.nsf/0/A8E8B82B89DCDDCE862573530049EEEE0/$file/Fundamentals_full_manual_lowres.pdf?OpenElement)

- 1) Individual controls on stormwater discharges are inadequate as the sole solution to stormwater impacts in urban watersheds;
- 2) Stormwater control measures such as product substitution, better site design, downspout disconnection, conservation of natural areas, and watershed and land-use planning can dramatically reduce the volume of runoff and pollutant loadings from new development; and
- 3) Stormwater control measures that harvest, infiltrate, and evapotranspire stormwater are critical to reducing the volume and pollutant loading of storms.

The NRC Report points out the wisdom of managing stormwater flow not just for the hydrologic benefits as described above, but because it serves as an excellent proxy for pollutants, *i.e.*, by reducing the volume of stormwater discharged, the amount of pollutants typically entrained in stormwater will also be reduced. Reductions in the number of concentrated and erosive flow events will result in decreased mobilization and transport of sediments and other pollutants into receiving waters. The NRC Report also noted that it is generally easier and less expensive to measure flow than the concentration or load of individual pollutant constituents. For all of these reasons EPA has chosen to use flow volume as the management parameter to implement policies, strategies and approaches.

The objective of effective stormwater management is to replicate the pre-development hydrology to protect and preserve both the water resources onsite and those downstream by eliminating or reducing the amount of both water and pollutants that run off a site, enter the MS4, and ultimately are discharged into adjacent water bodies. The fundamental principle is to employ systems and practices that use or mimic natural processes to: 1) infiltrate and recharge, 2) evapotranspire, and/or 3) harvest and use precipitation near to where it falls to earth.

Retaining the volume of all storms up to and including the 95th percentile storm event is approximately analogous to maintaining or restoring the pre-development hydrology with respect to the volume, rate, and duration of the runoff for most sites. In the mid-Atlantic region the 95th percentile approach represents a volume that appears to reasonably represent the volume that is fully infiltrated in a natural condition and thus should be managed onsite to restore and maintain this pre-development hydrology for the duration, rate and volume of stormwater flows. This approach also employs and/or mimics natural treatment and flow attenuation methods, *i.e.*, soil and vegetation, that existed on the site before the construction of infrastructure (*e.g.*, building, roads, parking lots, driveways). The 95th percentile volume is not a “magic” number; there will be variation among sites based on site-specific factors when replicating predevelopment hydrologic conditions. However, this metric represents a good approximation of what is protective of water quality on a watershed scale, it can be easily and fairly incorporated into standards, and can be equitably applied on a jurisdictional basis.

In the Draft Permit EPA proposed two sets of performance standards to be implemented by the District: on-site retention of the 90th percentile volume, or 1.2” for all non-federal projects, and on-site retention of the 95th percentile volume, or 1.7” for all federal projects.

In determining ‘maximum extent practicable’ for discharges from development involving

federal facilities EPA considered several factors in the Draft Permit:

- 1) Energy Independence and Security Act (EISA) Section 438 and EPA Guidance²⁶: Entitled “Storm water runoff requirements for federal development projects,” EISA section 438 provides: “The sponsor of any development or redevelopment project involving a Federal facility with a footprint that exceeds 5,000 square feet shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow.”

Guidance for federal agencies to implement EISA section 438 has been in place since December 2009, and sets forth two optional approaches to meeting the statutory requirements: a performance objective to retain the volume from the 95th percentile storm on site for any federally sponsored new development or redevelopment project and a site-specific hydrologic analysis to determine the pre-development runoff conditions and to develop the site such that the post-development hydrology replicates those conditions “to the maximum extent technically feasible.”

- 2) Executive Orders:
 - a. Executive Order 13508 - Chesapeake Bay Protection and Restoration: Calling the Chesapeake Bay a national treasure, E.O. 13508, issued May 12, 2009, establishes a mandate for federal leadership, action and accountability in restoring the Bay. Among the provisions of the Executive Order, section 202(c) directs the strengthening of stormwater management practices at Federal facilities and on Federal lands within the Chesapeake Bay watershed. In addition, section 501 directs federal agencies to implement controls as expeditiously as practicable on their own properties. As required by section 502, EPA issued guidance for federal land management practices to protect and restore the Bay, which includes guidance for managing existing development, as well as redevelopment, new development. Thus federal agencies have an executive directive to be leaders in stormwater management in the District and throughout the Chesapeake Bay watershed.²⁷
 - b. Executive Order 13514 - Federal Leadership in Environmental, Energy, and Economic Performance E.O. 13514, issued Oct. 5, 2009, directs the federal government to “lead by example” and includes a requirement for federal agencies to implement EPA’s EISA Section 438 guidance (see Sections 2(d)(iv)²⁸ and 14).

²⁶ EPA, *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act* (2009)

http://www.epa.gov/owow_keep/nps/lid/section438/

²⁷ EPA, *Guidance for Federal Land Management in the Chesapeake Bay Watershed*, Chapter 3. Urban and Suburban, (2010) 841-R-10-002 (http://www.epa.gov/owow_keep/NPS/chesbay502/pdf/chesbay_chap03.pdf)

²⁸ Sec. 2. Goals for Agencies. In implementing the policy set forth in Section 1 of this order, and preparing and implementing the Strategic Sustainability Performance Plan called for in Section 8 of this order, the head of each agency shall: . . . (d) improve water use efficiency and management by: . . . (iv) implementing and

- 3) **Water Quality:** These performance standards are appropriate as water quality-based effluent limitations in the Final Permit. In order to meet the necessary water quality requirements of the Clean Water Act, and to be consistent with the assumptions and requirements of the wasteload allocations for the Chesapeake Bay TMDL, EPA has determined that this performance standard is necessary. In fact, the District's final Phase I WIP acknowledges reasonable assurance demonstration for meeting its obligations to implement the Chesapeake Bay TMDL on an expectation that federal new development and redevelopment projects will achieve a 1.7" stormwater retention objective²⁹.

EPA concluded in the Draft Permit, and maintains in the Final Permit, that in this first permit in which a performance standard is being required, a retention standard of 1.2" represents the "maximum extent practicable" (MEP) for the District to implement at this time. In the District of Columbia area the 90th percentile event volume is estimated at 1.2 inches. This volume was calculated from 59 years (1948-2006) of rainfall data collected at Reagan National Airport using the methodology detailed in the Energy Independence and Security Act (EISA) Section 438 Guidance³⁰. EPA expects that the performance objective shall be accomplished largely by the use of practices that infiltrate, evapotranspire and/or harvest and use rainwater.

EPA's MEP determination included evaluating what has been demonstrated to be feasible in the mid-Atlantic region as well as in other parts of the country. Because on-site retention of the 90th percentile rainfall event volume and analogous approaches have been successfully implemented in other locations across the nation as requirements of stormwater permits, state regulations and local standards^{31,32,33,34,35,36,37,38,39} and under a wide variety of climates and

achieving the objectives identified in the stormwater management guidance referenced in Section 14 of this order. Sec. 14. Stormwater Guidance for Federal Facilities. Within 60 days of the date of this order, the Environmental Protection Agency, in coordination with other Federal agencies as appropriate, shall issue guidance on the implementation of Section 438 of the Energy Independence and Security Act of 2007 ([42 U.S.C. 17094](#)).

29 District of Columbia Department of Environment, *Chesapeake Bay TMDL Watershed Implementation Plan* (2010)

http://ddoe.dc.gov/ddoe/frames.asp?doc=/ddoe/lib/ddoe/tmdl/Final_District_of_Columbia_WIP_Bay_TMDL.pdf

30 EPA, *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act* (2009)

http://www.epa.gov/owow_keep/nps/lid/section438/

31 EPA, *The Municipality of Anchorage and the Alaska Department of Transportation and Public Facilities Municipal Separate Storm Sewer System Permit*, NPDES No. AKS052558 (2010)

[http://yosemite.epa.gov/r10/water.nsf/NPDES+Permits/MS4+requirements+-+Region+10/\\$FILE/ATTCZX11/AKS052558%20FP.pdf](http://yosemite.epa.gov/r10/water.nsf/NPDES+Permits/MS4+requirements+-+Region+10/$FILE/ATTCZX11/AKS052558%20FP.pdf)

32 California Regional Water Quality Control Board Los Angeles Region, *Ventura County Municipal Separate Storm Sewer System Permit*, NPDES No. CAS004002 (2009)

http://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/ventura_ms4/Final_Ventura_County_MS4_Permit_Order_No.09-0057_01-13-2010.pdf

33 Montana Department of Environmental Quality, *General Permit for Stormwater Discharge Associated with Small Municipal Separate Storm Sewer System*, NPDES No. MTR040000 (2010)

<http://www.deq.mt.gov/wqinfo/mpdes/StormWater/ms4.mcp>

34 Tennessee Department of Environment and Conservation, *General Permit for Discharges from Small Municipal Separate Storm Sewer Systems*, NPDES No. TNS000000, (2010)

http://state.tn.us/environment/wpc/stormh2o/finals/tns000000_ms4_phase_ii_2010.pdf

conditions, EPA considers this performance standard to be proven and therefore ‘practicable’ at this point in time. EPA believes that application of this performance standard will result in a significant improvement to the *status quo* and that it will provide notable water quality benefits. This approach will also provide a sound foundation and framework for future management approaches, strategies, measures and practices as the program evolves over subsequent permit cycles. In this context, EPA notes that there may be a need to improve upon this standard in the future, and expects to evaluate implementation success, performance of practices and the overall program, and water quality in the receiving waters when determining whether or not to modify this requirement in a future permit cycle.

EPA received a number of comments on these proposed development performance standards. Many commenters supported this approach. A few were opposed, largely to the numbers rather than the retention framework. Only one federal agency, the Department of Defense, to whom the 95th percentile standard would apply, opposed this provision, on the basis that they should not be subject to the higher standard.

In response to comments EPA revised the Final Permit to require the District to implement a performance standard of on-site retention of 1.2” for all development projects, regardless of who owns or operates the development. EPA’s rationale for including a single performance standard for all development projects is based on the fact that this permit is issued to the District of Columbia and the MEP determination must be based on what is practicable for that permittee even though certain property owners discharging to the District’s MS4 may have the ability as well as the mandate to achieve more. EPA concludes that it would be not be inappropriate to include the 1.7” performance standard in a permit to a federal permittee. This permit, however, is being issued to a non-federal permittee.

Therefore today’s Final Permit includes a performance standard for stormwater discharges from development that disturbs an area of land greater than or equal to 5,000 square feet. The requirement must be in effect 18 months from today. The Permit requires the design, construction, and maintenance of stormwater management practices to retain rainfall onsite, and

35 West Virginia Department of Environmental Protection, General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems, NPDES WV0116025 (2009)
<http://www.dep.wv.gov/WWE/Programs/stormwater/MS4/permits/Documents/WV%20MS4%202009%20General%20Permit.pdf>

36 North Carolina Department of Environment and Natural Resources, *General Permit to Construct Operate and Maintain Impervious Areas and BMPs Associated with a Residential Development Disturbing Less than 1 Acre*, State Permit No. SWG050000 (2008)
http://portal.ncdenr.org/c/document_library/get_file?uuid=724171cc-c208-4f39-a68c-b4cd84022cd9&groupId=38364

37 State of Maryland, *Stormwater Management Act of 2007*, Environment Article 4 §201.1 and §203
<http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/Pages/Programs/WaterPrograms/SedimentandStormwater/swm2007.aspx>

38 City of Philadelphia, *Stormwater Regulations*, §600.0 Stormwater Management (2006)
<http://www.phillyriverinfo.org/WICLibrary/StormwaterRegulations.pdf>

39 EPA, See Chapter 3, *Green Infrastructure Case Studies: Municipal Policies for Managing Stormwater with Green Infrastructure* (2010) http://www.epa.gov/owow/NPS/lid/gi_case_studies_2010.pdf

prevent the off-site discharge of the rainfall volume from all events less than or equal to the 90th percentile rainfall event.

The District's Phase I Watershed Implementation Plan (WIP) for the Chesapeake Bay TMDL⁴⁰ based its proposed nutrient and sediment reductions, and the associated reasonable assurance demonstration, on these performance standards, i.e., 1.2" for non-federal projects and 1.7" for federal projects. In establishing the Chesapeake Bay TMDL, EPA used the information in the Bay jurisdictions' final Phase I WIPs, including that of the District, where possible. Thus the wasteload allocations (WLAs) in the TMDL⁴¹ are based, in part, on the expectation that all development in the District will be subject to these standards.

EPA notes that all federal facilities still must comply with the EISA requirements. The District will track the performance of federal development projects subject to the District's stormwater regulations, and therefore document those achieving better than 1.2" onsite retention. However, the District cannot, nor should they be expected to, enforce the EISA requirements.

EPA dropped the option for determination of the predevelopment runoff conditions based on a full hydrologic and hydraulic analysis of the site. EISA guidance had provided this option to federal facilities and EPA did not want to provide an *a priori* limitation to federal projects in the Draft Permit, but rather provide the District with the flexibility to include it if they determined it to be administratively feasible. However, since the Final Permit no longer includes an additional requirement for federal facilities, this provision is no longer necessary to provide federal facilities options consistent with EISA. With respect to non-federal facilities, in the seventeen months since the Draft Permit was proposed the District has continued with the process of finalizing their stormwater regulations, and has determined that inclusion of this option is not necessary or reasonable, and EPA concurs.

Several commenters raised the issue of costs associated with implementation of the performance standard. EPA has responded by noting that there are many locations where this stormwater management framework has already been implemented (*see* footnote 22), and also where costs have been well documented to be competitive or instances where infrastructure costs were less expensive because of avoided costs, *e.g.*, reduced infrastructure, narrower roads and otherwise fewer impervious surfaces, reduced or eliminated curbs and gutters, no or fewer buried storm sewers. In addition, where cost-benefit analyses have been conducted, green infrastructure practices are even more cost effective because of the wide array of additional benefits⁴² that do not accrue when traditional stormwater management practices are used.^{43,44,45,46,47,48,49,50,51,52,53,54}

40 District of Columbia Department of Environment, *Chesapeake Bay TMDL Watershed Implementation Plan* (2010)

http://ddoe.dc.gov/ddoe/frames.asp?doc=/ddoe/lib/ddoe/tmdl/Final_District_of_Columbia_WIP_Bay_TMDL.pdf

41 EPA, *Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment* (2010)

<http://www.epa.gov/reg3wapd/tmdl/ChesapeakeBay/tmdlexec.html>

42 EPA, Managing Wet Weather with Green Infrastructure website, Benefits: (http://cfpub2.epa.gov/npdes/home.cfm?program_id=298)

43 LimnoTech, *Analysis of the Pollution Reduction Potential of DC Stormwater Standards* (2009)

44 EPA, *Reducing Stormwater Costs through Low Impact Development Strategies and Practices* (2007)

Several commenters took issue with the inclusion of any numeric performance standard for discharges from development. As discussed above EPA believes that stormwater discharge permits should include clear and enforceable standards, and where feasible, numeric limits are preferred. As discussed above, for the purpose of requiring the permittee to ensure adequate management of discharges from development, a numeric performance standard is a proven means of establishing a clear and enforceable requirement. EPA recognizes that there will be development projects that may not be able to meet the performance standard on site because of site conditions or site activities that preclude the use of extensive green infrastructure practices. Thus as proposed in the Draft Permit, the Final Permit requires the District to develop an alternative means of compliance for development projects under these circumstances (*see* discussion of Section 4.1.3 Off-Site Mitigation and/or Fee-in-Lieu for all Facilities).

In July 2010 EPA Region III issued *Urban Stormwater Approach for the Mid-Atlantic Region and the Chesapeake Bay Watershed*.⁵⁵ This document provides direction to all NPDES permitting authorities in the Region and establishes expectations for the next generation of MS4 permits. Based on many of the reasons already articulated in this Final Fact Sheet, EPA directed states to incorporate performance-based standards into permits and regulations with the objective of maintaining or restoring a pre-development hydrologic site condition for newly developed and redeveloped sites. In fact most states with authorized NPDES permit programs in the Chesapeake

<http://www.epa.gov/owow/NPS/lid/costs07/>

45 Report to Natural Resources Defense Council and Waterkeeper Alliance, *Economic Costs, Benefits and Achievability of Stormwater Regulations for Construction and Development Activities* (2008)

46 Meliora Environmental Design LLC, *Comparison of Environmental Site Design for Stormwater Management for Three Redevelopment Sites in Maryland* (2008)

47 City of Portland Environmental Services, *Cost-Benefit Evaluation of Ecoroofs* (2008)

<http://www.portlandonline.com/bes/index.cfm?a=261053&c=50818>

48 Natural Resources Defense Council, *Rooftops to Rivers, Green Strategies for Controlling Stormwater and Combined Sewer Overflows* (2006) <http://www.nrdc.org/water/pollution/rooftops/rooftops.pdf>

49 Riverkeeper, *Sustainable Raindrops* (2006) <http://www.riverkeeper.org/wp-content/uploads/2009/06/Sustainable-Raindrops-Report-1-8-08.pdf>

50 City of Philadelphia Water Department, *A Triple Bottom Line Assessment of Traditional and Green Infrastructure Options for Controlling CSO Events in Philadelphia's Watersheds* (2009)

http://www.epa.gov/npdes/pubs/gi_phil_bottomline.pdf

51 Richard R. Horner, *Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices for Ventura County, and Initial Investigation of the Feasibility and Benefits of Low-Impact Site Development Practices for the San Francisco Bay Area, and Supplementary Investigation of the Feasibility and Benefits of Low-Impact Site Development Practices for the San Francisco Bay Area*, (2007)

http://docs.nrdc.org/water/files/wat_09081001b.pdf

52 J. Hathaway and W.F. Hunt. *Stormwater BMP Costs*. (2007)

www.bae.ncsu.edu/stormwater/PublicationFiles/DSWC.BMPcosts.2007.pdf.

53 Center for Neighborhood Technology and American Rivers, *The Value of Green Infrastructure: A Guide to Recognizing Its Economic, Environmental and Social Benefits* (2010) <http://www.cnt.org/repository/gi-values-guide.pdf>

54 J. Gunderson, R. Roseen, T. Janeski, J. Houle, M. Simpson. *Cost-Effective LID in Commercial and Residential Development* (2011) Stormwater <http://www.stormh2o.com/march-april-2011/costeffective-lid-development-1.aspx>

55 EPA, *Urban Stormwater Approach for the Mid-Atlantic Region and the Chesapeake Bay Watershed* (2010) http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/MS4GuideR3final07_29_10.pdf

Bay Watershed have incorporated numeric on-site retention standards into final or draft regulations or permits.

In addition, this provision is consistent with the 2008 Modified Letter of Agreement to the 2004 Permit⁵⁶ in which the District committed to promulgate stormwater regulations that implement “Low Impact Development”, *i.e.*, measures that infiltrate, evapotranspire and harvest stormwater.

(4.1.2 Code and Policy Consistency, Site Plan Review, Verification and Tracking):
In Region III’s *Urban Stormwater Approach for the Mid-Atlantic Region and the Chesapeake Bay Watershed*, EPA emphasized the importance of establishing accountability measures around performance measures. The best standards will not provide the necessary environmental outcomes if they are not properly implemented, and the only way to ensure proper implementation is to ensure that stormwater control measures are properly designed and installed.

Today’s Final Permit requires the District to ensure that all codes and policies are consistent with the standards in the Final Permit, and to establish and maintain adequate site plan review procedures, and a post-construction verification process (such as inspections or submittal of as-builts) to ensure that controls are properly installed.

Ensuring that local codes, ordinances and other policies are consistent with the requirements of the permit is critical element of success. A number local governments attempting to implement green infrastructure measures have found their own local policies to be one of the most significant barriers⁵⁷, *e.g.*, parking codes that require over-sized parking lots, plumbing codes that don’t allow rainwater harvesting for indoor uses, or street design standards that prohibit the use of porous/pervious surfaces. EPA has published a document, the *Water Quality Scorecard*, to assist local governments in understanding and identifying these local policy barriers and also provides options for eliminating them.⁵⁸ EPA is not requiring the District to use the *Scorecard* or any other specific method, but recommends a systematic assessment of local policies in the context of the requirements of the Final Permit in order to comply with the provisions of this Section.

EPA and others have long recognized the importance of site plan review in ensuring that development projects are designed according to standards and regulations, and a verification process following construction that projects were constructed as designed and approved.^{59,60,61,62}

⁵⁶ District Department of Environment, *Modification to the Letter of Agreement dated November 27, 2007 for the NPDES Municipal Separate Storm Sewer (MS4) Permit DC0000222* (2008)

<http://www.epa.gov/reg3wapd/npdes/pdf/DCMS4/Letter.PDF>

⁵⁷ National Research Council, *Urban Stormwater Management in the United States* (2009) National Academy of Sciences http://www.nap.edu/catalog.php?record_id=12465

⁵⁸ EPA, *Water Quality Scorecard, Incorporating Green Infrastructure Practices and the Municipal, Neighborhood and Site Scales* (2009) http://www.epa.gov/smartgrowth/pdf/2009_1208_wq_scorecard.pdf

⁵⁹ EPA, *Post-Construction Plan Review, Menu of BMPs*
http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet_results&view=specific&bmp=123

Most local governments, including the District, already have some form of site plan review and post-construction verification process for development projects. Today's Final Permit includes them as critical accountability elements of the District stormwater program.

In addition, today's Final Permit requires the District to track volume reductions from all projects. This is a critical element of determining whether wasteload allocations are being achieved.

One commenter noted that EPA had not imposed a clear compliance schedule for this requirement. The Final Permit includes a deadline of the end of the permit term for full compliance with this requirement, acknowledging that updating codes, ordinances and other policies may be a time-consuming process that typically requires consultation and support from elected officials, coordination amongst multiple departments and agencies, e.g., the Office of Planning, the Department of Transportation and the Department of the Environment, as well as public involvement.

(4.1.3 Off-Site Mitigation and/or Fee-in Lieu for all Facilities): Today's Final Permit requires the District to establish a program for Off-site Mitigation and/or Fee-In-Lieu within 18 months of the effective date of the Final Permit. The Final Permit provides the District flexibility to develop a program with either one of those elements or both. Specifically the Permit states:

The program shall include at a minimum:

- 1) Establishment of baseline requirements for on-site retention and for mitigation projects. On-site volume plus off-site volume (or fee-in-lieu equivalent or other relevant credits) must equal no less than the relevant volume in Section 4.1.1;
- 2) Specific criteria for determining when compliance with the baseline requirement for on-site retention cannot technically be met based on physical site constraints, or a rationale for why this is not necessary;
- 3) For a fee-in-lieu program, establishment of a system or process to assign monetary values at least equivalent to the cost of implementation of controls to account for the difference in the performance standard, and the alternative reduced value calculated; and
- 4) The necessary tracking and accounting systems to implement this section, including policies and mechanisms to ensure and verify that the required stormwater practices on the original site and appropriate required off-site practices stay in place and are adequately maintained.

60 Center for Watershed Protection, *Managing Stormwater in Your Community, A Guide for Building an Effective Post-Construction Program* (2008) http://www.cwp.org/documents/cat_view/76-stormwater-management-publications/90-managing-stormwater-in-your-community-a-guide-for-building-an-effective-post-construction-program.html

61 EPA, *MS4 Permit Improvement Guide* (2010) http://www.epa.gov/npdes/pubs/ms4permit_improvement_guide.pdf

62 National Research Council, *Urban Stormwater Management in the United States* (2009) National Academy of Sciences http://www.nap.edu/catalog.php?record_id=12465

This provision is included in today's Final Permit in acknowledgement that meeting the performance standard in 4.1.1 may be challenging in some situations. The NRC Report noted that an offset system is critical to situations when on-site stormwater control measures are not feasible.⁶³ In cases where a full complement of onsite controls is not feasible, offsite practices should be employed that result in net improvements to watershed function and water quality at the watershed scale. The *Urban Stormwater Approach for the Mid-Atlantic Region and the Chesapeake Bay Watershed* contemplates offsets in MS4 programs.⁶⁴ EPA has also articulated expectations in the Chesapeake Bay TMDL that it expects the Bay jurisdictions to account for growth via offset programs that are consistent with Section 10 and Appendix S of the Chesapeake Bay TMDL.⁶⁵

EPA received numerous comments on this provision. No commenter was opposed to an offset program *per se*, but there were various opinions on how it should function. Because there was so much general interest in how this program would be shaped, EPA is responding to these comments by requiring the program be subject to public notice followed by submittal to and review by EPA. EPA believes this provides all of those with an interest in this program the opportunity to provide meaningful input. EPA will also review the program to ensure that it has adequate tracking and enforceability components, and meets the water quality objectives of the Final Permit. It is EPA's expectation that these mechanisms will be described by the permittee in the proposed implementation scheme. EPA emphasizes that accountability measures (*e.g.*, inspections, maintenance, tracking) will be critical to ensure the success of the program, and therefore the District's plan will be closely scrutinized for those measures prior to implementation.

The Final Permit includes an option for the District to include incentives for other environmental objectives, *e.g.*, carbon sequestration, in the offset program. As noted, because of the wide array of opinions EPA feels that consideration of some of these other environmental objectives deserve a full vetting by the community. The District is not required to include any incentives or credits along these lines in the program. If it chooses to do so, anything implemented to achieve those other environmental objectives must be subject to the same level of site plan review, inspection, and operation and maintenance requirements as stormwater controls implemented in fulfillment of other permit requirements.

Finally, for the duration of this permit term, the Final Permit exempts District owned and operated transportation rights-of-way projects from the requirement to mitigate stormwater off-site or pay into a fee-in-lieu program for development projects where the on-site performance standard cannot be met. This decision was based on the District request for short-term relief while the District Department of Transportation develops new stormwater management design, construction, and operation and maintenance processes, protocols, requirements and

63 National Research Council, *Urban Stormwater Management in the United States* (2009) National Academy of Sciences http://www.nap.edu/catalog.php?record_id=12465

64 EPA, *Urban Stormwater Approach for the Mid-Atlantic Region and the Chesapeake Bay Watershed* (2010) http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/MS4GuideR3final07_29_10.pdf

65 EPA, *Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment* (2010) <http://www.epa.gov/reg3wapd/tmdl/ChesapeakeBay/tmdlexec.html>

specifications for transportation systems and public rights of way. EPA notes that this exemption does not apply to other District owned projects.

(4.1.4 Green Landscaping Incentives Program): Green infrastructure regulatory and incentive programs are becoming common across the country.^{66,67} Landscaping requirements that provide flexibility and a suite of options from which to select appropriate green infrastructure practices and systems, e.g. Seattle's Green Factor⁶⁸, have proven to be quite popular with developers, land owners and municipal officials.

The green landscaping provision is consistent with the 2008 Modified Letter of Agreement to the 2004 Permit⁶⁹ that articulated a long list of specific green infrastructure measures to be implemented, coupled with the commitment by the District to develop green infrastructure policies and incentives. Because these green landscaping provisions fill an important gap in the District's suite of green infrastructure-related policies, EPA specifically identified landscaping as an important area for development of incentives.

Other than general support EPA received little comment on this provision, thus the Final Permit has not been modified from the Draft Permit.

(4.1.5 Retrofit Program for Existing Discharges): Changes in land cover that occurred when urban and urbanizing areas were developed have changed both the hydrology and pollutant loadings to receiving waters and have led to water quality problems and stream degradation. In order to protect and restore receiving waters in and around the District stormwater volume and pollutant loadings from sites with existing development must be reduced. Due to historical development practices, most of these areas were developed without adequate stormwater pollutant reduction or water quality-related controls. To compensate for the lack of adequate stormwater discharge controls in these areas, EPA is requiring the District to include retrofit elements in the stormwater management program.^{70,71,72}

EPA has acknowledged the importance of including retrofit requirements in MS4 permits.^{73,74} The Chesapeake Bay TMDL allocations are founded on the expectation of

66 EPA, *Green Infrastructure Incentive Mechanisms*, Green Infrastructure Municipal Handbook Series, (2009) http://www.epa.gov/npdes/pubs/gi_munichandbook_incentives.pdf

67 EPA, *Green Infrastructure Case Studies: Municipal Policies for Managing Stormwater with Green Infrastructure* (2010) http://www.epa.gov/owow/NPS/lid/gi_case_studies_2010.pdf

68 City of Seattle, *Seattle Green Factor*, <http://www.seattle.gov/dpd/Permits/GreenFactor/Overview/>

69 District Department of Environment, *Modification to the Letter of Agreement dated November 27, 2007 for the NPDES Municipal Separate Storm Sewer (MS4) Permit DC0000222* (2008) <http://www.epa.gov/reg3wapd/npdes/pdf/DCMS4/Letter.PDF>

70 National Research Council, *Urban Stormwater Management in the United States* (2009) National Academy of Sciences http://www.nap.edu/catalog.php?record_id=12465

71 Schueler, Thomas. *Urban Subwatershed Restoration Manual No. 1: An Integrated Framework to Restore Small Urban Watersheds* (2005)

72 EPA, *Green Infrastructure Retrofit Policies*, Managing Wet Weather with Green Infrastructure Municipal Handbook Series (2008) http://www.epa.gov/npdes/pubs/gi_munichandbook_retrofits.pdf

73 EPA, *MS4 Permit Improvement Guide* (2010) EPA 833-R-10-001,

stormwater retrofits in the District (*see* Section 8 of the TMDL⁷⁵), based on actions outlined in the District's final Phase I WIP developed for the Chesapeake Bay TMDL.⁷⁶

EPA received quite a few comments on this set of requirements. Some commenters strongly approved of the retrofit provisions in the Draft Permit, while others expressed concerns.

Today's Final Permit requires the District to develop performance metrics for retrofits, using the performance standard in Section 4.1.1 as the starting point, *i.e.*, if projects can meet the environmental objectives specified in Part 4.1.1 they should. However, understanding the challenges associated with retrofitting some sites, the Final Permit allows that the performance metrics for retrofit projects may vary from the performance standard in 4.1.1, *e.g.*, different requirements may apply to differing sets of circumstances, site conditions or types of projects. EPA believes the most important first step in a robust retrofit program is to set stringent environmental objectives, thus the requirement to develop clear and specific performance standards. EPA fully expects the District to utilize this permit term to develop design, construction and operation and maintenance protocols to meet the requisite performance standards.

Several modifications were made to this provision:

- 1) Because there was so much interest in this provision EPA added a requirement for public notice.
- 2) Because there were so many opinions on how this program should function, EPA removed some of the criteria in the Final Permit to allow the community to shape the program. In exchange EPA included a requirement that the relevant performance metrics be submitted to EPA for review and approval.
- 3) The compliance schedule for development, public notice and submittal to EPA of performance metrics for a retrofit program has been extended from one year to 18 months at the request of the District. EPA believes the additional time will allow better coordination of the offset program with the District's stormwater regulations (also with an 18 month compliance schedule), and allow adequate time for a public notice process and an EPA review.

Also included in the permit is a requirement that the District must work with federal agencies to document federal commitments to retrofitting their properties. Consistent with Executive Order 13508 on the Chesapeake Bay, the federal strategies developed pursuant thereto, and in fulfillment of the Chesapeake Bay TMDL, federal agencies have obligations to

http://www.epa.gov/npdes/pubs/ms4permit_improvement_guide.pdf

⁷⁴ EPA, *Urban Stormwater Approach for the Mid-Atlantic Region and the Chesapeake Bay Watershed* (2010) http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/MS4GuideR3final07_29_10.pdf

⁷⁵ EPA, *Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment* (2010) <http://www.epa.gov/reg3wapd/tmdl/ChesapeakeBay/tmdlexec.html>

⁷⁶ District of Columbia Department of Environment, *Chesapeake Bay TMDL Watershed Implementation Plan* (2010)

http://ddoe.dc.gov/ddoe/frames.asp?doc=/ddoe/lib/ddoe/tmdl/Final_District_of_Columbia_WIP_Bay_TMDL.pdf

implement substantive stormwater controls. In order to accurately account for loads from federal lands that discharge through the District MS4 system, the District needs to be able to track the pollutant reductions resulting from federal actions. To do so the District will need to identify federal facilities and properties and work with federal agencies to identify retrofit opportunities on federal lands and properties and track progress in retrofitting these lands and properties.

In addition, the Final Permit requires the District to make pollutant load and volume reduction estimates for all retrofit projects for the nine pollutants in Table 4, and by each of the major District watersheds (Anacostia River, Rock Creek, Potomac River).

The Final Permit requires the District to implement retrofits to manage runoff from 18,000,000 square feet of impervious surfaces during the permit term. Of that total, 1,500,000 square feet must be in transportation rights-of-way. Although these initial drainage area objectives are not especially aggressive, EPA believes that a strong foundation for the retrofitting program must first be established. EPA can then set more aggressive drainage area objectives in subsequent permits. In its comments on the Draft Permit the District contended that the requirement in the Draft Permit for the retrofitting of 3,600,000 square feet of impervious surfaces in transportation rights-of-way was more than it could accomplish in a single permit term. The District suggested 1,500,000 square feet, almost 60% less than what was required in the Draft Permit would be achievable. In consideration of these comments, the total square footage of retrofitted impervious surfaces that must be in transportation rights-of-way is 1,500,000 square feet. EPA notes that the total square footage retrofit requirement is unchanged. EPA believes that this requirement will establish a strong foundation for the implementing a retrofitting program overall and in transportation rights-of-way, which can be followed in subsequent permits with more aggressive drainage area objectives. In addition, the Final Permit includes an additional provision that is intended to enhance the District's retrofit opportunities (*see* next paragraph).

The Final Permit establishes a requirement for the District to adopt and implement stormwater retention requirements for properties where less than 5,000 square feet of soil is being disturbed but where the buildings or structures have a footprint that is greater than or equal to 5,000 square feet and are undergoing substantial improvement. Substantial improvement, as consistent with District regulations at 12J DCMR § 202, is any repair, alteration, addition, or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started. Although this specific element was not included in the Draft Permit, it reflects the fact that the District has already considered this provision in their proposed stormwater regulations, and is consistent with the overall retrofit approach in the Draft Permit. Both the District and EPA believe this will promote retrofitting on smaller sites that would not otherwise be subject to the performance standard in the stormwater regulations.

This section of the Final Permit also requires the District to ensure that every major renovation/ rehabilitation project for District-owned properties within the inventory of Department of Real Estate Services (DRES) and Office of Public Education Facilities Modernization (OPEFM) includes on-site retention measures to manage stormwater. This

requirement is based in part on EPA's understanding that these two agencies have control over most District buildings and renovation projects in the District. This provision was in Section 4.2 Operation and Maintenance of Stormwater Capture Practices of the Draft Permit, and was moved to Section 4.1.5 of the Final Permit since it is a retrofit requirement rather than a maintenance requirement.

(4.1.6 Tree Canopy): Several studies have documented the capacity for planting additional trees in the District and quantified the benefits.^{77,78,79,80} The District commitments to the tree planting requirements of the Final Permit are documented in the 2008 Modified Letter of Agreement to the 2004 Permit,⁸¹ and the District's Chesapeake Bay TMDL WIP.⁸² The number was derived from the District Urban Tree Canopy Goal⁸³ of planting 216,300 trees over the next 25 years, an average of 8,600 trees per year District-wide. Adjusting this number for the MS4 area of the District, the Final Permit requires the District to develop a strategy to plant new trees at a rate of at least 4,150 annually.

There was some interest from commenters in providing input to the tree canopy strategy, thus the Final Permit includes a requirement for the District to public notice this strategy. Also, in response to several comments, EPA has clarified the annual number as a net increase in order to account for mortality.

(4.1.7 Green Roof Projects): Quite a few studies have documented the water quality benefits of green roofs.^{84,85,86} The Green Build-out Model, a project specifically carried out to

77 Casey Trees, *The Green Build-out Model: Quantifying the Stormwater Management Benefits of Trees and Green Roofs in Washington, DC* (2007) (<http://www.caseytrees.org/planning/greener-development/gbo/index.php>).

78 University of Vermont and the U.S. Forest Service, *A Report on Washington D.C.'s Existing and Potential Tree Canopy* (2009) <http://www.caseytrees.org/geographic/key-findings-data-resources/urban-tree-canopy-goals/documents/UnivofVermontUTCReport4-17-09.pdf>

79 Casey Trees, et al. *See several District tree inventories:* <http://www.caseytrees.org/geographic/tree-inventory/community/index.php>

80 Casey Trees, *The Green Build-out Model: Quantifying the Stormwater Management Benefits of Trees and Green Roofs in Washington, D.C.* (2007) http://www.caseytrees.org/planning/greener-development/gbo/documents/GBO_Model_Full_Report_20051607.pdf

81 District Department of Environment, *Modification to the Letter of Agreement dated November 27, 2007 for the NPDES Municipal Separate Storm Sewer (MS4) Permit DC0000222* (2008) <http://www.epa.gov/reg3wapd/npdes/pdf/DCMS4/Letter.PDF>

82 District of Columbia Department of Environment, *Chesapeake Bay TMDL Watershed Implementation Plan* (2010) http://ddoe.dc.gov/ddoe/frames.asp?doc=/ddoe/lib/ddoe/tmdl/Final_District_of_Columbia_WIP_Bay_TMDL.pdf

83 Casey Trees, *Urban Tree Canopy Goal website:* <http://www.caseytrees.org/geographic/key-findings-data-resources/urban-tree-canopy-goals/index.php>

84 EPA, *Green Roofs for Stormwater Runoff Control* (2009) <http://www.epa.gov/nrmrl/pubs/600r09026/600r09026.pdf>

85 E. Oberndorfer et al, *Green Roofs as Urban Ecosystems: Ecological Structures, Functions, and Services* (2007) *BioScience* 57(10):823-833 <http://www.bioone.org/doi/full/10.1641/B571005>

86 M. Hathaway, W.F. Hunt, G.D. Jennings, *A Field Study of Green Roof Hydrologic and Water Quality Performance* (2008) *Transactions of American Society of Agricultural and Biological Engineers*, Vol. 51(1): 37-44 <http://www.bae.ncsu.edu/people/faculty/jennings/Publications/ASABE%20Hathaway%20Hunt%20Jennings.pdf>

evaluate the potential in the District for using green roofs and other green infrastructure measures to reduce flows and pollutants from the District's wet weather systems, documented significant opportunities for green roof implementation.⁸⁷

The District commitments to green roof implementation are documented in the 2008 Modified Letter of Agreement to the 2004 Permit,⁸⁸ and the District Chesapeake Bay TMDL Watershed Implementation Plan.⁸⁹ The District is required to evaluate the feasibility of installing green roofs on District-owned buildings, and to install at least 350,000 square feet of green roof during the permit term.

(4.2 Operation and Maintenance of Retention Practices): Operation and maintenance, required pursuant to 40 C.F.R. 122.26(d)(2)(iv)(A)(1) and (3), is critical for the continued performance of stormwater control measures.^{90,91} EPA has consistently noted the importance of operation and maintenance in regulatory guidance.^{92,93,94} Today's Final Permit requires the District to ensure adequate maintenance of all stormwater control measures, both publicly and privately owned and operated.

The District has two years from the effective date of the Final Permit to develop and implement operation and maintenance protocols for all District owned and operated stormwater management practices. The District is also required to provide regular and ongoing training to all relevant contractors and employees.

The District is required to develop operation and maintenance mechanisms to ensure that stormwater practices are maintained and operated to meet the objectives of the program and that they continue to function over multiple permit cycles to provide the water quality benefits intended by design. Such mechanisms may include deed restrictions, ordinances and/or maintenance agreements to ensure that all non-District owned and operated stormwater control measures are adequately maintained. In addition the District must develop and/or refine

87 Casey Trees, *The Green Build-out Model: Quantifying the Stormwater Management Benefits of Trees and Green Roofs in Washington, D.C.* (2007) http://www.caseytrees.org/planning/greener-development/gbo/documents/GBO_Model_Full_Report_20051607.pdf

88 District Department of Environment, *Modification to the Letter of Agreement dated November 27, 2007 for the NPDES Municipal Separate Storm Sewer (MS4) Permit DC0000222* (2008) <http://www.epa.gov/reg3wapd/npdes/pdf/DCMS4/Letter.PDF>

89 District of Columbia Department of Environment, *Chesapeake Bay TMDL Watershed Implementation Plan* (2010) http://ddoe.dc.gov/ddoe/frames.asp?doc=/ddoe/lib/ddoe/tmdl/Final_District_of_Columbia_WIP_Bay_TMDL.pdf

90 National Research Council, *Urban Stormwater Management in the United States* (2009) National Academy of Sciences http://www.nap.edu/catalog.php?record_id=12465

91 EPA Website: Stormwater Control Operation and Maintenance. <http://www.epa.gov/owow/NPS/ordinance/stormwater.htm>

92 EPA, *MS4 Permit Improvement Guide* (2010) EPA 833-R-10-001, http://www.epa.gov/npdes/pubs/ms4permit_improvement_guide.pdf

93 EPA, *MS4 Program Evaluation Guidance* (2007) EPA-833-R-07-003, http://www.epa.gov/npdes/pubs/ms4guide_withappendixa.pdf

94 EPA, *Urban Stormwater Approach for the Mid-Atlantic Region and the Chesapeake Bay Watershed*, (2010) http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/MS4GuideR3final07_29_10.pdf

verification mechanisms, such as inspections, and an electronic inventory system to ensure the long-term integrity of stormwater controls in the District.

In addition the District is required to develop a Stormwater Management Guidebook and associated training within eighteen months of the effective date of the Final Permit. This requirement is based on commitments in the 2008 Modified Letter of Agreement to the 2004 Permit⁹⁵. Completion of the Guidebook has been delayed pending finalization of the District's revised stormwater regulations. However EPA expects Guidebook completion to parallel finalization of the District's revised stormwater regulations, which incorporate the standards and requirements of the Final Permit.

(4.3 Management of District Government Areas): Requirements in this section of the Final Permit largely continue provisions in the 2004 Permit. EPA received few comments on most elements of this section of the Draft Permit. The following revisions were made:

- 1) The District now must notify not only public health agencies within 24-hours in the event of a sanitary sewer overflow, but also ensure adequate public notification procedures within that same time period (Section 4.3.1 of the Final Permit). EPA emphasizes that this provision in no way authorizes sanitary sewer overflow discharges either directly or via the MS4. Those discharges are expressly prohibited.
- 2) Within 18 months of the effective date of the Final Permit, the District shall complete, public notice and submit to EPA for review and approval a plan for optimal catch basin inspections, cleaning and repairs. The District shall fully implement the plan upon EPA approval. This revision is based on comments that the catch basin maintenance provisions on the Draft Permit were vague and not within the context of a comprehensive plan (Section 4.3.5.1 of the Final Permit).
- 3) Section 3.2 of the Draft Permit required the District to update its outfall inventory. One commenter noted that the District's 2006 Outfall Survey had already essentially accomplished this, and that meanwhile many of these outfalls were in severe disrepair, thus contributing to increased sediment loading to receiving waters. EPA agrees this is a serious concern, and has thus modified the Final Permit to require the District to undertake the following: within 18 months of the effective date of the Final Permit, and consistent with the 2006 Outfall Survey, the District shall complete, public notice and submit to EPA for review and approval an outfall repair schedule to ensure that approximately 10% of all outfalls needing repair are repaired annually, with the overall objective of having all outfalls in good repair by 2022 (Section 4.3.5.3 of the Final Permit).
- 4) Consistent with the District's *Enhanced Street Sweeping and Fine Particle Removal Strategy*,⁹⁶ an additional element has been included in Table 3, Street Sweeping. The

⁹⁵ District Department of Environment, *Modification to the Letter of Agreement dated November 27, 2007 for the NPDES Municipal Separate Storm Sewer (MS4) Permit DC0000222* (2008)
<http://www.epa.gov/reg3wapd/npdes/pdf/DCMS4/Letter.PDF>

⁹⁶ District Department of the Environment, *Municipal Separate Storm Sewer System Program Annual Report* (2010)

table now documents that environmental hotspots in the Anacostia River Watershed will now be swept at least two times per month from March through October.

(4.6 Management of Construction Activities): Requirements in this Section of the Final Permit largely continue provisions in the 2004 Permit. Several commenters suggested that these provisions needed to be significantly improved, including specifying more stringent effluent limitations, in order to address the impairments attributable to sediment.

While permitting authorities have a fair amount of latitude to modify many elements of a permit based on public comments, inclusion of a *de novo* numeric effluent limitation, when neither the Draft Permit nor the Draft Fact Sheet suggested such an option would require further public notice. Therefore, this Final Permit does not include a numeric effluent limitation for sediment discharged in stormwater from active construction sites.

However, EPA agrees that construction activities cause serious water quality problems, and has revised this section to require more robust oversight of construction stormwater controls. A significant cause of water quality problems caused by construction activities is the failure of construction site operators to comply with existing regulations. Thus, EPA expects increased inspections and enforcement activity to result in improved compliance and therefore reduced sediment loads.⁹⁷ Therefore the Final Permit includes construction site inspection frequency requirements to ensure compliance with the District erosion and sediment requirements.

(4.8 Flood Control Projects): Requirements in this Section of the Final Permit largely continue provisions in the 2004 Permit. EPA received few comments on this section. The following revision was made: a start date of six months after the effective date of the Final Permit was added for the requirement to collect data on the percentage of impervious surface area located in flood plain boundaries for all proposed development.

(4.10 Total Maximum Daily Load (TMDL) Wasteload Allocation (WLA) Planning and Implementation): There are several TMDLs with wasteload allocations that either directly or indirectly affect the District's MS4 discharges. The following are those that EPA has determined to be relevant for purposes of implementation via the Final Permit:

1. TMDL for Biochemical Oxygen Demand (BOD) in the Upper and Lower Anacostia River (2001)
2. TMDL for Total Suspended Solids (TSS) in the Upper and Lower Anacostia River (2002)
3. TMDL for Fecal Coliform Bacteria in the Upper and Lower Anacostia River (2003)
4. TMDL for Organics and Metals in the Anacostia River and Tributaries (2003)
5. TMDL for Fecal Coliform Bacteria in Kingman Lake (2003)
6. TMDL for Total Suspended Solids, Oil and Grease and Biochemical Oxygen Demand in Kingman Lake (2003)

⁹⁷ EPA, *Office of Enforcement and Compliance Assurance Accomplishments Report* (2008)
<http://www.epa.gov/compliance/resources/reports/accomplishments/oeca/fy08accomplishment.pdf>

7. TMDL for Fecal Coliform Bacteria in Rock Creek (2004)
8. TMDL for Organics and Metals in the Tributaries to Rock Creek (2004)
9. TMDL for Fecal Coliform Bacteria in the Upper, Middle and Lower Potomac River and Tributaries (2004)
10. TMDL for Organics, Metals and Bacteria in Oxon Run (2004)
11. TMDL for Organics in the Tidal Basin and Washington Ship Channel (2004)
12. TMDL for Sediment/Total Suspended Solids for the Anacostia River Basin in Maryland and the District (2007) [pending resolution of court vacature, Anacostia Riverkeeper, Inc. v. Jackson, No. 09-cv-97 (RCL)]
13. TMDL for PCBs for Tidal Portions of the Potomac and Anacostia Rivers in the District of Columbia, Maryland and Virginia (2007)
14. TMDL for Nutrients/Biochemical Oxygen Demand for the Anacostia River Basin in Maryland and the District (2008)
15. TMDL for Trash for the Anacostia River Watershed, Montgomery and Prince George's Counties, Maryland and the District of Columbia (2010)
16. TMDL for Nitrogen, Phosphorus and Sediment for the Chesapeake Bay Watershed (2010)

On July 25, 2011, in connection with a challenge by the Anacostia Riverkeeper and other environmental organizations, the U.S. District Court for the District of Columbia vacated EPA's approval of a total maximum daily load (TMDL) for sediment in the Anacostia River. While the court ruled in EPA's favor on a number of issues of significant importance to the TMDL program and that the TMDL adequately would achieve the designated aquatic life use, the court held that EPA's decision record did not adequately support EPA's determination that the TMDL would lead to river conditions that would support the primary (swimming) and secondary (boating) contact recreation and aesthetic designated uses. Based on its holding regarding the recreational and aesthetic uses, the court vacated the TMDL, but stayed its vacatur for one year to give EPA sufficient time to address the court's concerns. This TMDL is included in the above list (#12), because EPA expects this vacatur to be resolved within the time frame for TMDL efforts outlined in this permit. However, District planning and implementation efforts on this TMDL are not required until such time as the legal challenge is resolved and the TMDL is established.

Most EPA developed TMDLs for the District, as well as all District developed and EPA approved TMDLs can be found at the following website:

http://www.epa.gov/reg3wapd/tmdl/dc_tmdl/index.htm.

The Chesapeake Bay TMDL for nitrogen, phosphorus and sediment is available at:

<http://www.epa.gov/reg3wapd/tmdl/ChesapeakeBay/tmdlexec.html>.

The District also has a number of TMDL-related documents on its website:

<http://ddoe.dc.gov/ddoe/cwp/view,a,1209,q,495456.asp>.

In addition, the tidal Anacostia River is listed as impaired for TSS and BOD, and the Upper Potomac River is listed as impaired for pH. TMDL establishment by EPA is pending for both.

As part of permit reissuance EPA has reviewed several existing TMDL implementation plans, including those for the Potomac River, Anacostia River and Rock Creek. EPA has identified the relevant implementation actions from those Plans and included them as requirements of the Final Permit, *e.g.*, green roofs, tree plantings. This approach provides more clarity for the District and the general public, and is also consistent with the obligation of NPDES permit writers to articulate enforceable provisions in permits to implement TMDL WLAs.

EPA took the same approach with the Anacostia River Watershed Trash TMDL⁹⁸ (Trash TMDL) (Part 4.10.1 of the Final Permit), which was finalized in September 2010. This TMDL was well-developed with quantifiable information about the sources and causes of impairment. The Trash TMDL assigned a specific WLA to MS4 discharges: removal of 103,188 pounds of trash annually. The Final Permit requires the District to attain this WLA as a specific single-year measure by the fifth year of this permit term. The Final Permit provision is based on the annual trash WLA for the District MS4. In the TMDL, annual WLAs were divided by 365 days to obtain daily WLAs. Given the fact that the daily and annual WLAs are congruent with each other, use of the annual WLA as the permit metric is consistent with the assumptions and requirements of the TMDL and is a more feasible measure for monitoring purposes.

Because the Anacostia River Watershed Trash TMDL provided a solid foundation for action, EPA determined the implementation requirements and included them in the Final Permit rather than require the District to develop a separate implementation plan. The Permit requires the District to determine a method for estimating trash reductions and submit that to EPA for review and approval within one year of the effective date of the Final Permit. In addition, the District must annually report the trash prevention/removal approaches utilized, and the overall total weight (in pounds) of trash captured for each type of approach.

On December 29, 2010, the U.S. Environmental Protection Agency established the Chesapeake Bay TMDL⁹⁹ to restore clean water in the Chesapeake Bay Watershed. The TMDL identifies the necessary reductions of nitrogen, phosphorus and sediment from Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia that, when attained, will allow the Bay to meet applicable water quality standards. EPA based the TMDL allocations, where possible, on information provided by the Bay jurisdictions in their final Phase I WIPs. The TMDL requires the Bay jurisdictions to have in place by 2017 the necessary controls to attain 60% of the reductions called for in the TMDL, and to have all controls in place by 2025. EPA has committed to hold jurisdictions accountable for results along the way, including ensuring that NPDES permits contain provisions and limits that are consistent with the assumptions and requirements of the relevant WLAs.

98 Maryland Department of the Environment and District of Columbia Department of Environment, *Total Maximum Daily Loads of Trash for the Anacostia River Watershed, Montgomery and Prince George's Counties, Maryland and the District of Columbia* (2010) <http://www.epa.gov/reg3wapd/pdf/AnacostiaTMDLPortfolio.pdf>

99 EPA, *Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment* (2010) <http://www.epa.gov/reg3wapd/tmdl/ChesapeakeBay/tmdlexec.html>

The District's final Phase I Chesapeake Bay WIP proposed very aggressive targets for pollutant reductions in its MS4 program.

Pollutant of Concern	% Reductions in Urban Runoff Loads by 2025 from 2009 Baseline	Reductions in Urban Runoff Loads by 2025 from 2009 Baseline
Total Nitrogen	17	29,310 lbs/yr
Total Phosphorus	33	7,740 lbs/yr
Sediment	35	2,192 tons/yr

These numbers are from the District's final input deck to the Chesapeake Bay Model in association with the final Phase I WIP.

The Final Permit requires a very robust set of measures, based on a determination that these measures are necessary to ultimately achieve the specified reductions. EPA took a similar approach with the Chesapeake Bay TMDL as it did with the aforementioned TMDLs, and incorporated specific implementation measures into the Final Permit. Although EPA did not finalize the Chesapeake Bay TMDL until December 2010, EPA had a reasonably clear understanding of what would be needed even prior to publishing the Draft Permit because of the significant amount of data, modeling output and other information available in advance of its finalization, as well as many months of ongoing discussions with the District about the elements of its final Phase I WIP.¹⁰⁰ Based on the final TMDL, EPA is assured that the Final Permit is consistent with the assumptions and requirements of the WLAs in the TMDL.

In partial fulfillment of attaining the Chesapeake Bay WLAs, the Final Permit contains: a new performance standard for development, a requirement for an offset program for development, numeric requirements for tree plantings and green roof installation, numeric requirements for retrofits, and a variety of other actions. The relevant sections of this Final Fact Sheet discuss those provisions more fully.

There will be two additional permit terms prior to 2025 during which the District will implement many additional and/or more robust measures to attain its Bay TMDL WLAs. Provisions, targets and numeric thresholds in this Final Permit are not necessarily the ones that will be included in subsequent permits. EPA believes, however, that the 2011 Final Permit sets the foundation for a number of actions and policies upon which those future actions will be based.

Section 4.10.2 of the Final Permit requires the District to implement and complete the proposed replacement/rehabilitation, inspection and enforcement, and public education aspects of the strategy for Hickey Run to satisfy the applicable oil and grease TMDL wasteload allocations. In addition, the District is required to install end-of-pipe management practices at four identified outfalls to address oil and grease and trash in Hickey Run no later than the end of this permit term. Implementation requirements to attain these WLAs were initiated during prior

¹⁰⁰ District of Columbia Department of Environment, *Chesapeake Bay TMDL Watershed Implementation Plan* (2010)
http://ddoe.dc.gov/ddoe/frames.asp?doc=/ddoe/lib/ddoe/tmdl/Final_District_of_Columbia_WIP_Bay_TMDL.pdf

permit terms. The requirements of today's Final Permit are intended to bring the District to the concluding stages of attaining the Hickey Run oil and grease and trash WLAs.

The 2003 District of Columbia TMDL for oil and grease in the Anacostia River noted that the waterbody was no longer impaired by oil and grease. In particular data from Hickey Run, which provided the basis for listing the Anacostia River as an impaired water body, had demonstrated consistent compliance with applicable water quality standards for oil and grease: for twenty-one samples taken in Hickey Run between January and December 2002, no values exceeded the 10mg/L standard, and only one sample exceeded a 5 mg/L detection limit value. The 2003 TMDL further concluded that on-going implementation activities, which included public education and automobile shop enforcement actions, caused a significant decrease in ambient pollutant concentrations.¹⁰¹ The Final Permit includes a provision for additional controls on oil and grease in Hickey Run should monitoring during this permit term indicate it is necessary. However, per the demonstration noted above, EPA believes it likely this may not be necessary.

One commenter indicated that the shift from an aggregate numeric effluent limit for four outfalls into Hickey Run in the 2004 permit to a management practice-based approach in the Draft Permit violated the Clean Water Act's prohibition against backsliding, section 402(o)(1) of the CWA, 33 U.S.C. § 1342(o)(1) (“[A] Permit may not be renewed, reissued, or modified ... subsequent to the original issuance of such Permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous Permit”). In response, EPA notes that a non-numeric effluent limitation is not automatically less stringent than a numeric effluent limitation. A different (numeric or non-numeric) effluent limitation only violates the anti-backsliding prohibition if it can be fairly compared to the prior numeric limit and found to be less stringent than that requirement. *See e.g., Communities for a Better Environment v. State Water Resources Control Bd.*, 132 Cal. App. 4th 1313 (August 29, 2005) (finding that no backsliding had occurred where the effluent limit in existing permit was not “comparable” to WQBEL in previous permit). In this case EPA 1) notes that additional controls on oil and grease may not be needed (as explained above), and 2) has determined regardless that compliance with the performance standards in the Final Permit will result in improved water quality protections for the District MS4 receiving streams more effectively than did the previous numeric effluent limitations (see discussions in relevant sections).

Section 4.10.3 of today's Final Permit requires the District to develop a Consolidated TMDL Implementation Plan (Consolidated Plan) for all TMDL wasteload allocations assigned to District MS4 discharges. All applicable WLAs must be considered in this plan, though the TMDLs listed at the beginning of this Section form the basis for District action to meet this requirement. EPA has evaluated these TMDLs along with existing water quality data and has concluded that *E. coli*, total nitrogen, total phosphorus, total suspended solids, copper, lead, zinc and trash are critical pollutants of concern for District waters, and should be the focus of implementation measures as well as of a revised monitoring program (*see* Section 5.1 for a

¹⁰¹ District of Columbia, *Final Total Maximum Daily Load for Oil and Grease in the Anacostia River* (2003) http://www.epa.gov/reg3wapd/tmdl/dc_tmdl/AnacostiaRiver/AnacoatiaOilReport.pdf

discussion of the latter).

The rationale for a Consolidated Plan is to allow for more efficient implementation of control measures. In many cases TMDLs have been developed on a stream segment basis, which is not always the most logical framework for implementation of controls. In addition, the solutions for reducing many pollutants and/or improving water bodies will be the same stormwater control measures and/or policies, and it would be wasteful of resources and duplicative to have separate implementation plans under those circumstances.

The Final Permit requires the Consolidated Plan to include:

- 1) Specified schedules for attaining applicable wasteload allocations for each TMDL; such schedules must include numeric benchmarks that specify annual pollutant load reductions and the extent of control actions to achieve these numeric benchmarks.
- 2) Interim numeric milestones for TMDLs where final attainment of applicable wasteload allocations requires more than one permit cycle. These milestones shall originate with the third year of this permit term and every five years thereafter.
- 3) Demonstration using modeling of how each applicable WLA will be attained using the chosen controls, by the date for ultimate attainment.
- 4) The Consolidated TMDL Implementation Plan elements required in this section will become enforceable permit terms upon approval of such Plans, including the interim and final dates in this section for attainment of applicable WLAs.
- 5) Where data demonstrate that existing TMDLs are no longer appropriate or accurate, the Plan shall include recommended solutions, including, if appropriate, revising or withdrawing TMDLs.

Some of the applicable TMDLs developed within the District were based on limited or old data. In those cases the District may choose to reevaluate these waters and impairments to determine if revising or withdrawing the TMDL, or other action, would be appropriate.

The District has two years from the date of Final Permit issuance to develop, public notice and submit the Consolidated Plan to EPA for review and approval. EPA believes the required elements (1-5, above) will ensure clarity and enforceability, but also encourages interested parties to participate in the public process. EPA added this public notice requirement to the Final Permit because of the significant interest expressed by commenters on District TMDLs.

Section 4.10.4, Adjustments to TMDL Implementation Strategies, requires the District to make mid-course improvements to implementation measures and policies whenever data indicate insufficient progress towards attaining any relevant WLA. The District must adjust its management programs to compensate for the inadequate progress within 6 months, and document the modifications in the Consolidated TMDL Implementation Plan. The Plan modification shall include a reasonable assurance demonstration of the additional controls to achieve the necessary reductions, *i.e.*, quantitatively linking sources and causes to discharge

quality. In addition, annual reports must include a description of progress as evaluated against all implementation objectives, milestones and benchmarks, as relevant.

Finally, with respect to any new or revised TMDL that may be approved during the permit term, the Final Permit makes allowances for reopening the permit to address those WLAs (see Section 8.19 of the Final Permit: Reopener Clause for Permits), if necessary. EPA believes that reopening the permit will not typically be necessary since the Final Permit requires the District to update the Consolidated Plan within six months for any TMDL approved during the permit term with wasteload allocations assigned to District MS4 discharges, and also to include a description of revisions in the next regularly scheduled annual report.

(4.11 Additional Pollutant Sources): Requirements in this Section of the Final Permit largely continue provisions in the 2004 Permit. EPA notes that the provisions of this section were mostly included in Section 3 of the Draft Permit.

5. MONITORING AND ASSESSMENT OF CONTROLS

(5.1 Revised Monitoring Program): As included in the Draft Permit, the monitoring requirements for the District's stormwater program have been significantly updated from the last permit cycle. This revision reflects the fact that the District has already performed broad monitoring of a variety of parameters over the last two permit cycles. The Phase I stormwater regulations require representative sampling for the purpose of discharge characterization in the first permit term, or initial years of the program (40 C.F.R. §122.26(d)(1)(iv)(E)). The District now has a decade worth of this type of data, and it is timely to update the monitoring program to more effectively evaluate the effectiveness of the program, and to more effectively and efficiently use the District's funds for this purpose. As noted in the National Research Council's report *Urban Stormwater Management in the United States*¹⁰², the quality of stormwater from urbanized areas has been well-characterized. Continuing the standard end-of-pipe monitoring typical of most MS4 programs has produced data of limited usefulness because of a variety of shortcomings (as detailed in the report). The NRC Report strongly recommends that MS4 programs modify their evaluation metrics and methods to include biological and physical monitoring, better evaluations of the performance/effectiveness of controls and overall programs, and an increased emphasis on watershed scale analyses to ascertain what is actually going on in receiving waters. The report also emphasizes the link between study design and the ability to interpret data, *e.g.*, having enough samples to ensure that conclusions are statistically significant.

Consistent with these goals, the Final Permit requires the District to develop a Revised Monitoring Program to meet the following objectives:

- 1) Make wet weather loading estimates of the parameters in Table 4 from the MS4 to receiving waters. Number of samples, sampling frequencies and number and locations of

¹⁰² National Research Council, *Urban Stormwater Management in the United States* (2009) National Academy of Sciences http://www.nap.edu/catalog.php?record_id=12465

- sampling stations must be adequate to ensure data are statistically significant and interpretable.
- 2) Evaluate the health of the receiving waters, to include biological and physical indicators such as macroinvertebrates and geomorphologic factors. Number of samples, frequencies and locations must be adequate to ensure data are statistically significant and interpretable for long-term trend purposes (not variation among individual years or seasons).
 - 3) Any additional necessary monitoring for purposes of source identification and wasteload allocation tracking. This strategy must align with the Consolidated TMDL Implementation Plan required in Part 4.10.3 For all pollutants in Table 4 monitoring must be adequate to determine if relevant WLAs are being attained within specified timeframes in order to make modifications to relevant management programs, as necessary.

The Final Permit requires the District to public notice the Revised Monitoring Program, and to submit it to EPA for review and approval within two years of the effective date of the Final Permit.

EPA also significantly refined the list of required pollutant analytes/parameters for which monitoring is required from over 120 to 9:

(Table 4 from the Final Permit)
Monitoring Parameters

Parameter
<i>E. coli</i>
Total nitrogen
Total phosphorus
Total Suspended Solids
Cadmium
Copper
Lead
Zinc
Trash

These parameters are those for which relevant stormwater wasteload allocations exist, or (in the case of cadmium) where monitoring data indicate that the pollutant is occurring in discharges at concentrations and frequencies to consider it a pollutant of concern. End-of-pipe analytical monitoring is an expensive undertaking, and EPA feels strongly that the District’s water quality-related evaluations will be much more robust and actionable with an enhanced focus on true pollutants of concern, along with the elimination of analytes for which monitoring routinely shows non-detect concentrations, and/or those to which notable water quality problems have not been linked.

One modification has been made to this list for the Final Permit from the Draft Permit.

The Draft Permit required evaluation of Trash reductions in the relevant sections for the Anacostia River Watershed Trash TMDL (4.10.1), but failed to include it in Table 4 (Table 3 of the Draft Permit). EPA has added trash as a monitoring parameter to this table to correct that oversight.

(5.2 Interim Monitoring): During the interim period from the effective date of the Final Permit until EPA approves the Revised Monitoring Program, the Final Permit requires the District to largely continue the monitoring program established and updated under the 2000 and 2004 permits, except the monitoring program is only required for the list of monitoring parameters in Table 4, which has been reduced to the nine parameters as discussed above.

EPA received several comments and questions on the interim monitoring requirements. Individual responses are included in the Responsiveness Summary published with the Final Permit and this Final Fact Sheet. EPA chose to not modify the interim monitoring provisions for the Final Permit because: 1) they are largely an extension of the same requirements and methods already approved and established under prior permits, which will ensure that data collected during the interim monitoring period are comparable to data collected during the past decade, thus providing “apples to apples” comparisons in data interpretation; and 2) EPA believes that the District’s monitoring-related resources are more effectively spent developing a robust revised program, rather than revising the interim program.

(5.4 Area and/or Source Identification Program): The Final Permit provides that “[t]he permittee shall continue to implement a program to identify, investigate, and address areas and/or sources within its jurisdiction that may be contributing excessive levels of pollutants to the MS4 and receiving waters, including but not limited to those pollutants identified in Table 4 herein.” This is identical in substance to section 5.5 in the Draft Permit and essentially continues the requirements from the 2004 MS4 Permit. EPA received a comment that this provision has been inadequate to identify sources contributing pollutants to MS4 discharges. EPA recognizes that this provision is general, but believes that the District’s ongoing practices are sufficient during the interim monitoring period. EPA notes that the Final Permit requires the Revised Monitoring Program to include any additional necessary monitoring for purposes of source identification and wasteload allocation tracking. The public will have a chance to comment on the proposed objectives and methods in Plan, and EPA will review and approve this Plan. Therefore there will be several opportunities to ensure that the District has robust methods for identify additional pollutant inputs to District MS4 discharges.

(5.7 Reporting of Monitoring Results): In response to several comments, and because of the potential availability of electronic reporting in the future, EPA made several modifications to this Section of the Final Permit. When available the District may submit monitoring data through NetDMR, a national tool for regulated Clean Water Act permittees to submit discharge monitoring reports (DMRs) electronically via a secure Internet application to EPA. *See* <http://www.epa.gov/netdmr/>. However, if this system is not available to the National Marine Fisheries Service, then the District must continue to submit hard copies. The Final Permit eliminates the requirement for the District to submit monitoring reports to itself. This section

clarifies (consistent with Section 6.2) that all monitoring results from a given year be summarized in the following annual report.

6. REPORTING REQUIREMENTS

Permit reporting is required pursuant to 40 C.F.R. § 122.41(l). EPA has made a number of minor edits to this section primarily for the purposes of: maintaining consistency with other Sections of the Final Permit (as those provisions necessitated changes in reporting, the Final Fact Sheet discusses those changes in association with the relevant Section); eliminating redundancy; and to provide clarification.

(6.2 Annual Reporting): Consistent with comments from a number of commenters regarding public access to documents, today's Final Permit requires the District to post each Annual Report on its website at the same time the Report is submitted to EPA.

The separate 'Reporting on Funding' in the Draft Permit has been eliminated in the Final Permit because it was largely redundant with other reporting requirements, and because it was beyond the scope of what is needed from the District. The Final Permit requires annual reporting on projected costs and budget for the coming year as well as expenditures and budget for the prior year, including (i) an overview of the District's financial resources and budget, (ii) overall indebtedness and assets, (iii) sources for funds for stormwater programs, and (iv) a demonstration of adequate fiscal capacity to meet the permit requirements. However, EPA has concluded that additional detail would be superfluous. In addition, beyond a demonstration of basic budget considerations as outlined in the Final Permit, how the District chooses to allocate resources to comply with the permit is an internal decision.

EPA has also included a provision for an Annual Report Meeting in this permit in order to improve communication between the District and the Agency. This meeting will provide an opportunity for EPA to obtain more in-depth knowledge of the District's program, and should also enhance feed-back on the program. The permit requires the District to convene the first Annual Report Meeting within 12 months of issuance of the permit. If both parties agree that this first meeting was successful, the Annual Report meeting shall be extended for the duration of the permit term.

7. STORMWATER MODEL

The Stormwater Model and associated Geographical Information System are tools used by the District to help track and evaluate certain components of the water quality program. The Final Permit requires the use and maintenance of this system as a component of the District's Stormwater Management Program. There were no modifications to this Section between the Draft Permit and the Final Permit.

8. STANDARD PERMIT CONDITIONS FOR NPDES PERMITS

The provisions in Part 8 are requirements generally applicable to all NPDES permits, pursuant to 40 C.F.R. § 122.41, as well as other applicable conditions pursuant to § 122.49 and specific statutory or regulatory provisions as noted in the permit. No changes were made to this section of the permit.

9. PERMIT DEFINITIONS

Most changes to this section from the Draft Permit consist of minor clarifications. In addition, several terms were eliminated from this section because they do not appear elsewhere in the Final Permit: ‘goal’, ‘internal sampling station’, ‘significant spills’, and ‘significant materials’. The definition of ‘MS4 Permit Area’ was removed because it is already defined in Part 1.1.

A definition of “development” was added to clarify that development is “the undertaking of any activity that disturbs a surface area greater than or equal to 5,000 square feet.” The definition further clarifies that the relevant performance standard for development applies to projects that commence after 18 months from the effective date of the Final Permit or as soon as the District’s stormwater regulations go into effect, whichever is sooner.

The definition of ‘green roof’ was modified to allow for the fact that some types of ecoroofs may be constructed without vegetation or soil media.

The definition of “retrofit” was modified to focus on environmental outcomes, *i.e.*, reductions in discharge volumes and pollutant loads and improvements in water quality, rather than implementation of conveyance measures.

The definition of “predevelopment hydrology” was enhanced to clarify that the phrase refers to a “stable, natural hydrologic site condition that protects or restores to the degree relevant for that site, stable hydrology in the receiving water, which will not necessarily be the hydrologic regime of that receiving water prior to any human disturbance in the watershed.” This definition is consistent with several seminal publications on the topic including *Urban Stormwater Management in the United States*¹⁰³ and references therein, *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act*¹⁰⁴, and *Guidance for Federal Land Management in the Chesapeake Bay Watershed*¹⁰⁵, issued in fulfillment of Part 502 of E.O. 13508.

103 National Research Council, *Urban Stormwater Management in the United States* (2009) National Academy of Sciences http://www.nap.edu/catalog.php?record_id=12465

104 EPA, *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act* (2009) http://www.epa.gov/owow_keep/nps/lid/section438/

105 EPA, *Guidance for Federal Land Management in the Chesapeake Bay Watershed*, Chapter 3. Urban

RELATIONSHIP TO NON-POINT SOURCE PROGRAM:

It should be noted that the measures required by the Permit are separate from those projects identified in the District's EPA-approved Non-Point Source Management Plan as being funded wholly or partially by funds pursuant to Section 319(h) of the Clean Water Act. See Section 3 of Permit ("These Permit requirements do not prohibit the use of 319(h) funds for other related activities that go beyond the requirements of this Permit, nor do they prohibit other sources of funding and/or other programs where legal or contractual requirements preclude direct use for stormwater permitting activities.").

ADMINISTRATIVE RECORD:

Copies of the documents that comprise the administrative record for the Permit are available to the public for review at the Martin Luther King, Jr. Public Library, which is located at 901 G Street, N.W. in Washington, D.C. An electronic copy of the proposed and final Permits and proposed and Final Fact Sheets are also available on the EPA Region III website, http://www.epa.gov/reg3wapd/npdes/draft_permits.html. For additional information, please contact Ms. Kaitlyn Bendik, Mail Code 3WP41, NPDES Permits Branch, Office of Permits and Enforcement, EPA Region III, United States Environmental Protection Agency, 1650 Arch Street, Philadelphia, Pennsylvania 19103-2029.

and Suburban, EPA841-R-10-002, (2010)
(http://www.epa.gov/owow/keep/NPS/chesbay502/pdf/chesbay_chap03.pdf)