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ENVIR. APPEALS BOARD

Exhibit List

Exhibit 1: EPA, Final Amendment 1
Exhibit 2: Petitioners' Comments on Proposed Amendment 1
Exhibit 3: 2004 Petition for Review
Exhibit 4: EPA, Proposed Amendment 1
Exhibit 5: EPA, Final Amendment 1 Fact Sheet
Exhibit 6: Petitioners' 2003 Comments on Proposed 2004 Permit
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Exhibit 8: EPA, 2004 Permit Fact Sheet
Exhibit 9: District of Columbia, 2002 Water Quality Report pursuant to CWA §305(b)(excerpts)
Exhibit 10: District of Columbia NPDES Part 2 Storm Water Permit Application (excerpts)
Exhibit 11: District of Columbia, Storm Water Management Plan (2002)(excerpts)
Exhibit 12: District of Columbia, 2004 List of §303(d) Waters
Exhibit 13: EPA, Assessment Data for the District of Columbia Year 2002
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NPDES Permit No. DC0000221
Issuance Date: August 19, 2004
Effective Date: August 19, 2004

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MUNICIPAL SEPARATE STORM WATER SEWER SYSTEM PERMIT NO. DC0000221

AMENDMENT NO. 1

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 Tributaries

in accordance with the approved Storm Water Management(s), effluent limitations, monitoring requirements, and other conditions set forth in this Amendment No. 1 herein to Parts I, III, VII, IX, and X of Parts I through X of the previously issued Permit.

The effective issuance date of this Amendment No. 1 is March 14, 2006

This Amendment No. 1 to the Permit and the authorization to discharge shall expire at midnight, on August 18, 2009.

Signed this 13th day of March, 2006.

Jon M. Capacasa, Director
Water Protection Division
United States Environmental Protection Agency
Region III

Exhibit 1

PART I. DISCHARGES AUTHORIZED UNDER THIS PERMIT

C. Limitations to Coverage (Prohibitions) [Replace existing language of C including Title with this]

Section 402(p)(3)(B)(ii) of the Clean Water Act specifically prohibits non-storm water entering the MS-4. The Permit does not authorize the Permittee to discharge pollutants from the MS4 as described herein:

1. Non-Storm Water and Phase I and Phase II Storm Water

Discharges of non-storm water (other than those listed in Part I.B. of this permit) are prohibited except where such discharges comply with all other terms and conditions of this permit and are:

a. Regulated with a General NPDES permit for Phase I or Phase II storm water discharges, or

b. Regulated with a individual NPDES permit.

2. All discharges of pollutants to or from the MS4 system, not regulated by a general or an individual NPDES permit, that cause or contribute to the lowering of water quality from current conditions within the District of Columbia are prohibited.

D. Effluent Limits

[replace existing Subpart D with the following]

1. MEP Effluent Limit - The permittee shall implement the controls, Best Management Practices (BMPs), and other activities necessary to reduce pollutants as set forth in the Upgraded Storm Water Management Plan dated October 19, 2002. Unless and until modified consistent with Part VII.P (Reopener Clause for Permits) of this Permit, the Upgraded Storm Water Management Plan requirements expressed in the form of BMPs, represent the controls necessary to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP) in accordance with 40 CFR Part 122.44(k)(2).

2. WQBEL Limit - The permittee shall implement the controls, Best Management Practices (BMPs), and other activities necessary to reduce pollutants to the Maximum Extent Practicable as set forth in the Upgraded Storm Water Management Plan dated October 19, 2002, and all other requirements of this Permit (including but not limited to the narrative prohibitions on discharge of pollutants from the MS4 set forth in I.C. of this Permit). EPA reserves the authority to modify this effluent limit as described below in Part VII.P (Reopener Clause for Permits) of this Permit.

3. Effluent Limits Consistent with TMDL WLA - The permittee shall implement controls, Best Management Practices (BMPs), and other activities necessary to reduce pollutants to the Maximum Extent Practicable as set forth in the Upgraded Storm Water Management Plan dated

October 19, 2002, and to comply with all other requirements of this Permit (including but not limited to the narrative prohibitions on discharge of pollutants from the MS4 set forth in I.C. of this Permit). As further described in Part IX.B. of this Permit, in addition to complying with the effluent limits I.C. and I.D. of this Permit, the Permittee is required to submit and, unless instructed otherwise by EPA, implement the recommendations of implementation plans specific to the Anacostia River Total Maximum Daily Load (TMDL) wasteload allocations (WLAs) and Rock Creek TMDL WLAs in accordance with the schedule set forth in Part III.A. Table 1 of this Permit.

PART III. STORM WATER MANAGEMENT PLAN (SWMP)

C. Annual SWMP Reporting

The [Annual] Report shall include the following separate sections:

6. [keep existing part and add the following - remember this is cross referenced to Part III.D first paragraph] this identification shall include but not be limited to the permittee's calculation of pollutant loads and reductions from the MS4 system in those watershed(s) for which there are applicable TMDL WLAs using the methods described in Part IX.B.

PART VII. STANDARD PERMIT CONDITIONS FOR NPDES PERMITS

P. Reopener Clause for Permits

c. [replace first sentence of existing language with the following; concluding sentence of VII.P unchanged] The Permit may be modified in accordance with 40 C.F.R. Part 124.5, or revoked and reissued to incorporate additional controls in the event that EPA determines that further controls, under the iterative approach, are necessary to (1) ensure that the effluent limits are sufficient to prevent a further lowering of water quality from current conditions and/or (2) to ensure that the effluent limits are consistent with any applicable TMDL WLA allocated to discharge of pollutants from the MS4.

PART IX OTHER APPLICABLE PROVISIONS

A. Waivers and Exemptions

[unchanged, but add additional sentence] As part of its Annual Report to EPA under Part III.C. of this Permit, the permittee shall describe each and every instance in which the District authorized such an exemption and/or granted such a waiver, the nature and location of the activity for which each exemption or waiver was granted, the justification for each exemption or waiver, and the District's basis for finding that the exemption or waiver was consistent with the Federal Clean Water Act and other pertinent guidance, policies, and regulations.

B. TMDL WLA Implementation Plans and Compliance Monitoring

[replace first paragraph of 2004 Permit with the following]

In addition to the duty to comply with the narrative effluent limits in Part I of this Permit, the permittee shall demonstrate compliance as described in this Part and in Part IV (Monitoring and Reporting Requirements). In accordance with the schedule identified in Part III.A. (Compliance Schedule) and Table 1 and below, Permittee shall further submit implementation plans to reduce discharges consistent with any applicable EPA-approved waste load allocation (WLA) component of any established Total Maximum Daily Loadings (TMDL). An applicable TMDL WLA for this Permit means any MS4 WLA established on or before the effective date of this Permit for a receiving stream, segment of a stream, or other waterbody within the District of Columbia as described below.

[next 2 paragraphs, identifying applicable WLAs and associated reductions left unchanged]
[the following paragraph to replace the third paragraph of Part IX.B in 2004 permit]

Demonstration of compliance (as specified in Parts IV and VIII of the Permit) will be calculated using the procedures (i.e., Simple Method) identified in the Upgraded SWMP dated October 19, 2002 (or other procedures approved by EPA via permit modification and shown to be scientifically sound and reliable in estimating actual load reductions), and will be reported by comparing the calculated load for each pollutant to the approved pollutant specific WLAs and its associated storm water load reductions for the receiving waterbody as specified in the Fact Sheet.

[the following two paragraphs to replace the last paragraph of Part IX.B. in 2004 permit]

The TMDL Implementation Plans shall consist of documenting all previous and on-going efforts at achieving the specific pollutant reductions identified in the TMDL WLA and further demonstrating additional controls sufficient to achieve those reductions through an established performance based benchmark. This benchmark shall be applied against annual projected performance standards for purposes of achievement of adequate reductions.

The Permittee shall submit to EPA the applicable TMDL Implementation Plans for the Anacostia River TMDLs within six months of the effective date of this permit and shall implement such Plan. The Permittee shall submit to EPA the applicable TMDL Implementation Plan for the Rock Creek TMDLs within twelve months after the effective issuance date of this Permit and shall implement such Plan.

PART X. PERMIT DEFINITIONS

[Add new definitions]

"Benchmark" or "measurable performance standard"- The term when used in Parts III.C.6. (Annual SWMP Reporting), III.D. (Annual SWMP Implementation Plan) and IX.B (TMDL WLA Implementation Plans and Compliance Monitoring) of the Permit refers to a criteria-based management evaluation tool described in Part IX.B (including but not limited to the Simple Method) for the purpose of making the determination each year as required in Part III.C.6 and

Part III.D. during the term of the Permit.

"Current Conditions"- Refers to a trend analysis which compares existing or baseline data to future data collected through the MS4 monitoring program as described in Part IV (Monitoring and Reporting Requirements) of the Permit to assess the overall performance (i.e., selection of BMPs/LID projects, setting of narrative/numeric effluent limits to MEP and/or water quality based standards) of the Storm Water Management Program within the District of Columbia.

Natural Resources Defense Council • Earthjustice • Friends of the Earth
Anacostia Watershed Society • Washington Parks & People
Sierra Club • Audubon Naturalist Society • DC Greenworks
DC Appleseed Center for Law and Justice • RiverSides Stewardship Alliance
Potomac Riverkeeper • The Religious Partnership for the Anacostia River
Clean Water Action • Defenders of Wildlife • Chesapeake Climate Action Network
Kingman Park Civic Association • Anacostia Riverkeeper
DC Environmental Network

August 17, 2005

Garrison Miller
(3WP13) MD/DC/VA Branch Office
Office of Watersheds
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, Pennsylvania 19104-2029

Re: Draft Amendment No. 1 to National Pollution Discharge Elimination System ("NPDES") Permit for the District of Columbia's Municipal Separate Storm Water System (MS4): Draft Permit No. DC0000221

Dear Ms. Bekele:

On behalf of the undersigned organizations, we submit these comments on the District of Columbia's (DC) amended MS4 draft permit. We appreciate the opportunity to comment on the amended permit.

We commend the Environmental Protection Agency (EPA) for the amendments to the DC MS4 draft permit that bring it more in line with the Clean Water Act (CWA) water quality standards requirements. EPA has amended Part 1, Sections C and D, of the permit to require compliance with water quality standards, including the following language:

> All discharges of pollutants to or from the MS4 system that cause or contribute to the exceedance of the District of Columbia water quality standards are prohibited.

The amendment helps to effectuate CWA §301(b)(1)(C) and 40 CFR §122.4(d), which mandate without qualification that NPDES permits ensure compliance with water quality standards in accordance with Federal rules and regulations. Statutory mandates to ensure compliance with water quality standards are separate from, and additional to, technology-based requirements calling for the reduction of pollutants to the "maximum extent practicable." Requiring municipal dischargers to comply with water quality-based standards is in keeping with the best reading of the relevant sections of the CWA and with the Act as a whole. The purpose and intent of the CWA is to restore the chemical, physical, and biological integrity of the nation's waters, and in order to prevent further degradation of the receiving waterways, effluent discharges must comply with existing water quality limits and standards.

Congress passed the Clean Water Act with the intent to make all of the nation's waterways swimmable and fishable. Yet, 30 years later, we have fallen short of that goal, and rivers running through the heart of the nation's capital are not clean enough for their intended uses. Although the Anacostia River, Potomac River, and Rock Creek are all legally designated

Exhibit 2

Class A for primary contact recreation, including swimming and wading, swimming in them is often unsafe due to violations of the bacteria standards. Violations of the bacteria standards indicate an increased risk to swimmers of getting sick. The city also lists fishing and fish consumption as designated uses of the waterways, and the Potomac River, a "surface water source," supplies the District with its drinking water. Implementation of strict and effective storm water controls in DC is crucial to the long-term rehabilitation and revitalization of these waterways, as storm water pollution is one of the most significant contributors to decreased water quality in the District's rivers, streams, and creeks. Storm water runoff can carry with it oil, grease, pesticides, trash, and other pollution that flows directly into storm sewers and, subsequently, into DC's waterways. By requiring the permittee to comply with quality-based standards under the MS4 permit, EPA has taken an important step toward making the waterways in the nation's capital safe for their intended uses.

Thank you for the opportunity to provide comments on the proposed permit amendments. We hope that you will take these comments into consideration as you move to finalize them.

Sincerely yours,

Nancy Stoner
Director, Clean Water Project
Natural Resources Defense Council

David Baron
Staff Attorney
Earthjustice

Brent Blackwelder
President
Friends of the Earth

Robert Boone
President
Anacostia Watershed Society

Steve Coleman
Director
Washington Parks & People

Jim Dougherty
Director
Sierra Club

Neil Fitzpatrick
Executive Director
Audubon Naturalist Society

Dawn Gifford
Executive Director
DC Greenworks

Mary Jane Goodrick
Director, Anacostia Watershed and
River Restoration Project
DC Appleseed Center for Law and Justice

Kevin Mercer
Executive Director
RiverSides Stewardship Alliance

Ed Merrifield
Potomac Riverkeeper/Executive Director
Potomac Riverkeeper

Jane Osborne
Coordinator
The Religious Partnership for the Anacostia River

Paul Schwartz
National Policy Coordinator
Clean Water Action

Michael Senatore
Vice President, Conservation Litigation
Defenders of Wildlife

Mike Tidwell
Executive Director
Chesapeake Climate Action Network

Frazer Walton
Kingman Park Civic Association

Brian Van Wye
Anacostia Riverkeeper
Earth Conservation Corps

Chris Weiss
Director
DC Environmental Network

ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:	
Government of the District of Columbia, Municipal Separate Storm Sewer System, NPDES permit No. DC 0000221, reissued effective August 19, 2004	Docket No: NPDES Appeal No.
Friends of the Earth and Defenders of Wildlife,	
Petitioners,	
U.S. Environmental Protection Agency, Region III,	
Respondent.	

PETITION FOR REVIEW

Pursuant to 40 C.F.R. §124.19, Friends of the Earth (FOE) and Defenders of Wildlife (Defenders) hereby petition the Environmental Appeals Board to review the final decision of the Regional Administrator, U.S. Environmental Protection Agency Region III (the Region) to reissue NPDES permit No. DC 0000221 (the permit) for the District of Columbia municipal separate storm sewer system (MS4). Exhibit 1. The reissued permit was signed by the Regional Administrator's delegee on August 17th, 2004 with an effective date of August 19, 2004. FOE and Defenders were served with notice of the permit reissuance by letter from the Region dated August 19, 2004.

I. Interests of Petitioners

Friends of the Earth is a nonprofit corporation with its offices at: 1717 Massachusetts Avenue NW, #600, Washington, DC 20036-2002, Phone: (202) 783-7400.

Exhibit 3

FOE is a national conservation organization with members residing throughout the United States, including the District of Columbia, Maryland, and Virginia. FOE is dedicated to the protection and enhancement of the natural resources of this country, including air, water, and land.

Defenders of Wildlife is a nonprofit corporation with offices at: 1130 17th Street, NW, Washington, DC 20036, Phone: (202) 682-9400. Defenders is a national conservation organization with members residing throughout the United States, including the District of Columbia, Maryland, and Virginia. Defenders is dedicated to the preservation of wildlife and wildlife ecosystems, and the promotion of public appreciation of wildlife.

Actions by FOE and Defenders to protect and enhance the environment include administrative advocacy and litigation to enforce environmental laws. Both organizations have a long history of involvement in water quality-related activities, and members of both are greatly concerned about water quality. Members of FOE and Defenders use, enjoy, live adjacent to or near, and otherwise benefit from waters and riparian areas that are adversely impacted by the District's MS4 discharges. Members of both organizations use and enjoy such waters and riparian areas for a variety of purposes, including, but not limited to, boating, sightseeing, hiking, wildlife watching, aesthetic enjoyment, and other recreational pursuits.

Discharges from the District's MS4 system cause or contribute to pollution levels in waters used by FOE and Defenders members that are injurious to human health, wildlife, the aesthetic qualities of those waters, and to uses pursued and enjoyed by such members. Such discharges, and EPA's failure to adequately limit

them in the permit as further described below, threaten the health and welfare of FOE and Defenders members, impair and threaten their use and enjoyment of the above-mentioned waters, and deny them the level of water quality to which they are entitled under the Clean Water Act ("CWA" or "the Act"). The permit also deprives FOE, Defenders, and their members of procedural rights and protections provided under the Clean Water Act as further described below. Defenders and FOE have commented extensively on proposed versions of the permit, and intend to comment on future modifications of the permit as they are put forth for public comment. The failure of the permit to provide for public notice and comment opportunities on changes in permit requirements, as further described below, therefore substantially impairs the public notice and comment rights of Defenders and FOE.

Earthjustice is a nonprofit, public interest law firm that is representing FOE and Defenders in this matter. Its address is 1625 Massachusetts Avenue, NW, Suite 702, Washington, D.C. 20036-2212, Phone: (202) 667-4500. The undersigned is the Earthjustice staff attorney who is handling this matter.

On behalf of FOE and Defenders (hereinafter, collectively referred to as "Petitioners"), Earthjustice filed timely comments with EPA during the public comment period on the permit reissuance. The comments were made by letter dated December 15, 2003 and are a part of the administrative record in this matter. Exhibit 2 . Petitioners incorporate those comments herein by reference, as well as all items referenced in those comments. The issues presented below were raised in Petitioners' December 15, 2003 comments, and other documents referenced therein.

II. Grounds for Review

A. Background

The NPDES permit at issue in this petition governs the discharge of polluted stormwater runoff from the District of Columbia municipal separate storm sewer system to the Potomac River, the Anacostia River, Rock Creek and their tributaries. These discharges occur from hundreds of storm sewer outfalls during and after rainfall events. As further detailed below, pollution levels in these discharges routinely exceed D.C. water quality standards for bacteria and other contaminants, and have been identified by the District itself as major causes of water quality impairment in D.C. waters.

The Clean Water Act (CWA) prohibits the discharge of any pollutant to waters of the United States from a point source unless the discharge is authorized by an NPDES permit. 42 U.S.C. §1311(a), 1342(a)(1). Such permits must specify technology-based effluent limitations, plus any more stringent limitations necessary to assure compliance with water quality standards in the receiving waters. 33 U.S.C. §1311(b)(1). In 1987, Congress set a 1990 deadline for operators of large MS4s (such as the District of Columbia) to apply for NPDES permits, and a 1991 deadline for issuance or denial of such permits. Id. §1342(p)(4)(A). The CWA required these permits to provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit. Thus, the CWA mandated that MS4 systems be in compliance with applicable CWA requirements no later than 1994.

Neither the District nor the Region followed this legally mandated path. The District did not complete its MS4 permit application until 1998, and the Region did not issue an MS4 permit to the District until 2000 – nearly a decade behind the statutory

schedule. The permit directed the District to continue a number of existing management practices that had stormwater related benefits (e.g., street sweeping, catch basin cleaning), but did not contain water-quality based effluent limits to assure compliance with water quality standards in the receiving waters (except for one small tributary of the Anacostia – Hickey Run). Defenders and FOE timely petitioned this Board for review of that permit, arguing that it was deficient in a number of major respects. On February 20, 2002, the Board granted the petition in part, holding that the permit was deficient because, *inter alia*: a) the Region failed to show the management practices required by the permit would be adequate to ensure compliance with water quality standards; b) the permit improperly allowed certain modifications without formal permit revision; and c) the District's stormwater program (incorporated by reference into the permit) allowed for waivers and exemptions that appeared inconsistent with federal law. The Board remanded the permit to the Region for further proceedings consistent with its opinion. *In re Government of the District of Columbia Municipal Separate Storm Sewer System*, 10 E.A.D. 223, NPDES Appeal Nos. 00-14 & 01-09 (2002)(hereinafter *DCMS4 I*), motion for partial reconsideration granted May 9, 2002.

On remand, the Region did not propose a revised permit until November 15, 2003. Defenders, FOE and others filed comments on the proposal in December 2003, but the Region did not issue a final permit until August 19, 2003 – a full 2 ½ years after this Board's decision in *DCMS4 I*. For reasons further explained below, the revised permit suffers from several of the same major deficiencies as the initial permit, and from other deficiencies as well. Accordingly, Defenders and FOE ask the Board to direct the Region to correct these deficiencies forthwith.

B. Issues

1. **Entities covered:** The permit names the "Government of the District of Columbia" as the sole permittee. In comments on the proposed permit, Defenders, FOE and others argued that the District of Columbia Water and Sewer Authority (WASA) must be added as a co-permittee. WASA is in fact the operator of the District's system of separate storm sewer lines, pumps, and outfalls that convey the District's stormwater to waters of the United States. See http://www.dcwasa.com/education/ms4/separate_storm_sewer.cfm; http://www.dcwasa.com/about/facilities.cfm#stormwatercollection (cited in Petitioners' comments). Further, WASA has been designated under District of Columbia law as the agency responsible for storm water management, and is in fact an operator of the District's MS4 system. D.C. Code § 34-2202. Pursuant to 40 C.F.R. §122.26(a)(3)(iii), WASA is an "operator" of discharges from the DC MS4 system, and therefore must either be listed as a co-permittee or must obtain its own NPDES stormwater permit.

The Region rejected Petitioners' argument that WASA must be included as a co-permittee. The Region cited a letter from District officials purportedly claiming that under D.C. law the District was the appropriate permittee, and that the District Government holds all District agencies including WASA responsible for implementation of stormwater requirements. Response to Comments (Exhibit 4) at 5. The Region further stated that to further clarify the matter, it was modifying the permit's definition of the "Permittee" to read as follows: "'Permittee' refers to the Government of the District of Columbia and all subordinate District and independent agencies directly accountable and responsible to the City Council and Mayor as authorized under the Storm Water

Permit Compliance Amendment Act of 2000 and any subsequent amendments for administrating, coordinating, implementing, and managing storm water for MS4 activities within the boundaries of the District of Columbia."

The Region's response does not justify its failure to include WASA as a co-permittee. As noted above, WASA is plainly an "operator" that must be listed as a co-permittee under federal rules. It is not merely a part of the D.C. Government, but an independent agency with its own Board of Directors. D.C. Code § 43-1672. Moreover, WASA is not "directly accountable and responsible to the City Council and Mayor," but is run by a General Manager who is accountable to the WASA Board – not the Council or the Mayor. D.C. Code §§43-1661 to –1691. Thus, the definition of "permittee" in the final permit does not ensure that WASA will be accountable under permit, as required by EPA rules.

2. Compliance with water quality standards: An NPDES permit must include effluent limitations adequate to assure compliance with applicable water quality standards in the receiving waters. 33 U.S.C. §§1311(b)(1)(C), 1342; 40 C.F.R. §122.4(d). EPA has stated that this requirement applies to MS4 permits. See, e.g., *DC MS4 I*, 10 E.A.D at 329 335-43; EPA, NPDES Storm Water Phase II Fact Sheet 2-4 (1998)(incorporated herein by reference); Memorandum from E. Donald Elliott, General Counsel, re: Compliance with Water Quality Standards in NPDES Permits Issued to Municipal Separate Storm Sewer Systems (Jan. 9, 1991). Further, 40 C.F.R. §122.44(d) requires each NPDES permit to contain limitations on all pollutants or pollutant parameters that are or may be discharged at a level that will cause, have a reasonable potential to cause, or contribute to an excursion above any water quality standard. The permit here does not

meet these basic requirements. Although the District's MS4 discharges undeniably cause and contribute to violations of water quality standards, the permit does not contain effluent limitations or other requirements adequate to ensure that such violations will be remedied and prevented.

a. MS4 discharges cause and contribute to violations of DC water quality standards: The fact that the District's MS4 discharges cause and contribute to water quality standards violations is shown by the District's own reports and 2002 Storm Water Management Plan (2002 SWMP).[1] The District's §305(b) Water Quality Reports (2002 and prior years – all incorporated by reference into Petitioners' comments to the Region) specifically identify storm water discharges as known or suspected contributors to violations of water quality standards for specific pollutants in waters throughout the District. For a number of waters, the report lists urban runoff /storm sewers as the **only** source of impairment. Id. Indeed, because receiving waters in the District already violate the District's standards for conventional and toxic pollutants, any effluent that exceeds those standards necessarily contributes to in-stream excursions.

Monitoring data submitted with the D.C.'s initial Part 2 MS4 application confirms that such discharges repeatedly exceed the District's water quality standards for fecal coliform bacteria, which are 200/100 mL max. 30-day mean for Class A waters, and 1,000/100 mL for Class B waters. 21 DCMR 1104.6. In almost all of the storm water sampling reported in the Part 2 application, fecal coliform counts exceeded one or both of these standards, often by wide margins. Part 2 application, Tables 4.3.4-3, -5, -7, -9, -11. In some samples fecal coliform counts were greater than 16,000/100 mL. The Part 2 Application also showed that MS4 discharges repeatedly exceeded water quality

[1] Government of the District of Columbia, Storm Water Management Plan, October 19, 2002.

standards for mercury, copper, and oil & grease. Id., tables 4.3.4-3 to -14; 21 DCMR 1104.6. At least one discharge also exceeded arsenic criteria for fisheries. Id., Part 2 application, table 4.3.4-10. Data in the record also suggests potential cyanide violations. *In re Government of District of Columbia Municipal Separate Storm Sewer System,* NPDES Appeal Nos. 00-14 & 01-09 (EAB) Record Exhibit 14, Run Summary Sheets.[2]

The District's 2002 SWMP further demonstrates that MS4 discharges violate water quality standards. Monitoring data reported in Appendix E of the 2002 SWMP shows virtually all fecal coliform counts exceeding one or both of the District's standards, often by wide margins. In some samples fecal coliform counts reached as high as 110,000/100 mL. Table 4.4.1-1 of 2002 SWMP further shows event mean concentrations of copper, lead and zinc that exceed D.C. water quality standards by significant margins. For example, the District's acute water quality criteria for copper in fisheries is 13 ug/l and the chronic criteria is 9 ug/l (assuming a water hardness of 100 mg/l). 21 DCMR 1104.7. All of the event mean concentrations for copper reported in Table 4.4.1-1 of the 2002 SWMP exceeded one or both of these criteria, with some mean concentrations as high as 82, 96, and 125 ppb.[3] For zinc, the District's acute and chronic criteria are 120 ug/l. Event mean concentrations exceeded this level at four of the monitoring cites. SWMP Table 4.4.1-1.

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[2] The record contains sampling data indicating total cyanide levels as high as 113 ug/l., and other readings of 111, 67, and 73 ug/l. Record Exhibit 14, run summaries of 9/2/94, 3/29/95, and 5/3/95. The District's aquatic life standards for cyanide are 5.2 ug/l chronic and 22 ug/l acute, expressed as free cyanide. 21 DCMR 1104.6 Table 2.

[3] The criteria cited in the text are for dissolved metals. Table 4.4.1-1 does not indicate whether the monitored values reported for metals reflect dissolved fraction or total metals. Even assuming the numbers reflect total metals, they would substantially exceed the comparable total metal criteria, derived by using the conversion factor cited in the District's rules, 21 DCMR 1106.11.

Exceedances of water quality standards in MS4 discharges equate to water quality standards violations because, in the absence of mixing zones for these discharges (and none have been established), compliance with standards is measured at the point of discharge. See *Puerto Rico Sun Oil Company v. EPA*, 8 F.3d 73, 75 (1st Cir. 1993); *In re Broward County, Florida, NPDES Permit No. FL0031771*, 6 E.A.D. 535 (August 27, 1996). See also, EPA, Office of Water Regulations and Standards, "Mixing Zones - Water quality Standards Criteria Summaries: A Compilation of State/Federal Criteria" at 2, EPA 440/5-88/015 (September 1998).

The fact that DC MS4 discharges cause or contribute to water quality standards exceedances is further confirmed by the District's final Total Maximum Daily Loads (TMDLs) for the Anacostia River and its tributaries for Biochemical Oxygen Demand, Suspended Solids, Fecal Coliform, and Organics and Metals. As Appendix A to the Fact Sheet documents, these TMDLs all require substantial percentage reductions in pollutant loadings from MS4 discharges. Exhibit 3, App. A. The TMDLs and supporting documentation submitted by the District to EPA (incorporated into Petitioners' comments by reference), as well as EPA's decision documents approving these TMDLs (incorporated into Petitioners' comments by reference), are all premised on the conclusion that these percentage reductions are necessary to attain and maintain water quality standards in the receiving waters. The reductions plainly have not yet been achieved—indeed, the TMDLs were only recently adopted and the District has yet to document any actual reductions in MS4 pollutant discharges – let alone the percentages of the magnitudes mandated by the TMDLs.

All of the foregoing was set forth in Petitioners' comments on the proposed permit, and was undisputed by the Region.

b. The permit does not contain effluent limits adequate to assure compliance with water quality standards: The permit provisions do not assure compliance with standards and in fact conflict with the Act's requirements for compliance with standards. First of all, the permit contains no numeric, parameter-specific limitations for discharges from any MS4 outfall. Not only are such pollutant specific, numeric limits presumptively required by the Act (33 U.S.C. §§1311(b)(1)(C), 40 C.F.R. §§122.4(d), 122.44(d), 122.44(k)(3)), but they must be outfall specific unless infeasible. 40 C.F.R. 122.44(h)(i)(1), 122.45(a).

The Fact Sheet indicates that EPA is relying on Best Management Practices (BMPs) to achieve the pollutant reductions necessary to meet standards. Pursuant to 40 C.F.R. §122.44(k)(3), however, EPA may rely on BMPs in lieu of numeric effluent limitations only where numeric limits are "infeasible."[4] Here, the Region did not even attempt to develop numeric, outfall-specific effluent limits, let alone show they are infeasible. Moreover, any claim of infeasibility would be meritless on its face. As noted above, because neither the District nor EPA have established mixing zones for discharges from the D.C. municipal separate storm sewer system, effluent limits must be set to assure compliance with water quality standards at the point of discharge – i.e., the effluents limits must mirror the receiving water quality standards themselves. See *Puerto*

[4] The Board has previously noted that BMPs are also authorized by 40 C.F.R. §122.44(k)(2), which provides for permits to specify BMPs where authorized under section 402(p) of the CWA for the control of storm water discharges. This provision, however, does not authorize the use of BMPs *in lieu of* numeric limits. The other provisions of the CWA and EPA rules cited above require numeric effluent limitations, a requirement that can be overcome only where numeric limits are shown to be infeasible and other types of limitations are shown to be sufficient to assure compliance with water quality standards.

Rico Sun Oil Company v. EPA, 8 F.3d 73, 75 (1st Cir. 1993); *In re Broward County, Florida, NPDES Permit No. FL0031771*, 6 E.A.D. 535 (August 27, 1996). See also, EPA, Office of Water Regulations and Standards, "Mixing Zones - Water quality Standards Criteria Summaries: A Compilation of State/Federal Criteria" at 2, EPA 440/5-88/015 (September 1998). This is not an exercise requiring any information beyond the water quality criteria set in D.C.'s published water quality standards. EPA cannot rationally claim that it is infeasible to simply apply the District's numeric water quality criteria as outfall-specific effluent limitations.

Second, regardless of whether numeric effluent limits are expressly required by the CWA and EPA rules, the Region must still demonstrate that whatever effluent limitations it chooses to use in the permit (e.g., BMPs) will be sufficient to assure compliance with water quality standards. 33 U.S.C. §1311(b)(1)(C); 40 C.F.R. §122.4(d). This Board explicitly so held in *DC MS4 I*. 10 E.A.D. at 341-43. The Region has failed to do so here. Although the Fact Sheet and the Permit itself contains bare assertions that the District's storm water management programs are sufficient to ensure compliance with applicable water quality standards, there are no facts or analyses in the record to support that claim. To the contrary, the claim is refuted by the record. As noted above, discharges from MS4 outfalls exceed DC water quality standards by wide margins for a variety of pollutants, and the District's own reports identify MS4 discharges as major causes of water quality standards violations in D.C. waters. The District's approved TMDLs require that - to meet water quality standards – pollution loadings form MS4 discharges to the Anacostia and its tributaries must be cut by percentages ranging from 50% to 98% depending on the pollutant. There is no evidence

that the District's SWMP will cut MS4 pollutant discharges *at all*, let alone by percentages of this magnitude. Neither the District nor Region are able to quantify any pollutant reductions that will or may occur as a result of the District's current or planned storm water management programs. Indeed, the 2002 SWMP contains almost nothing in the way of new BMPs beyond those in the pre-existing SWMP.

The Region's finding that the 2002 SWMP was sufficient to assure compliance with water quality standards is therefore arbitrary and capricious because that finding lacks any factual support and conflicts with the facts before the agency, and because the Region has failed to articulate any rational explanation of the facts that would support its conclusion. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)(agency must show rational connection between facts found and choice made). Agency action must be based on facts, not mere assertion. Cement Kiln Recycling Coalition v. EPA, 255 F.3d 855, 866 (D.C. Cir. 2001).

c. Water quality standards language in the permit does not satisfy the requirements of the Act and EPA rules: The water quality standards language that does appear in the permit is not a substitute for outfall specific, numeric limits, and is wholly inadequate to assure compliance with standards as explained below:

i. Part I.C of the permit purports to implement section 402(p)(3)(B)(ii) of the CWA, which requires the permittee to effectively prohibit non-stormwater from entering the MS4. Part I.C.1 states a general prohibition on discharges of non-storm water, with some exceptions. Part I.C.2 states that: "All other discharges of pollutants to the MS4 system that cause or contribute to the exceedance of the District of Columbia water quality standards are prohibited and not authorized by this Permit." This provision does

not assure compliance with water quality standards in the receiving waters because: a) It only governs discharges *to* the MS4 system – not discharges to the District's waters. Under the CWA and EPA rules, the permit must contain water quality based "*effluent* limitations" – a term defined as a restriction on pollutant discharges *to* waters of the United States. 40 C.F.R. §§ 122.2, 122.44(d). b) The provision appears within a part of the permit that is by its terms limited to the prohibition of *non*-storm water discharges to the MS4 system. Yet such discharges are not the sole or even the primary cause of water quality standards violations due to MS4 discharges. Indeed, the District claims to be effectively prohibiting non-storm water discharges to the MS4 system, yet the data cited above shows that storm water discharges are nonetheless causing and contributing to water quality standards violations. Thus, a prohibition on non-storm water or similar discharges to the MS4 system is patently insufficient to assure water quality standards compliance; c) Because the District Government is the only party bound by this permit, the prohibition applies only to the District itself. Yet no where does EPA show that discharges by the District to the MS4 system are the only cause of water quality standards violations that MS4 discharges cause or contribute to in D.C. waters. To the contrary, the record shows that a host of activities by individuals, businesses, federal agencies, and other non-District entities also cause or contribute to elevated pollutant levels in the District's MS4 discharges; d) It is unenforceable as a practical matter, because it would require EPA or a citizen to first prove that a specific discharge to the MS4 system is causing or contributing to an in-stream violation -- yet requires no monitoring or tracking by the permittee (or anyone else) to establish such causation.

ii. Part I.D.2 of the permit, entitled "WQBEL Effluent Limit", provides as follows:

> The permittee shall implement the controls, Best Management Practices (BMPs), and other activities necessary to reduce pollutants as set forth in the Upgraded Storm Water Management Plan dated October 19, 2002, and all other requirements of this Permit (including but not limited to the narrative prohibition on discharge of pollutants from the MS4 set forth in I.C. of this Permit). Unless and until modified consistent with Part VII.P (Reopener Clause for Permits) of this Permit, EPA has determined that these controls are sufficient to achieve compliance with applicable water quality standards in accordance with existing Federal rules and regulations.

This language does not assure compliance with water quality standards. To the contrary, it states EPA's belief that the District's existing stormwater management activities are sufficient to assure compliance with standards, despite the lack of any factual showing to this effect, and despite the overwhelming record evidence to the contrary.[5] Rather than assuring compliance with standards, this language would doubtless be cited by the District in opposing any enforcement action seeking to require stronger measures to achieve compliance with water quality standards.

The situation would be different if: a) the language in Part I.C.2 was changed to clarify that it applies to more than just non-storm water discharges, and changed to prohibit any discharges from (not "to") the MS4 system that cause or contribute to the exceedance of District of Columbia water quality standards; and b) the second sentence of Part I.D.2 of the permit was deleted. Although not a substitute for numeric water quality based effluent limits, and not a substitute for requiring a showing that the District's SWMP is in fact sufficient to assure compliance with standards, these changes would at least impose an obligation on the District to assure that discharges from its MS4

[5] As noted above, this EPA "finding" is therefore arbitrary and capricious and cannot stand under well settled principles of administrative law.

do not cause or contribute standards violations, and that the permit is not read as some sort of finding that the District's existing SWMP provides such assurance.

iii. Part I.D.3 of the permit, entitled "Effluent Limits Consistent with TMDL WLA," starts with the same first sentence as Part I.D.2 (requiring implementation of the 2002 SWMP and compliance with Part I.C.2), and then states:

> Based on limited information, and until and unless this Permit is modified in accordance with the Reopener Clause of Part VII.P of this Permit, EPA has determined that these controls are appropriate effluent limits consistent with the assumptions and requirements of the approved waste load allocations (WLAs) established in various total maximum daily loads specifically described and discussed in the MS4 Fact Sheet.

The paragraph then goes on to state that EPA will reconsider whether the District's controls are consistent with applicable standards and WLAs after reviewing TMDL implementation plans required under Part IX.B of the Permit. Part I.D.3 is flawed for the same reasons as Part I.D.2. As discussed above, there is absolutely no basis in the record for concluding that the District's existing SWMP will be sufficient to produce the very substantial reductions in stormwater pollutant loadings required to conform with the adopted WLAs. Indeed, there is no evidence in the record that that the District's programs will reduce pollutant loadings from the MS4 system at all. The above-quoted language from Part I.D.3 of the permit is therefore arbitrary and capricious, and warrants reversal by the Board. Further, Part I.D.3's reference to Part I.C.2 of the permit is insufficient to assure protection of water quality standards for all the reasons discussed above with respect to Part I.D.2.

EPA rules explicitly require EPA to assure that the effluent limits in this permit "are consistent with the assumption and requirements of any available wasteload allocation for the discharge." 40 C.F.R. § 122.44(d)(1)(vii)(B). EPA itself acknowledges

that the available WLAs here require significant reductions in existing pollutant loadings from the MS4 system. For example, on the Lower Anacostia river, the WLAs require reductions in MS4 loadings of 90% for fecal coliform, 50% for BOD, 77% in TSS, and 98% in PAHs. Fact Sheet Attachment A. No where in the record does the District explain how it will achieve these reductions. Accordingly, the permit plainly does not assure compliance with water quality standards and is not consistent with the requirements of applicable WLAs as required by the CWA and EPA rules.

Part I.D.3. cross references Part IX of the permit, which directs the District to conduct further monitoring and submit an implementation plan later for complying with the WLAs if the District "concludes" that the MS4 discharge of a specific pollutant is causing or contributing to "an exceedance of the criteria" under the approved WLA. Such a deferral of requirements to comply with the WLAs is contrary to the CWA and EPA rules, and is completely unjustified in this case. The record currently before the Region already shows that substantial reductions in MS4 pollutant loadings are required to comply with the WLAs. Under the above-cited provisions of the CWA and EPA rules, the permit must therefore specify effluent limits to assure compliance with those WLAs. There is no legal justification for allowing the District to put off corrective action: Instead, the corrective action requirements must be specified in this permit. The CWA required the District to obtain this permit more than 10 years ago, and the permit was to require compliance as expeditiously as practicable, but not later than 3 years from the date of permit issuance (i.e., by 1994). 33 U.S.C. 1342(p)(4)(A). EPA cannot lawfully authorize further delays in this statutorily mandated schedule. See also 40 C.F.R.

122.26(d)(2). See also 55 Fed. Reg. at 48044 ("permit conditions should do more than plan for controls during the term of the permit").

Nor is there any justification for interposing a requirement that the District must "conclude" that an MS4 discharge is causing or contributing to an exceedance before being obligated to develop corrective measures.[6] Determination of compliance or noncompliance with TMDLs and WLAs is an objective matter: It is not a matter to be based on the judgment of the permittee. Id. Moreover, the permit as written would allow the District to avoid compliance simply by refusing to "conclude" that a violation has occurred, thereby unlawfully undermining the Act's TMDL requirements. 33 U.S.C. 1313(d); 40 C.F.R§ 122.44(d)(1)(vii)(B). Further, Part IX.B uses legally incorrect terminology in describing what triggers a violation: "If the analysis concludes the MS4 discharge monitored for that specific pollutant is causing or contributing to an exceedance of the criteria under the approved pollutant specific WLAs..." The legal requirement is that permit assure consistency with the WLA *itself*, not some undefined "criteria". Id.; 40 C.F.R. §122.44(d)(vii)(B).

Even if EPA could allow the District to defer adoption and/or implementation of measures to meet the relevant WLAs, the permit would have to require the plan to produce full compliance with the WLAs within 3 years 33 U.S.C. §§ 1311(b)(1)(C), 1342(p)(4)(A), 40 C.F.R. §§122.4(d), 122.44(d). The permit does not meet this

[6] The permit goes on to specifically direct the District to submit TMDL implementation plans for the Anacostia River within six months and for Rock Creek within twelve months after the effective date of the Permit. Part IX.B. Neither the Permit nor the Fact Sheet explains whether this means that the Region or the District has already determined that additional controls are needed to comply with the Anacostia and Rock Creek WLAs, and that implementation plans must therefore specify the additional controls within the six and twelve month time frames. Even if the Board could allow deferral of additional controls, the Region must be directed to clarify that no additional study is needed to determine that the District must adopt additional controls to comply with the Anacostia and Rock Creek WLAs, and that those controls must be adopted forthwith.

requirement, and indeed contains no deadline at all for compliance with the WLAs. Indeed, the permit requires EPA's review and approval of any implementation plan, and sets no deadlines for that action either. Further, to the extent that the permit allows EPA to approve an implementation plan without going through the permit modification process, the permit violates EPA rules which require public notice and comment prior to EPA decisions of that magnitude. 40 C.F.R. §§ 122.62, 122.63.

Finally, Petitioners note that the Permit not only fails to specify numeric effluent limits to assure compliance with water quality standards and the adopted WLAs, but also fails to specify daily loads as mandated by the CWA. The Anacostia and Rock Creek TMDLs are all expressed as annual or seasonal average load limits, rather than daily load limits. Petitioners' comments to the Region incorporated by reference comments filed by Earthjustice on these TMDLs, in which the point was made repeatedly that average annual or seasonal loads do not meet the Act's mandate for daily loads, and do not assure compliance with water quality standards. The Region's response to these comments has been to assert that the permit writer can assure that the loads are properly distributed among the days of the year. However, the final Permit here fails to make any such distributions, and fails to specify any daily loads. As a result, the permit fails to assure protection of water quality standards as required by the CWA and EPA rules. For example, a requirement to cut only the annual loading of fecal coliform by a fixed percentage does not prevent exceedances of fecal coliform numeric criteria on numerous days and months throughout the year. Nor does a fixed percentage cut in annual average loads protect the District's narrative criteria or designated uses on days when high fecal coliform peaks render receiving waters unsafe for swimming, kayaking, canoeing,

wading, and other recreation. E.g. 21 DCMR 1101.1, 1101.2,1102.1, 1104.1, 1104.3, 1104.4, 1104.7,

3. Reductions to the maximum extent practicable: The District has not demonstrated that its SWMP will reduce storm water pollutant discharges to the maximum extent practicable as required by 33 U.S.C. 1341(p) (3)(iii)("MEP" requirement). Indeed, the District is unable to quantify any reductions in pollutant discharges under the 2002 SWMP. The level of control provided under the 2002 SWMP is virtually unchanged from the prior SWMP. According to estimates in the Part 2 application, the prior SWMP was not expected to produce any reductions in cadmium discharges to the Potomac, Anacostia, or Rock Creek watersheds. The program was also not expected to produce reductions in discharges of dissolved phosphorus, copper, and lead to the Rock Creek watershed; or in discharges of dissolved phosphorus to the Potomac watershed. For other pollutants, predicted reductions were negligible. The program was expected to reduce MS4 discharges of total suspended solids in the District by less than one-half of one percent. BOD discharges will be cut by 0.7%, COD by 0.6%, total nitrogen by 0.4%, and total phosphorus by 0.5%. Part 2 application, Table 4.4.5-1. EPA cannot rationally or lawfully find that the SWMP or the draft permit will reduce storm water pollutant discharges to the maximum extent practicable, when the SWMP will in fact produce no reductions at all for some pollutants, and at best negligible reductions for others.[7] Moreover, neither the District's nor EPA's analyses purport to show, or corroborate, that greater reductions are not practicable, and any such claim would be farfetched. Further, the permit does not contain conditions to ensure reduction

[7] Petitioners are aware that the Board rejected a similar argument in *DCMS4 I*. They raise the issue again because they respectfully disagree with the Board's prior decision and wish to preserve the issue for possible future judicial review in this matter should the Board decline to reconsider its prior decision.

of pollutants in discharges to the maximum extent practicable. 40 C.F.R. 122.26(d)(2)(iv).

Indeed, the permit does not even require the level of effort that EPA rules require for small MS4 systems. Such systems must at least establish measurable goals and ensure they are met. No such requirements are included in this permit.

4. Waivers and exemptions: The District's water quality and storm water regulations require the granting of a variance from any water quality and storm water requirement upon a finding that compliance "would result in exceptional or undue hardship by reason of excessive structural or mechanical difficulty, or impracticability of bringing the operation into full compliance." 21 DCMR 514.1. The District also exempts from storm water regulation any construction or grading operation covering 5,000 square feet or less, unless part of an approved subdivision plan. Id. 527.1(g). In addition, there are provisions that allow for waivers of storm water management requirements, and for variances where compliance "will result in unnecessary hardship or practical difficulty." Id. 528. These exemption, waiver, and variance provisions conflict with the Act and EPA rules, which require that all storm water discharges be regulated by an NPDES permit. 33 U.S.C. 1311(a), 1342(a)(1), (p)(2)(C), (p)(3)(B), 55 Fed. Reg. at 48009. See also *NRDC v. EPA*, 966 F.2d 1292, 1305-06 (9th Cir. 1992)(EPA does not have authority to create exemptions from stormwater regulatory program). Moreover, these provisions could be used to allow non-stormwater discharges into storm sewers -- discharges that the CWA requires the MS4 permit to prohibit. 33 U.S.C. 1342(p)(B)(ii). Finally, the exemption, waiver and variance provisions conflict with the Act's mandate that SWMPs ensure pollutant reductions to the maximum extent practicable. Id.

§1342(p)(3)(B)(iii). A facility or activity that is exempt does not have to reduce discharges at all, let alone to the maximum extent practicable. Indeed, the Region cannot rationally conclude that the District's SWMP provides for reductions to the maximum extent practicable when it does not know the nature and extent of waivers that the District may grant.

This Board remanded the prior permit in part because of the Region's failure to address this very issue, and the reissued permit does not correct the error. Instead, it repeats the approach of the prior permit of allowing the waiver and exemption provisions to remain in the District's SWMP and allowing the District to decide on an ad hoc basis (without public notice and comment) whether individual exemptions are allowable. This error is not corrected by permit language directing the District not to issue any "exemption, waiver, or variance that would violate the Clean Water Act or EPA regulations," and stating that the permit "does not authorize any discharge based on such exemption, waiver, or variance." Permit Part III.B. This language is virtually identical to the language in the prior permit, and is plainly indefensible. EPA does not satisfy its permit writing duties under the Act by simply directing the permittee in the most general terms not to violate the law. A key purpose of an NPDES permit is to translate general requirements of the Act into source specific requirements. The Region must specify what constitutes compliance or non-compliance in the context of the specific discharge at issue. Here, the Region is obligated by the Act to determine whether the District's wavier and exemption provisions are consistent with the Act (including the MEP standard) and EPA rules. If they are not (as we argue above), the Agency must exclude them from the SWMP that is incorporated into the permit. The Agency cannot allow the District to

make that determination on an ad hoc basis. With no guidance whatsoever from the Region, the District will undoubtedly feel free to grant waivers and exemptions without limitation unless and until the Region objects. And because the permit does not require any notice to the Region or the public of waivers and exemptions, the Agency and the public will have no way of knowing when to object. Further, the waiver and exemption provisions in the District's program effectively authorize amendment of the SWMP, and therefore the permit, without going through the required procedures for permit modification in 40 C.F.R.§§ 122.62 - .63.[8]

These deficiencies are not corrected by language in the reissued permit directing the District to provide an explanation of how procedures for regulating construction sites with regard to waivers and exemptions "will meet the requirements of the Clean Water Act." The waiver and exemption provisions do not meet the requirements of the Act for the reasons set forth above, and EPA cannot brush that illegality under the rug by letting the District merely offer some unknown explanation in the future. This is hardly a situation in the District has not had sufficient time to address the matter – the Board's decision invalidating these waiver provisions was issued more than 2 ½ years ago.

Nor are the above-described deficiencies cured by the following language in the reissued permit:

> This permit does not authorize the discharge of any pollutant from the MS4 which arises from or is based on any of the various 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

[8] For all the foregoing reasons, the above-described deficiency is not corrected by language in Part VII.H of the permit providing that "[i]n cases of 'exemptions and waivers' under District law, Federal law and regulation shall be applicable." As with the above-quoted permit language, this provision unlawfully allows the District to make ad hoc waiver determinations without federal oversight and without public notice.

> to any activity that would otherwise be authorized under District law but which impedes the reduction or control of pollutants through the use of BMPs to the maximum extent practicable and/or prevents compliance with the narrative effluent limits of this Permit. Any such discharge not otherwise authorized may constitute a violation of this permit.

Permit Part IX.A. This language is merely a more verbose formulation of the language in Part III.B., and is deficient for all of the same reasons stated above. If anything, the Part IX.A. language weakens the permit even further by indicating that discharges allowed pursuant to waivers and exemptions that are inconsistent with the CWA "may" (not "will") violate the permit.

For all the foregoing reasons, the waiver and exemption provisions incorporated into the draft permit violate the Clean Water Act and applicable EPA regulations. To correct this deficiency, the permit must be amended to state that the District's waiver and exemption provisions are not a part of the approved SWMP and therefore such waivers and exemptions are prohibited by the permit. If the District wants to provide waivers or exemptions, it must either: a) adopt narrowly tailored waiver rules that enable EPA to determine up front that any waivers granted pursuant thereto would not conflict with MEP and other CWA requirements; or b) seek amendment of the permit prior to authorizing any specific waiver or exemption.

5. Monitoring: EPA rules for administering the NPDES program explicitly require monitoring "the volume of effluent discharged from each outfall." 40 C.F.R. §122.24(i)(1)(ii) (emphasis added); see also 40 C.F.R. §122.48. The final permit does not meet this requirement. Instead, it allows the District to monitor only three times a year at only a handful of outfalls in one subwatershed in any given year. It then allows the District to estimate annual cumulative pollutant loadings and event mean concentrations

for the entire subwatershed based on this extremely limited data set. It further allows the District to merely estimate (rather than measure) the volume discharged from the monitored outfalls, in direct contravention of the above cited rules. Permit Part IV.A.2. Further, the permit does not specify the methods for deriving such estimates, or require that whatever estimation methods used be shown to be reliable and based on sound science.

The permit cites 40 C.F.R. §122.26(d)(2)(iii), but that provision specifies monitoring requirements for the permit application. Moreover, even if applicable, that provision requires "representative" monitoring. 40 C.F.R. §§122.26(d)(2)(iii)(D). See also id.122.41(j)(1). The agency's permit writer's manual likewise requires permits to specify monitoring locations "that are representative of the expected wastewater discharge." EPA, NPDES Permit Writers' Manual 118 (1996). Monitoring of discharges to one subwatershed – e.g., Rock Creek -- is not representative of discharges to the Anacostia and the Potomac. The Region has offered no evidence or analysis to suggest discharges to Rock Creek are the same as those to the Anacostia and the Potomac, and any claim to that effect would be indefensible. As shown by the District's SWMP, there are literally hundreds of MS4 outfalls on these rivers. Some discharge runoff from predominantly residential areas, while others discharge runoff from commercial or industrial areas. Runoff from residential, parkland, and limited commercial areas into Rock Creek is hardly representative of runoff from the downtown DC business district or from the Anacostia waterfront at locations such as the Navy Yard and Southeast Federal Center.

In response to Petitioners' comments on this issue, the Region asserted that the permit's monitoring provisions were permissible because they "maximize[d] the limited resources available to provide for increased data," and were consistent with EPA guidance. Exhibit 4 at 15. The Region does not have authority, however, to disregard EPA regulations in order to advance other policy goals. Nor can an EPA guidance document amend or repeal a lawfully adopted regulation. EPA rules explicitly require monitoring of effluent volume from each outfall, and further require that monitoring be representative of the monitored activity. 40 C.F.R. §§ 122.24(i)(1)(ii); 40 C.F.R. §122.48((a). The final permit does not require monitoring of effluent volume from each MS4 outfall, and the Region has not shown (or even claimed) that monitoring of only watershed is representative of all other watersheds. Moreover, the Region's response fails to explain how the very limited monitoring required by the permit will be sufficient to assure compliance with the adopted WLAs for each of the receiving rivers, or with BMP requirements. For example, monitoring of load reductions on Rock Creek does not assure that comparable load reductions are occurring on all of the other waters of the District.

For all the foregoing reasons, the permit monitoring provisions are legally insufficient and not rationally justified.

Relief Requested

Petitioners respectfully request that the Region be directed to correct the above-described deficiencies within 120 days. The setting of a deadline is warranted in the light of the extraordinary delays by the District and the Region in addressing this matter. As noted above, the District did not complete its MS4 permit application until 1998 (eight

years late), and the Region did not issue an MS4 permit to the District until 2000 – nearly a *decade* behind the statutory schedule. After this Board found deficiencies in that permit in February 2002, the Region took *another 2½ years* to respond, and – as fully discussed above – still failed to correct key deficiencies identified in the Board's decision. Unless the Region is directed to *correct* (not merely reconsider) these deficiencies by a specific, near term deadline, this process could go on ad infinitum. In the process, the CWA's explicit deadlines for issuance of adequate MS4 permits and for compliance with their terms will be effectively nullified.

The 120-day schedule proposed by Petitioners would allow the Region ample time to draft proposed permit language for the matters at issue, accept public comments, and sign a final permit modification. For example, the Region could take 45 days to draft a proposal, 30 days for public comment, and 45 days to consider public comment and issue the final permit language. The issues raised here have been before the Region for years, and addressing them in a manner consistent with the CWA will hardly require the Region to reinvent the wheel.

DATED this 20th day of September, 2004.

David S. Baron
Attorney
Earthjustice
1625 Massachusetts Avenue, N.W., Ste. 702
Washington, D.C. 20036
(202) 667-4500

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Petition for Review were served by first class mail, postage prepaid, this 20th day of September, 2004 on:

Christopher Day
Office of Regional Counsel
EPA Region III
1650 Arch Street
Philadelphia, PA 19103-2029

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

Julie James

NPDES Permit No. DC0000221 DRAFT
Issuance Date: August 19, 2004
Effective Date: August 19, 2004

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MUNICIPAL SEPARATE STORM WATER SEWER SYSTEM PERMIT NO. DC0000221

AMENDMENT NO. 1

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 Tributaries

in accordance with the approved Storm Water Management(s), effluent limitations, monitoring requirements, and other conditions set forth in this Amendment No. 1 herein to Parts I, III, VII, IX, and X of Parts I through X of the previously issued Permit.

The effective issuance date of this Amendment No. 1 is

This Amendment No. 1 to the Permit and the authorization to discharge shall expire at midnight, on August 18, 2009.

Signed this day of

Jon M. Capacasa, Director
Water Protection Division
United States Environmental Protection Agency
Region III

Exhibit 4

PART I. DISCHARGES AUTHORIZED UNDER THIS PERMIT

C. Limitations to Coverage (Prohibitions) [Replace existing language of C including Title with this]

Section 402(p)(3)(B)(ii) of the Clean Water Act specifically prohibits non-storm water entering the MS-4. The Permit does not authorize the Permittee to discharge pollutants from the MS4 as described herein:

1. Non-Storm Water and Phase I and Phase II Storm Water

Discharges of non-storm water (other than those listed in Part I.B. of this permit) are prohibited except where such discharges comply with all other terms and conditions of this permit and are:

a. Regulated with a General NPDES permit for Phase I or Phase II storm water discharges, or

b. Regulated with a individual NPDES permit.

2. All discharges of pollutants to or from the MS4 system that cause or contribute to the exceedance of the District of Columbia water quality standards are prohibited.

D. Effluent Limits

[replace existing Subpart D with the following]

1. MEP Effluent Limit - The permittee shall implement the controls, Best Management Practices (BMPs), and other activities necessary to reduce pollutants as set forth in the Upgraded Storm Water Management Plan dated October 19, 2002. Unless and until modified consistent with Part VII.P (Reopener Clause for Permits) of this Permit, the Upgraded Storm Water Management Plan requirements expressed in the form of BMPs, represent the controls necessary to reduce the discharge of pollutants to the Maximum Extent Practicable in accordance with 40 CFR Part 122.44(k)(2).

2. WQBEL Effluent Limit - The permittee shall implement the controls, Best Management Practices (BMPs), and other activities necessary to reduce pollutants as set forth in the Upgraded Storm Water Management Plan dated October 19, 2002, and all other requirements of this Permit (including but not limited to the narrative prohibitions on discharge of pollutants from the MS4 set forth in I.C. of this Permit). EPA reserves the authority to modify this effluent limit as described below in Part VII.P (Reopener Clause for Permits) of this Permit.

3. Effluent Limits Consistent with TMDL WLA - The permittee shall implement controls, Best Management Practices (BMPs), and other activities necessary to reduce pollutants as set forth in the Upgraded Storm Water Management Plan dated October 19, 2002, and to comply with all other requirements of this Permit (including but not limited to the narrative prohibitions on discharge of pollutants from the MS4 set forth in I.C. of this Permit). As further described in

Part IX.B. of this Permit, in addition to complying with the effluent limits I.C. and I.D. of this Permit, the Permittee is required to submit and implement implementation plans specific to the Anacostia River Total Maximum Daily Load (TMDL) wasteload allocations (WLAs) and Rock Creek TMDL WLAs in accordance with the schedule set forth in Part III.A. Table 1 of this Permit.

PART III. STORM WATER MANAGEMENT PLAN (SWMP)

C. Annual SWMP Reporting

The [Annual] Report shall include the following separate sections:

6. [keep existing part and add the following - remember this is cross referenced to Part III.D first paragraph] this identification shall include but not be limited to the permittee's calculation of pollutant loads and reductions from the MS4 system in those watershed(s) for which there are applicable TMDL WLAs using the methods described in Part IX.B.

PART VII. STANDARD PERMIT CONDITIONS FOR NPDES PERMITS

P. Reopener Clause for Permits

c. [replace first sentence of existing language with the following; concluding sentence of VII.P unchanged] The Permit may be modified, or revoked and reissued to incorporate additional controls in the event that EPA determines that further controls are necessary to (1) ensure that the effluent limits are sufficient to prevent an exceedance of water quality standards and/or (2) to ensure that the effluent limits are consistent with any applicable TMDL WLA allocated to discharge of pollutants from the MS4.

PART IX OTHER APPLICABLE PROVISIONS

A. Waivers and Exemptions

[unchanged, but add additional sentence] As part of its Annual Report to EPA under Part III.C. of this Permit, the permittee shall describe each and every instance in which the District authorized such an exemption and/or granted such a waiver, the nature and location of the activity for which each exemption or waiver was granted, the justification for each exemption or waiver, and the District's basis for finding that the exemption or waiver was consistent with the Federal Clean Water Act and other pertinent guidance, policies, and regulations.

B. TMDL WLA Implementation Plans and Compliance Monitoring

[replace first paragraph of 2004 Permit with the following]

In addition to the duty to comply with the narrative effluent limits in Part I of this Permit, the permittee shall demonstrate compliance as described in this Part and in Part IV (Monitoring and Reporting Requirements). In accordance with the schedule identified in Part III.A. (Compliance Schedule) and Table 1 and below, Permittee shall further submit implementation plans to reduce discharges consistent with any applicable EPA-approved waste load allocation (WLA) component of any established Total Maximum Daily Loadings (TMDL). An applicable TMDL WLA for this Permit means any MS4 WLA established on or before the effective date of this Permit for a receiving stream, segment of a stream, or other waterbody within the District of Columbia as described below.

[next 2 paragraphs, identifying applicable WLAs and associated reductions left unchanged]
[the following paragraph to replace the third paragraph of Part IX.B in 2004 permit]

Demonstration of compliance (as specified in Parts IV and VIII of the Permit) will be calculated using the procedures (i.e., Simple Method) identified in the Upgraded SWMP dated October 19, 2002(or other procedures approved by EPA via permit modification and shown to be scientifically sound and reliable in estimating actual load reductions), and will be reported by comparing the calculated load for each pollutant to the approved pollutant specific WLAs and its associated storm water load reductions for the receiving waterbody as specified in the Fact Sheet.

[the following two paragraphs to replace the last paragraph of Part IX.B. in 2004 permit]

The TMDL Implementation Plans shall consist of documenting all previous and on-going efforts at achieving the specific pollutant reductions identified in the TMDL WLA and further demonstrating additional controls sufficient to achieve those reductions through an established performance based benchmark. This benchmark shall be applied against annual projected performance standards for purposes of achievement of adequate reductions.

The Permittee shall submit to EPA the applicable TMDL Implementation Plans for the Anacostia River TMDLs within six months of the effective date of this permit and shall implement such Plan. The Permittee shall submit to EPA the applicable TMDL Implementation Plan for the Rock Creek TMDLs within twelve months after the effective issuance date of this Permit and shall implement such Plan.

PART X. PERMIT DEFINITIONS

[Add new definition]

"Benchmark" or "measurable performance standard"- The term when used in Parts III.C.6. (Annual SWMP Reporting), III.D. (Annual SWMP Implementation Plan) and IX.B (TMDL WLA Implementation Plans and Compliance Monitoring) of the Permit refers to a criteria-based management evaluation tool described in Part IX.B (including but not limited to the Simple Method) for the purpose of making the determination each year as required in Part III.C.6 and Part III.D. during the term of the Permit.

Re: Fact Sheet (To be Supplemented with Final Fact Sheet from DCMS4 NPDES Permit No. DC0000221 Dated August 19, 2004)
National Pollutant Discharge Elimination System (NPDES)
Proposed Amendment No. 1 to NPDES Permit No. DC0000221

NPDES PERMIT NUMBER: DC0000221, AMENDMENT NO. 1

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.

FACILITY LOCATION:

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

RECEIVING WATERS:

Potomac River, Anacostia River,
Rock Creek, and Tributaries

FACILITY BACKGROUND AND DESCRIPTION:

The Government of the District of Columbia (the District) owns and operates a Municipal Separate Storm Sewer System (MS4) which discharges storm water during wet weather events from various outfall locations throughout the District into its waterways. On April 19, 2000, the United States Environmental Protection Agency Region III (EPA) issued the District its first Storm Water Phase I National Pollutant Discharge Elimination System (NPDES) Permit for the control and management of storm water discharges originating from these outfalls. (The collective permit for these various outfalls is known as an "MS4" permit). The Permit was issued for a three-year period and administratively extended from April 19, 2003, until August 19, 2004. (The Permit is hereafter referred to as the 2000 MS4 Permit). On August 19, 2004, EPA issued the District its second Storm Water Phase I NPDES Permit, which is valid for a five-year period and covers all discharges within the corporate boundaries of the District. This service area includes discharges served by, or otherwise contributing to, discharges from the MS4 system. The MS4 Permit does not cover the District's combined or sanitary sewer systems.

Since EPA first issued the Phase I MS4 Permit to the District in 2000, the District has made a number of accomplishments, including: (1) establishment of an infrastructure for addressing storm water activities, (2) development of a watershed-based rotating monitoring program to evaluate the chemical parameters and physical characteristics of the municipal storm water being discharged from representative outfalls in the MS4 system, (3) performance of assessments of

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existing MS4 activities which contribute to the runoff being discharged into the MS4 system, (4) development of implementation measures for managing and enforcing MS4 activities within the District, and (5) upgrading its previous Storm Water Management Program (SWMP) based on these findings. The District's upgraded SWMP (which EPA approved in October 2003, and which was used as the basis for the MS4 Permit issued in August 2004) sets forth a framework for a long-term storm water management control program for determining compliance with applicable water quality standards to the maximum extent practicable through the use of best management practices (BMPs).

The current MS4 Permit requires a combination of narrative and BMP controls for addressing storm water at its sources. These mechanisms are also used to characterize storm water because of its indiscriminate nature. In general, EPA views the MS4 NPDES permit program as an iterative process requiring reexamination of ongoing controls and continued improvements to the respective storm water management programs while continuing to adequately protect the water quality of the receiving stream. The MS4 Permit builds on existing MS4 inventories, databases, baseline monitoring data, partnerships, pilot projects, and increased MS4 activity implementation as the upgraded SWMP approach for managing the quantity and enhancing the quality of storm water throughout the District. Moreover, the Permit requires measurable performance standards to be developed and assessed, and implementation plans for reducing the storm water components of waste load allocations of Total Maximum Daily Loads to be implemented, all of which are intended to evaluate the effectiveness of the District's programs.

PROPOSED ACTION TO BE TAKEN:

On July 21, 2005, EPA proposed to issue an amendment, hereafter referred to as Amendment No. 1, to the District's MS4 Permit which became effective on August 19, 2004. This action is being taken in part in response to issues raised by a permit appeal filed by petitioners Earthjustice on behalf of the Friends of the Earth and Defenders of Wildlife with the Environmental Appeals Board (EAB) on September 20, 2004. In that appeal, the petitioners argued that the District of Columbia Water and Sewer Authority (WASA or the Authority), which has been given responsibility for storm water management under the MS4 system, should be identified as a co-permittee along with the Government of the District of Columbia in the Permit. The petitioners' argument for making WASA a co-permittee was based on the fact that the WASA Board is not "directly accountable and responsible to the City Council and Mayor" and to ensure that the Authority is held legally accountable for its actions under the Permit. The petitioners also argued that the "maximum extent practicable" standard, the water quality-based effluent limits, and the total maximum daily waste load allocation narrative effluent limits specified in the MS4 Permit were not sufficient to adequately assure compliance with applicable water quality standards, let alone demonstrate that MS4 activities under the District's storm water management program will account for and reduce pollutant loadings from the MS4 system.

Furthermore, the petitioners went on to explain in the petition that the waiver, exemption, and variance provisions in the District's water quality standards and storm water regulations conflicted with the Clean Water Act and EPA rules, and that the provisions could undermine the integrity of the MS4 Permit and the District's storm water management program. Finally, the petitioners raised concerns that the monitoring program in the MS4 Permit violates EPA rules in that the program does not explicitly require monitoring from each MS4 outfall and does not require that the monitoring be representative of the monitored MS4 activity.

In October 2004, Earthjustice and EPA, Region III, began to discuss between themselves the issues on appeal, many of which had been raised during the petitioners' previous appeal of the 2000 MS4 Permit (which resulted in a decision by the EPA Environmental Appeals Board (EAB)); see Order Denying Review in Part and Remanding in Part at http://www.epa.gov/eab/disk11/dcms4.pdf (Feb. 20, 2002) and Order Granting Motion for Partial Reconsideration at http://www.epa.gov/eab/orders/dcms4recon.pdf (May 10, 2002). The parties' discussions immediately began to prove beneficial and they therefore jointly requested that the EAB defer action on the appeal to give them time to work through their differences on the issues. After several additional extensions of time, the parties reached settlement in principle on the issues on May 10, 2005, whereby the Region would propose and public notice Amendment No.1 to the current MS4 Permit and consider any comments received during the public review period before making the document final. That Permit Amendment was therefore public noticed in July 2005.

Concurrent with the review and comment period of draft Amendment No. 1 to the MS4 Permit, EPA Region III will be requesting that the District of Columbia's Department of Health certify the amendment under Section 401 of the Clean Water Act, 33 U.S.C. § 1341. EPA also has requested that the offices of the Fish and Wildlife Service (part of the Department of Interior) and the National Marine Fisheries Service (part of the National Ocean and Atmospheric Administration) review the document for compliance with the Federal Endangered Species Act, 42 U.S.C. §§ 460 *et seq.*

The proposed modifications to the August 19, 2004 MS4 Permit is summarized in the Table below:

Table 1. (Modifications to August 19, 2004, DC MS4 Permit)

Permit Part and Title	Effect of Amendment No.1
Part I.C (Limitations to Coverage)	Emphasizes that the limitations to coverage are actually prohibitions and expands on the types of discharges that are permitted to occur from the MS4 system;

Part I.D (Effluent Limits)	Clarifies the types of effluent limits to be addressed through the MS4 Permit, how these limits will be implemented through the upgraded SWMP, and the authority on which EPA will rely in implementing potential permit modifications to ensure that these limits result in an effective program as well as linking the appropriate parts of the MS4 Permit back to these limits;
Part III.C (Annual SWMP Reporting)	Describes annual reporting requirements for calculating pollutant loads and reductions from the MS4 system in those watersheds with approved total maximum daily loadings;
Part VII.P (Reopener Clause for Permits)	Describes additional requirements for opening the MS4 Permit through modifications;
Part IX.A (Waivers and Exemptions)	Requires accountability and reporting of waivers and exemptions;
Part IX.B (TMDL WLA Implementation Plans and Compliance Monitoring)	Describes how the total maximum daily loadings methodologies for complying with the effluent limits of the MS4 Permit and demonstration of compliance to ensure successful achievement of waste load reductions will be addressed;
Part X (Permit Definitions)	Adds a "measurable performance standard" definition for evaluating the effectiveness of the District's MS4 activities under their storm water management program.

During the public review period, EPA Region III received four comment letters regarding proposed Amendment No.1. The Region considered these comments, when issuing the final document, by making modifications to account for existing ambient water quality conditions, placing emphasis on reducing pollutants to the maximum extent practicable, and by adding a clarifying definition. A summary of the comments along with the EPA response is contained in the responsive summary which supplements this fact sheet. The Region received comments from the District of Columbia Department of Health through its Section 401 certification letter which is addressed in the responsiveness summary. The United States Fish and Wildlife Service and the National Ocean and Atmospheric Administration's National Marine Fisheries Service both concurred with the Region's Biological Evaluation which concluded that Amendment No.1 would not adversely affect endangered or threatened species that reside within the District of Columbia by letters dated August 18, 2005, and October 6, 2005. The draft documents along with the final documents now complete the administrative record for the project and 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..

For additional information, contact Mr. Garrison D. Miller, Mail Code 3WP13, District of Columbia/Maryland/Virginia Branch, Office of Watersheds, EPA Region III, United States Environmental Protection Agency, 1650 Arch Street, Philadelphia, Pennsylvania 19103-2029.

EARTHJUSTICE

BOZEMAN, MONTANA DENVER, COLORADO HONOLULU, HAWAII
JUNEAU, ALASKA NEW ORLEANS, LOUISIANA OAKLAND, CALIFORNIA
SEATTLE, WASHINGTON TALLAHASSEE, FLORIDA WASHINGTON, D.C.
ENVIRONMENTAL LAW CLINIC AT UNIVERSITY OF DENVER
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December 15, 2003

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Water Quality Division
Environmental health Administration
District of Columbia Department of health
51 N Street, NE
Washington, DC 20002

RE: Proposed reissuance of D.C. Municipal Separate Storm Sewer NPDES permit, Public Notice No. GM 32, November 14, 2003, 2000

We have the following comments on the above-referenced proposal. We incorporate by reference the administrative records for issuance and modification of the pre-existing versions of the above-referenced permit:

1. **Entities and discharges covered:** The District of Columbia Water and Sewer Authority (WASA) must be added as a co-permittee on this permit. WASA is in fact the operator of the District's system of separate storm sewer lines, pumps, and outfalls that convey the District's stormwater to waters of the United States. See http://www.dcwasa.com/education/ms4/separate_storm_sewer.cfm; http://www.dcwasa.com/about/facilities.cfm#stormwatercollection. Further, WASA has been designated under District of Columbia law as the agency responsible for storm water management, and is in fact an operator of the District's MS4 system. D.C. Code § 34-2202. Nevertheless, the draft permit does not include WASA as a co-permittee. Instead, it names the District government as the sole permittee. This approach is contrary to EPA rules. Pursuant to 40 C.F.R. §122.26(a)(3)(iii), WASA is an "operator" of discharges from the DC MS4 system, and therefore must either be listed as a co-permittee or must obtain its own NPDES stormwater permit. WASA is an independent agency with its own Board of Directors, and therefore warrants separate accountability under the permit. Indeed, WASA is already named as the permittee for NPDES permit DC0021199

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(incorporated herein by reference), issued by EPA, which governs discharges from the District's combined sewer system and the Blue Plains wastewater treatment plan. Inclusion of WASA as co-permittee will ensure that the legal responsibility for storm water management under the federal Clean Water Act reflects the reality of WASA's key role in operating in the MS4 system, and tracks WASA's legal responsibility under the District statute. In addition, part I.A. of the permit must be revised to include WASA-owned and operated storm sewers.

The District's Storm Water Management Plan (October 19, 2002)("SWMP") indicates that the 1998 Plan noted a total of 1,131 major outfalls identified in the District. The 2002 SWMP states that the District has been able to locate 447 of these major storm water outfalls, but that 627 "other" outfalls still require further study and field verification. The failure to identify the location of these 627 major outfalls violates 40 C.F.R. §122.26(d)(2)(ii). Commenters raised a similar concern when EPA proposed the initial version of this permit in 1999. Although EPA responded that this deficiency would be corrected in the following permit cycle, the District has in fact made no progress whatsoever in identifying and characterizing the majority of MS4 outfalls in the District.

The existence of 627 outfalls of unidentified character also shows that the permit is almost certainly not addressing all MS4 discharges within the District. EPA and the District must ensure that the District's MS4 permit identifies and regulates all MS4 discharges within the District's boundaries. 40 C.F.R. §122.26(a)(3), (b)(4), (b)(8), 55 Fed. Reg. 47990, 48040 (1990).

Part I.C.2 of the draft permit states that "[a]ll other discharges of pollutants to the MS4 system that intentionally cause or contribute to the exceedance of the District of Columbia water quality standards are prohibited and not authorized by this Permit." The word "intentionally" must be deleted from this sentence. The Clean Water Act and EPA rules require NPDES permits to assure compliance with water quality standards, and do not allow such permits to authorize "non-intentional" violations of standards. 33 U.S.C. §1331(b)(1)(C); 40 C.F.R. §122.4(d). EPA thus has no authority to allow discharges of pollutants that cause or contribute to violations of standards, regardless of the intent of the discharger.

2. Compliance with water quality standards: An NPDES permit must include effluent limitations adequate to assure compliance with applicable water quality standards in the receiving waters. 33 U.S.C. §§1311(b)(1)(C), 1342; 40 C.F.R. §122.4(d). EPA has stated that this requirement applies to MS4 permits. See, e.g., EPA, NPDES Storm Water Phase II Fact Sheet 2-4 (1998)(incorporated herein by reference); Memorandum from E. Donald Elliott, General Counsel, re: Compliance with Water Quality Standards in NPDES Permits Issued to Municipal Separate Storm Sewer Systems (Jan. 9, 1991). Further, 40 C.F.R. §122.44(d) requires each NPDES permit to contain limitations on all pollutants or pollutant parameters that are or may be discharged at a level that will cause, have a reasonable potential to cause, or contribute to an excursion above any water quality standard. The draft permit here does not meet these basic requirements. Although the District's MS4 discharges undeniably cause and contribute to violations of water

quality standards, the permit does not contain effluent limitations or other requirements adequate to ensure that such violations will be remedied and prevented.

a. MS4 discharges cause and contribute to violations of DC water quality standards: The fact that the District's MS4 discharges cause and contribute to water quality standards violations is shown by the District's own reports and the SWMP itself. The District's §305(b) Water Quality Reports (2002 and prior years – all incorporated herein by reference) specifically identify storm water discharges as known or suspected contributors to violations of water quality standards for specific pollutants in waters throughout the District. For a number of waters, the report lists urban runoff /storm sewers as the **only** source of impairment. Id. Indeed, because receiving waters in the District already violate the District's standards for conventional and toxic pollutants. any effluent that exceeds those standards necessarily contributes to in-stream excursions.

Monitoring data submitted with the D.C.'s initial Part 2 MS4 application confirms that such discharges repeatedly exceed the District's water quality standards for fecal coliform bacteria, which are 200/100 mL max. 30-day mean for Class A waters, and 1,000/100 mL for Class B waters. 21 DCMR 1104.6. In almost all of the storm water sampling reported in the Part 2 application, fecal coliform counts exceeded one or both of these standards, often by wide margins. Part 2 application, Tables 4.3.4-3, -5, -7, -9, -11. In some samples fecal coliform counts were greater than 16,000/100 mL. The Part 2 Application also showed that MS4 discharges repeatedly exceeded water quality standards for mercury, copper, and oil & grease. Id., tables 4.3.4-3 to -14; 21 DCMR 1104.6. At least one discharge also exceeded arsenic criteria for fisheries. Id., Part 2 application, table 4.3.4-10. Data in the record also suggests potential cyanide violations. *In re Government of District of Columbia Municipal Separate Storm Sewer System,* NPDES Appeal Nos. 00-14 & 01-09 (EAB) Record Exhibit 14, Run Summary Sheets.[1]

The District's 2002 SWMP further demonstrates that MS4 discharges violate water quality standards. Monitoring data reported in Appendix E of the 2002 SWMP shows virtually all fecal coliform counts exceeding one or both of the District's standards, often by wide margins. In some samples fecal coliform counts reached as high as 110,000/100 mL. Table 4.4.1-1 of 2002 SWMP further shows event mean concentrations of copper, lead and zinc that exceed D.C. water quality standards by significant margins. For example, the District's acute water quality criteria for copper in fisheries is 13 ug/l and the chronic criteria is 9 ug/l (assuming a water hardness of 100 mg/l). 21 DCMR 1104.7. All of the event mean concentrations for copper reported in Table 4.4.1-1 of the 2002 SWMP exceeded one or both of these criteria, with some mean concentrations as high as 82, 96, and 125 ppb.[2] For zinc, the District's acute and chronic

[1] The record contains sampling data indicating total cyanide levels as high as 113 ug/l., and other readings of 111, 67, and 73 ug/l. Record Exhibit 14, run summaries of 9/2/94, 3/29/95, and 5/3/95. The District's aquatic life standards for cyanide are 5.2 ug/l chronic and 22 ug/l acute, expressed as free cyanide. 21 DCMR 1104.6 Table 2.

[2] The criteria cited in the text are for dissolved metals. Table 4.4.1-1 does not indicate whether the monitored values reported for metals reflect dissolved fraction or total metals. Even assuming the numbers reflect total metals, they would substantially exceed the comparable total metal criteria, derived by using the conversion factor cited in the District's rules, 21 DCMR 1106.11.

criteria are 120 ug/l. Event mean concentrations exceeded this level at four of the monitoring cites. SWMP Table 4.4.1-1.

Exceedances of water quality standards in MS4 discharges equate to water quality standards violations because, in the absence of mixing zones for these discharges (and none have been established), compliance with standards is measured at the point of discharge. See Puerto Rico Sun Oil Company v. EPA, 8 F.3d 73, 75 (1st Cir. 1993); In re Broward County, Florida, NPDES Permit No. FL0031771, 6 E.A.D. 535 (August 27, 1996). See also, EPA, Office of Water Regulations and Standards, "Mixing Zones - Water quality Standards Criteria Summaries: A Compilation of State/Federal Criteria" at 2, EPA 440/5-88/015 (September 1998).

The fact that DC MS4 discharges cause or contribute to water quality standards exceedances is further confirmed by the District's final Total Maximum Daily Loads (TMDLs) for the Anacostia River and its tributaries for Biochemical Oxygen Demand, Suspended Solids, Fecal Coliform, and Organics and Metals. As the draft permit itself states (part IX.2), these TMDLs all require substantial percentage reductions in pollutant loadings from MS4 discharges. The TMDLs and supporting documentation submitted by the District to EPA (incorporated herein by reference), as well as EPA's decision documents approving these TMDLs (incorporated herein by reference), are all premised on the conclusion that these percentage reductions are necessary to attain and maintain water quality standards in the receiving waters. The reductions plainly have not yet been achieved—indeed, the TMDLs were only recently adopted and the District has yet to document any actual reductions in MS4 pollutant discharges – let alone the percentages of the magnitudes mandated by the TMDLs.

b. The permit does not contain effluent limits adequate to assure compliance with water quality standards: The permit provisions do not assure compliance with standards and in fact conflict with Act's requirements for compliance with standards. First of all, the permit contains no numeric, parameter-specific limitations for discharges from any MS4 outfall. Not only are such pollutant specific, numeric limits presumptively required by the Act (33 U.S.C. §§1311(b)(1)(C), 40 C.F.R. §§122.4(d), 122.44(d), 122.44(k)(3)), but they must be outfall specific unless infeasible. 40 C.F.R. 122.44(h)(i)(1), 122.45(a).

The fact sheet indicates that EPA is relying on Best Management Practices (BMPs) to achieve the pollutant reductions necessary to meet standards. Pursuant to 40 C.F.R. §122.44(k)(3), however, EPA may rely on BMPs in lieu of numeric effluent limitations only where numeric limits are "infeasible." Here, the Region did not even attempt to develop numeric, outfall-specific effluent limits, let alone show they are infeasible. Moreover, any claim of infeasibility would be meritless on its face. As noted above, because neither the District nor EPA have established mixing zones for discharges from the D.C. municipal separate storm sewer system, effluent limits must be set to assure compliance with water quality standards at the point of discharge – i.e., the effluents limits must mirror the receiving water quality standards themselves. See Puerto Rico Sun Oil Company v. EPA, 8 F.3d 73, 75 (1st Cir. 1993); In re Broward County,

Florida, NPDES Permit No. FL0031771, 6 E.A.D. 535 (August 27, 1996). See also, EPA, Office of Water Regulations and Standards, "Mixing Zones - Water quality Standards Criteria Summaries: A Compilation of State/Federal Criteria" at 2, EPA 440/5-88/015 (September 1998). This is not an exercise requiring any information beyond the water quality criteria set in D.C.'s published water quality standards. EPA cannot rationally claim that it is infeasible to simply apply the District's numeric water quality criteria as outfall-specific effluent limitations.

Second, even if the Region could show that numeric effluent limits are infeasible, it cannot use BMPs as a surrogate without showing that those BMPs assure compliance with water quality standards. 33 U.S.C. §1311(b)(1)(C); 40 C.F.R. §122.4(d); *In re Government of District of Columbia Municipal Separate Storm Sewer System*, 10 EAD____, NPDES Appeal Nos. 00-14 & 01-09 (EAB 2-20-02) slip op. 25-28. The Region has failed to do so here. Although the Fact Sheet contains a bare assertion that the Region "feels that the Upgraded SWMP is sufficient to ensure compliance with applicable water quality standards," there are no facts or analyses in the record to support that claim.[3] Indeed, the Region itself concedes that it has not gauged the potential effectiveness of the SWMP. In reality, the claim that the upgraded SWMP is sufficient to ensure compliance with standards is refuted by the record. As noted above, discharges from MS4 outfalls exceed DC water quality standards by wide margins for a variety of pollutants. The District's approved TMDLs require that - to meet water quality standards – pollution loadings form MS4 discharges to the Anacostia and its tributaries must be cut by percentages ranging from 50% to 98% depending on the pollutant. There is no evidence that the District's SWMP will cut MS4 pollutant discharges *at all*, let alone by percentages of this magnitude. Neither the District nor EPA are able to quantify any pollutant reductions that will or may occur as a result of the "upgraded" SWMP. Indeed, the "upgraded" SWMP contains almost nothing in the way of new BMPs beyond those in the pre-existing SWMP.

c. Water quality standards language in the permit conflicts with the Act and EPA rules: The water quality standards language that does appear in the draft permit is not a substitute for outfall specific, numeric limits, and is itself legally flawed, as explained below:

i. Part I.D provides that the "outfall effluent limits, except when practicable or feasible, to implement the Plan shall be non numeric effluent limits consistent with 40 CFR Part 122.44(k)(2) through the use of Best Management Practices to the maximum Extent Practicable to achieve compliance with applicable water quality standards in accordance with existing Federal rules and regulations." This language unlawfully creates a presumption *against* numeric effluent limits, in contravention of the above-cited statutory and regulatory provisions. Pursuant to 40 C.F.R. §122.44(k)(3), BMPs are authorized when numeric limits are infeasible: they are not mandated unless numeric limits are feasible. Moreover, this language unlawfully assumes that the BMPs in the SWMP will produce compliance with water quality standards, when – as shown above – such an assumption is refuted by the record. Further, the language misstates and

[3] Part III.B. of the draft permit itself contains a similarly unfounded and inaccurate assertion.

undermines the relevant statutory requirements. The Act does not allow permittees to merely implement BMPs "to the maximum extent practicable." Rather, it requires MS4 permits to mandate controls to **reduce the discharge of pollutants** to the maximum extent practicable. 42 U.S.C. §1342(p)(3)(B)(iii). Moreover, permits must mandate more than just BMPs to accomplish these reductions: they must also require control techniques and systems, design and engineering methods, and such other provisions as EPA determines appropriate. Id. The language of Part I.D. is also unlawful to the extent that it could be read as excusing the District from achieving compliance with water quality standards as long as it is implementing BMPs to the maximum extent practicable.

ii. Part IX.2. of the permit states that the permittee " shall be required to demonstrate compliance with any EPA approved waste load allocation (WLA) component of any approved Total Maximum Daily Loadings . . . for purposes of achieving compliance to the maximum extent practicable with applicable requirements under the Clean Water Act." Although the permittee must certainly be required to comply with any applicable WLA, its duty to comply with that WLA, as well as its duty to achieve compliance with other requirements of the Clean Water Act is absolute – not merely "to the maximum extent practicable." There are no "practicability" exceptions to Clean Water Act requirements at issue here, and therefore the practicability language in the part IX.2 of the draft permit is unlawful.

iii. We support the inclusion of specific TMDL percentage reduction requirements in Part IX.2, but these provisions require strengthening to comply with the Act and EPA rules. First of all the permit needs to specify the benchmark from the which the percentage reduction will be calculated, and the precise method for calculating the quantity of reductions achieved. These are critical parts of the effluent limitation, and – under the Act and EPA rules - they cannot be left for determination later outside of the permit process. The draft unlawfully leaves these crucial decisions to the District's itself ("If the analysis concludes...."), contrary to the Act and EPA rules, which require the permit itself to specify the required effluent limitations. Second, the permit must require achievement of the percentage reduction at every outfall. 33 U.S.C. §§1311(b)(1)(C), 40 C.F.R. §§122.4(d), 122.44(d), 122.44(k)(3)), 40 C.F.R. 122.44(h)(i)(1), 122.45(a). Third, the draft unlawfully allows the permittee to put off both the determination of compliance and correction of a violation with respect to the Anacostia TMDLs – which have been in place for some time. The District already has recent and historic monitoring data from which it can determine – as noted above – that the WLA's have not been met for the Anacostia TMDLs. There is no legal justification for allowing the District to put off corrective action: Instead, the corrective action requirements must be specified in this permit. Nor is there any justification for interposing a requirement that the District must "conclude" that an MS4 discharge is causing or contributing to an exceedance. Determination of compliance or noncompliance with TMDLs and WLAs is an objective matter: It is not a matter to be based on the judgment of the permittee. Id. Moreover, the permit as written would allow the District to avoid compliance simply by refusing to "conclude" that a violation has occurred, thereby unlawfully undermining the Act's TMDL requirements. 33 U.S.C. 1313(d); 40 C.F.R§ 122.44(d)(1)(vii)(B). Fourth, the draft uses legally incorrect terminology in describing what triggers a violation: "If the

analysis concludes the MS4 discharge monitored for that specific pollutant is causing or contributing to an exceedance of the criteria under the approved pollutant specific WLAs..." The legal requirement is that the discharge not cause or contribute to an exceedance of the WLA *itself*, not some undefined "criteria". Id.; 40 C.F.R. §122.44(d)(vii)(B).

Fifth, even if EPA could allow the District to defer adoption of an implementation plan to meet the relevant WLAs, the permit would have to require the plan to produce full compliance with the WLAs within 3 years (i.e., within the term of the permit) – not merely a plan for "reducing" exceedances "to the maximum extent practicable." 33 U.S.C. §§ 1311(b)(1)(C), 1342(p)(4)(A), 40 C.F.R. §§122.4(d), 122.44(d). Sixth, the permit states that EPA reserves the right to modify the permit for purposes of correcting the exceedance, when necessary, either by separate numeric effluent limitation or by establishing of additional BMPs with the goal of achieving compliance with the District's current water quality standards to the maximum extent practicable. As noted above, there is no justification for deferring separate numeric effluent limitations – they can and must be included in the permit now. Moreover, compliance with the District's water quality standards is not a "goal", but a requirement of the Act, and such compliance must be total – not merely to the "maximum extent practicable." 33 U.S.C. §1311(b)(1)(C); 40 C.F.R. §122.4(d), 122.44(d).

iv. The Anacostia and Hickey Run TMDLs are all expressed as annual or seasonal average load limits, rather than daily load limits. We incorporate by reference all of the comments filed by Earthjustice on these TMDLs, in which the point is made repeatedly that average annual or seasonal loads do not meet the Act's mandate for daily loads, and do not assure compliance with water quality standards. EPA's response to these comments has been to assert that the permit writer can assure that the loads are properly distributed among the days of the year. The draft permit fails to make any such distributions, and fails to specify any daily loads. As a result, the permit fails to assure protection of water quality standards as required by the Act and EPA rules. For example, a requirement to cut only the annual loading of fecal coliform by a fixed percentage does not prevent exceedances of fecal coliform numeric criteria on numerous days and months throughout the year. Nor does a fixed percentage cut in annual average loads protect the District's narrative criteria or designated uses on days when high fecal coliform peaks render receiving waters unsafe for swimming, kayaking, canoeing, wading, and other recreation. E.g. 21 DCMR 1101.1, 1101.2,1102.1, 1104.1, 1104.3, 1104.4, 1104.7,

v. Part IX.3 of the draft permit contains the following sentence: "The permittee...shall not discharge any pollutant from its MS4 system at a level that causes or contributes to an exceedance above either the narrative or numeric criteria adopted as part of the District of Columbia water quality standards *which could otherwise prevent the attainment of an existing or designated use within a particular waterbody.*" (emphasis added). Although the first part of the sentence is appropriate to ensure compliance with water quality standards, combining it with the italicized language produces a result contrary to the Act and the District's standards. Discharges that cause or contribute to exceedances of narrative or numeric criteria necessarily cause or contribute to violations

of water quality standards – there is no requirement that such exceedances also be shown to prevent attainment of an existing or designated use. On the other hand, a violation of standards would occur – even in the absence of a criteria exceedance – if the discharge could interfere with attainment of an existing or designated use. Therefore, the above-reference sentence must be changed to insert "or that" in place of "which", so that it reads: "The permittee...shall not discharge any pollutant from its MS4 system at a level that causes or contributes to an exceedance above either the narrative or numeric criteria adopted as part of the District of Columbia water quality standards, or that could otherwise prevent the attainment of an existing or designated use within a particular waterbody."

In addition, the third sentence of Part IX.3 is not a permit requirement, but merely an undocumented assertion, and therefore does not belong in the permit. As shown above, comparison of DC MS4 monitoring data with DC water quality standards shows that the District's existing SWMP measures are not sufficient to meet water quality standards: nor is there any evidence that the 2002 SWMP will do any better. The sentence also incorrectly suggests there is insufficient data to set numeric effluent permit limits, when – as discussed above – the setting of such limits is perfectly feasible, based both on adopted TMDLs and the standards themselves. Further, the last sentence of Part IX.3 incorrectly and unlawfully suggests that the standard for judging the adequacy of BMPs is whether they ensure compliance with water quality standards "to the maximum extent practicable." As discussed above, the Act requires permits to require full compliance with water quality standards *completely* – not merely compliance to the extent "practicable."

c. Hickey Run: The draft permit notes that a BMP is being negotiated with the National Arboretum, but does not require implementation of the BMP by a date certain (or ever). Based on prior permit proceedings on this matter (Public Notice ML28 (8/07/02) and related record, incorporated herein by reference), the "BMP" would consist of an oil and grease removal unit and a trash trap facility downstream of the MS4 outfalls on Hickey Run. Addition of these facilities makes sense, because they will help to reduce pollutant loadings in Hickey Run. Moreover, because these facilities represent available technology that is practicable at this site, they are required under the Clean Water Act's mandate to apply controls to reduce stormwater pollution to the maximum extent practicable. 33 U.S.C. 1342(p)(3)(B)(iii). Accordingly, the permit must require implementation of this measure not later than 3 years from permit issuance.

The draft permit illegally deletes the existing Hickey Run effluent limit of 11.9 lbs per day for oil and grease. The Fact Sheet seeks to justify such a rollback by asserting that a limit is no longer needed because no violations of oil and grease limits have been measured in Hicky Run in the last 2 years. Such a position is unlawful, arbitrary and capricious as follows:

i. *Violation of remand order from EAB*: The EAB directed the Region on remand to choose between aggregate or outfall-specific numeric limits:

> [W]e hereby remand to the Region the condition setting an aggregate numeric effluent limit for the four Hickey Run outfalls. On remand the Region may re-evaluate whether to set an aggregate limit, or whether to set individual limits, and the Region shall fully explain its reasons for the chosen limit(s) along with its explanation of the related monitoring requirements and monitoring locations(s) that it establishes for the four Hickey Run outfalls.

Order Granting Motion for Partial Reconsideration at 4, May 9, 2002, NPDES Appeal Nos 00-14 & 01-09 (EAB). A proposal to dispense with any numeric limit at all is violative of the Board's explicit remand order, and therefore invalid.

Nor did the Board endorse the notion of substituting BMPs for numeric limits with respect to the Hickey Run outfalls. The Board merely speculated in dictum that the Region might have tried such an approach, and made clear that is was "not suggesting that the Region alter the Permit in this regard." *In re Government of the District of Columbia Municipal Separate Storm Sewer System*, 10 E.A.D. ____, slip op at 31 n.25 (EAB Feb. 20, 2002). Moreover, in response to Petitioners' objection to the Board's dictum on this point, the Board held that the issue was moot because of it's decision to remand the Hickey Run effluent limits. Id. May 9 Order at 2 n.2. Accordingly, the Board's dictum has no binding or precedential value here.

ii. *Failure to assure compliance with water quality standards*: The District's 305(b) Reports, Hickey Run TMDL Document, and water quality monitoring data show that MS4 discharges cause or contribute to water quality standards violations for oil and grease in Hickey Run. District of Columbia, Water Quality Report to U.S. EPA and Congress (pursuant to §305(b) of the Clean Water Act)(1996, 1998, 2000); District of Columbia, Draft Hickey Run TMDL to Control Oil and Grease (Sept. 1998)(TMDL Document). The Act and EPA rules therefore require that the NPDES permit include numeric effluent limits for each of the MS4 outfalls unless such limits are shown to be infeasible. 33 U.S.C. §1311(b)(1)(C); 40 C.F.R. §122.4(d), 122.44(d), 122.44(d)(1)(vii)(B), 122.44(k), 122.45(a).

The Hicky Run TMDL document (incorporated by reference) provides a specific numeric waste load allocation to the four Hickey Run MS4 outfalls. That load allocation has been approved by EPA and represents the load limit necessary to assure compliance with water quality standards with a margin of safety. EPA cannot second guess that allocation in this permit proceeding. If the District and EPA want to change the TMDL, they must do so through the TMDL adoption and amendment process, after notice and comment. Meanwhile, EPA must adopt effluent limits that are consistent with the TMDL, including outfall specific load limits. 33 U.S.C. §1311(b)(1)(C); 40 C.F.R. §122.4(d), 122.44(d), 122.44(d)(1)(vii)(B), 122.44(k), 122.45(a)

Given the existence of the explicit TMDLS for Hickey Run, EPA cannot possibly claim numeric limits are infeasible. Moreover, although it is not the public's burden to demonstrate the feasibility of setting outfall specific limits, we cite here two examples of

how such limits might be developed. First, the TMDL document itself provides estimates of the existing oil and grease loads contributed by each outfall. TMDL Document at 17. Of the load attributed to the MS4 outfalls, 82% is estimated to come from outfall #1, 1% from outfall #2, 11% from outfall #3, and 6% from outfall #4. Id. There is no reason that the Wasteload Allocation (WLA) of 11.9 pounds per day could not be allocated to each these outfalls in roughly the same proportion. This would produce a numeric pound per day limit for each outfall.

Second, the permit can and must impose an oil and grease concentration limit on each outfall at the level of the numeric water quality standard – 10 mg/l. The District has not established a mixing zone for these discharges, so in order to meet receiving water quality standards, the discharges must meet those standards at the point of discharge. As noted above, in the absence of a mixing zone, effluent limits must be set to assure compliance with water quality standards at the point of discharge. Thus, the setting of numeric limits here is both feasible and mandated by the Act. The use of the water quality standard as the effluent limit here is further justified because, as stated in the TMDL document and the permit itself, storm sewers form the "headwaters" of Hickey Run and supply virtually all of its flow during wet weather.

Even if the Region could somehow justify failing to assign outfall-specific numeric limits, the Region could not possibly claim that an aggregate limit is infeasible, when the District itself has already developed such a limit (11.9 pounds per day) and EPA has approved it. Indeed, the claim that EPA cannot feasibly develop numeric limits even though it has adopted a TMDL for the precise pollutant at issue flouts one of the central purposes of the TMDL program – namely, to establish a sound basis for development of such numeric limits. Wasteload allocations (a component of TMDLs) "establish the level of effluent quality necessary to protect water quality in the receiving water and to assure attainment of water quality standards. Once allowable loadings have been developed through WLAs for specific pollution sources, limits are incorporated into NPDES permits." EPA, Water Quality Standards Handbook 7-9 (2d Ed. 1994). Thus, the development of an adequate TMDL by definition provides a solid basis for incorporating numeric effluent limits into the relevant NPDES permits. A claim that such numeric limits are "infeasible" is therefore a complete non sequitur.

The achievement of the TMDL for Hickey Run requires an 88.9% reduction in oil and grease loading, but the permit contains no outfall specific effluent limits to achieve that reduction. EPA rules require that effluent limits be outfall specific unless infeasible, and that they be consistent with adopted wasteload allocations. 40 C.F.R.§§122.44(d)(1)(vii)(B), 122.45(a). EPA and the District have not shown that outfall specific limits are infeasible here, nor have they shown that the permit requires management practices that will be adequate to achieve the applicable wasteload allocation. Moreover, the permit fails to require regular monitoring of the Hickey run outfalls to provide representative data on oil and grease levels in the discharges as required by EPA rules. Id. §122.44(i), 122.48.

iii. *Violation of anti-backsliding prohibition*: Deletion of the current numeric effluent limits for Hickey Run would violate the Act's anti-backsliding provision, 33 U.S.C. §1342(o), which prohibits modification of an NPDES permit to contain effluent limitations which are less stringent that the comparable effluent limitations in the previous permit. Nothing in the draft permit would assure attainment of effluent limits at least as stringent as the pre-existing numeric limits. EPA has claimed none of the antibacksliding exceptions listed in 33 U.S.C. §1342(o)(2), and indeed none are applicable. Accordingly, deletion of the Hickey Run numeric effluent limits is barred by the Clean Water Act and EPA rules.

iv. *Failure to show attainment of standards*: EPA's stated justification for relaxing the Hickey Run effluent limit is that the stream has not shown a violation of oil and grease limits for 2 years. EPA does not demonstrate, however, that these monitoring results are the product of additional, permanent BMPs. The agency's claim that BMPs are responsible for results is pure, unsupported assertion. In this regard, we ask EPA to identify: a) each of the BMPs purportedly completed in the Hickey Run watershed since adoption of the TMDL; b) the quantity of oil and grease load reduction attributable to each, and the method used for calculating such reduction.

In the absence of actual documentation of consistent source reductions, the mere fact that no exceedances were recorded for two years could be due to any number of reasons having nothing to do with better pollution control – such as the happenstance of when the samples were taken, or reduced business activity because of a bad economy. Without actual evidence of source cleanup, there is simply no justification for repealing pollution load limits that took years to develop and that were placed in the permit to restore and protect the river.

3. Reductions to the maximum extent practicable: The District has not demonstrated that its SWMP will reduce storm water pollutant discharges to the maximum extent practicable. 33 U.S.C. 1341(p) (3)(iii). Indeed, the District is unable to quantify <u>any</u> reductions in pollutant discharges under the 2002 SWMP. The level of control provided under the 2002 SWMP is virtually unchanged from the prior SWMP. According to estimates in the Part 2 application, the prior SWMP was not expected to produce <u>any</u> reductions in cadmium discharges to the Potomac, Anacostia, or Rock Creek watersheds. The program was also not expected to produce reductions in discharges of dissolved phosphorus, copper, and lead to the Rock Creek watershed; or in discharges of dissolved phosphorus to the Potomac watershed. For other pollutants, predicted reductions were negligible. The program was expected to reduce MS4 discharges of total suspended solids in the District by less than one-half of one percent. BOD discharges will be cut by 0.7%, COD by 0.6%, total nitrogen by 0.4%, and total phosphorus by 0.5%. Part 2 application, Table 4.4.5-1. EPA cannot rationally or lawfully find that the SWMP or the draft permit will reduce storm water pollutant discharges to the maximum extent practicable, when the SWMP will in fact produce no reductions at all for some pollutants, and at best negligible reductions for others. Moreover, neither the District's nor EPA's analyses purport to show, or corroborate, that greater reductions are not practicable, and any such claim would be farfetched. Further, the permit does not

contain conditions to ensure reduction of pollutants in discharges to the maximum extent practicable. 40 C.F.R. 122.26(d)(2)(iv).

Indeed, the permit does not even require the level of effort that EPA rules require for small MS4 systems. Such systems must at least establish measurable goals and ensure they are met. No such requirements are included in this permit.

4. **Deferral of complete program:** The draft permit allows the District to defer submittal of measures to provide for compliance with already-adopted TMDLs. The Act and EPA rules do not allow this deferred approach. The Act required the District to obtain this permit more than 10 years ago, and the permit was to require compliance as expeditiously as practicable, but not later than 3 years from the date of permit issuance (i.e., by 1994). 33 U.S.C. 1342(p)(4)(A). EPA cannot lawfully authorize further delays in this statutorily mandated schedule. See also 40 C.F.R. 122.26(d)(2). See also 55 Fed. Reg. at 48044 ("permit conditions should do more than plan for controls during the term of the permit").

5. **Pesticides and fertilizer:** The SWMP does not contain or describe a program to *reduce* pesticide and fertilizer pollution to the maximum extent practicable, as required by EPA rules. Id. 122.26(d)(2)(iv)(A)(6). EPA rules require this program to include, as appropriate, controls such as permits, certifications, and other measures for commercial applicators and distributors and controls for application in public right-of-ways and at municipal facilities. The SWMP does not indicate that such steps were even considered, and merely describes a vague educational program and the District's pre-existing requirements for certification and training of pesticide applicators. No where does the SWMP describe in any way how these programs will be used to reduce pesticide pollution entering the MS4 system. There is no indication that the permit will lead to any reductions in these pollutants, let alone reductions to the maximum extent practicable.

6. **Illicit connections:** The Act expressly requires MS4 permits to "include a requirement to effectively prohibit non-stormwater discharges into the storm sewers." 42 U.S.C. §1342(p)(3)(B). Although the draft permit requires the District to prepare plans and implement programs to prevent illicit discharges, it does not expressly require the District "effectively prohibit non-stormwater discharges into the storm sewers." Such language must be added to the permit.

The SWMP does not contain a description of a program, including inspections, that the District will use to implement and enforce restrictions to prohibit all forms of illicit discharges to storm sewers. 40 C.F.R. §122.26(d)(2)(iv)(B).Although the SWMP contains a general description of the District's current practices, it does not commit the District or WASA to any particular course of action in the future. Moreover, the current practices as described are inadequate, as they contain no systematic procedure for conducting inspections of outfalls, dye tracer tests, and similar measures to detect illicit discharges. Further, the permit must specify a minimum level of dry weather discharge testing.

7. **Lack of new structural controls**: The SWMP and permit do not appear to require any new structural controls to address storm water pollution. The Act requires MS4 programs to rely on a variety of both structural and non-structural controls. 33 U.S.C. 1342(p)(3)(B). Reports prepared for the Metropolitan Washington Council of Governments (MWCOG) identify a wide variety of effective structural controls that could significantly reduce storm water pollutant discharges in the District. The Hickey Run Subwatershed Action Plan, included in the 1998 permit application, also recommends specific structural controls. Yet the permit does not require the District to adopt new structural controls. The SWMP and permit simply reflect what the District's current practices are, without requiring any specific additional measures to reduce storm water pollution. Such an approach does not comply with the Act's mandates.

8. **Endangered species:** Pursuant to section 7 of the Endangered Species Act (ESA), EPA must consult with the U.S. Fish and Wildlife Service regarding the potential impact of this permit on threatened and endangered species that are listed or proposed for listing under the ESA. The permit cannot be issued unless all concerns of the Service are adequately addressed, and EPA ensures that the discharges allowed under the permit, as well as any actions required or authorized by the permits, will not adversely affect threatened and endangered species. EPA has indicated that at least two listed species may be affected by storm water discharges within the District: the Bald Eagle and Hay's Spring Amphipod. 60 Fed. Reg. 51278, 51287 (1995). EPA must ensure ESA compliance not only with respect to these species, but also with respect to any others that may be affected by the discharges, either directly or indirectly. We note, for example, that the District's MS4 discharges include significant nutrient loads that can be conveyed to Chesapeake Bay, which suffers from severe oxygen depletion due to nutrient pollution. See http://www.cbf.org/site/DocServer/EPA_petition_final_120103.pdf?docID=1244. EPA must consult with the Fish and Wildlife Service on the potential impacts of such nutrient loadings on endangered species in the Bay.

9. **Waivers and exemptions**: In addition to the above-mentioned deficiencies, we are concerned about waiver and exemption provisions in the District's water quality and storm water regulations. The regulations require the granting of a variance from any water quality and storm water requirements upon a finding that compliance "would result in exceptional or undue hardship by reason of excessive structural or mechanical difficulty, or impracticability of bringing the operation into full compliance." 21 DCMR 514.1. The District also exempts from storm water regulation any construction or grading operation covering 5,000 square feet or less, unless part of an approved subdivision plan. Id. 527.1(g). In addition, there are provisions that allow for waivers of storm water management requirements, and for variances where compliance "will result in unnecessary hardship or practical difficulty." Id. 528. These exemption, waiver, and variance provisions conflict with the Act and EPA rules, which require that all storm water discharges be regulated by an NPDES permit. 33 U.S.C. 1311(a), 1342(a)(1), (p)(2)(C), (p)(3)(B), 55 Fed. Reg. at 48009. See also NRDC v. EPA, 966 F.2d 1292, 1305-06 (9th Cir. 1992)(EPA does not have authority to create exemptions from stormwater regulatory program). Moreover, these provisions could be used to allow non-stormwater discharges into storm sewers -- discharges that MS4 permit must prohibit. 33

U.S.C. 1342(p)(B)(ii). Finally, the exemption, waiver and variance provisions conflict with the Act's mandate that SWMPs ensure pollutant reductions to the maximum extent practicable. Id. §1342(p)(3)(B)(iii). A facility or activity that is exempt does not have to reduce discharges at all, let alone to the maximum extent practicable.

The Environmental Appeals Board remanded the prior permit in part because of EPA's failure to address this issue, and the draft permit does not correct the error. Instead, it merely provides that the District "shall issue no exemption, waiver, or variance that would violate the Clean Water Act or EPA regulations," and that the permit "does not authorize any discharge based on such exemption, waiver, or variance." This language is virtually identical to the language in the prior permit, and is plainly indefensible. EPA does not satisfy its permit writing duties under the Act by simply directing the permittee in the most general terms not to violate the law. A key purpose of an NPDES permit is to translate general requirements of the Act into source specific requirements. EPA must specify what constitutes compliance or non-compliance in the context of the specific discharge at issue. Here, EPA is obligated by the Act to determine whether the District's wavier and exemption provisions are consistent with the Act (including the MEP standard) and EPA rules. If they are not (as we argue above), the Agency must exclude them from the SWMP that is incorporated into the permit. The Agency cannot allow the District to make that determination on an ad hoc basis. With no guidance whatsoever from EPA, the District will undoubtedly feel free to grant waivers and exemptions without limitation unless and until EPA objects. And because the permit does not require any notice to EPA or the public of waivers and exemptions, the Agency and the public will have no way of knowing when to object. Further, the waiver and exemption provisions in the District's program effectively authorize amendment of the SWMP, and therefore the permit, without going through the required procedures for permit modification in 40 C.F.R. 122.5-.12.

For all the foregoing reasons, the waiver and exemption provisions incorporated into the draft permit violate the Clean Water Act and applicable EPA regulations. To correct this deficiency, the permit must be amended to state that the District's waiver and exemption provisions are not a part of the approved SWMP and therefore such waivers and exemptions conflict with the permit.

10. Monitoring: EPA rules for administering the NPDES program explicitly require monitoring "the volume of effluent discharged from <u>each</u> outfall." 40 C.F.R. §122.24(i)(1)(ii) (emphasis added); <u>see also</u> 40 C.F.R. §122.48. The draft permit does not meet this requirement. Instead, it allows the District to monitor only three times a year at only a handful of outfalls in one subwatershed in any given year. It then allows the District to estimate annual cumulative pollutant loadings and event mean concentrations for the entire subwatershed based on this extremely limited data set. Further, the permit does not specify the methods for deriving such estimates, or require that whatever estimation methods used be shown to be reliable and based on sound science.

The permit cites 40 C.F.R. §122.26(d)(2)(iii), but that provision specifies monitoring requirements for the permit application. Moreover, even if applicable, that

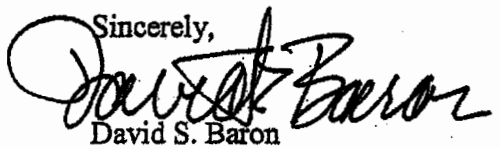
provision requires "representative" monitoring. 40 C.F.R. §§122.26(d)(2)(iii)(D). See also id.122.41(j)(1). The agency's permit writer's manual likewise requires permits to specify monitoring locations "that are representative of the expected wastewater discharge." EPA, NPDES Permit Writers' Manual 118 (1996). Monitoring of discharges to one subwatershed – e.g., Rock Creek -- is not representative of discharges to the Anacostia and the Potomac. The Region has offered no evidence or analysis to suggest discharges to Rock Creek are the same as those to the Anacostia and the Potomac, and any claim to that effect would be indefensible. As shown by the District's SWMP, there are literally hundreds of MS4 outfalls on these rivers. Some discharge runoff from predominantly residential areas, while others discharge runoff from commercial or industrial areas. Runoff from residential, parkland, and limited commercial areas into Rock Creek is hardly representative of runoff from the downtown DC business district or from the Anacostia waterfront at locations such as the Navy Yard and Southeast Federal Center.

Accordingly, the permit monitoring provisions are legally insufficient and not rationally justified.

For all the foregoing reasons, the draft permit does not comply with the Clean Water Act and applicable EPA regulations. Moreover, because the permit does not assure compliance with the District's water quality standards, the District cannot lawfully certify the permit under section 401 of the Act. See D.C. Code §§ 6-923(a), -926(b)(7), -926(b)(8), -927

These comments are submitted on behalf of the following organizations: Defenders of Wildlife, 1130 17 St., NW, Washington, D.C. 20030, (202) 682-9400; Friends of the Earth, 1717 Massachusetts Avenue, NW, Suite 600, Washington, D.C. 20005, (202)783-7400. Please notify the undersigned of any further EPA action on this matter.

Sincerely,



David S. Baron
Attorney
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1625 Massachusetts Avenue, N.W., Ste. 702
Washington, D.C. 20036
(202) 667-4500

Re: Responsiveness Summary
National Pollution Discharge Elimination System (NPDES)
Municipal Separate Storm Sewer System (MS4) Permit
Draft Amendment No. 1

NPDES PERMIT NUMBER: DC0000221

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

FACILITY LOCATION:

District of Columbia's
Municipal Separate Storm Sewer System

RECEIVING WATERS:

Potomac River, Anacostia River,
Rock Creek, and Tributaries

PUBLIC COMMENT PERIOD:

July 21, 2005 to August 22, 2005

EPA Region III received four comment letters during the public review period from interested parties regarding the Government of the District of Columbia (Permittee) draft Amendment No. 1 to the current Municipal Separate Storm Sewer System (MS4) NPDES Permit which was issued August 19, 2004. A summary of the comments and EPA Region's III responses to those comments are provided below. In reaching its decision regarding the issuance of the final Amendment, hereafter known as Amendment No.1, the Region considered these comments and certain modifications in response to those comments in Amendment No. 1 and the Fact Sheet.

I. Comment Letter Number 1.

A. Commentors:

Various environmental organizations from throughout the District of Columbia concerned with storm water issues signed the letter: Correspondence dated August 17, 2005, was received from

Exhibit 7

these parties (including, in part Natural Resources Defense Council, Earthjustice, and Friends of the Earth) during the public comment period. EPA Region III provides the following response to the issue raised by these interested environmental organizations.

B. General Comment:

Commentors represented by the organizations commend EPA for drafting an Amendment that will bring the Permit more in line with Clean Water Act water quality-based standard requirements.

C. EPA Response:

EPA appreciates the comment.

II. Comment Letter Number 2.

A. Commentors:

The commentors are a municipal coalition represented by Mr. David W. Burchmore, Esq. of Squire, Sanders, and Dempsey L.L.P.from Cleveland, Ohio. EPA received correspondence dated August 18, 2005, from Mr. Burchmore on behalf of the National League of Cities, the National Association of Flood and Stormwater Management Agencies, the National Association of Clean Water Agencies, the CSO Partnership, the West Virginia Municipal League, and the Virginia Municipal League during the public comment period.

B. Comment No. 1/Specific Comments on Draft Amendment No. 1-Part I.C. Limitations to Coverage:

i. Comment:

The commentors recommend that Part I.C.2 of the draft Amendment be changed back to the language in the current Permit or the proposed language be qualified by stating that such discharges are prohibited "to the maximum extent practicable" based on the Ninth Circuit Court of Appeals' decision in Defenders of Wildlife v. Browner, 191 F.3d 1167 (9th Cir. 1999).

ii. EPA Response:

The draft language in Part I.C.2 was intended to be consistent with the Defenders of Wildlife decision, as well as its progeny (both judicial and administrative). In the fact sheet accompanying the proposed amendment, EPA points out that the basis for the current MS4 Permit sets forth a framework for a long-term storm water management control program for determining compliance with applicable water quality standards "to the maximum extent practicable" through the use of best management practices. EPA is clarifying the language in the final document as it intends Amendment No.1 to be fully consistent with the basis for issuing the current MS4 Permit.

C. Comment No. 2a/Permit Part I.D.-Effluent Limits:

i. Comment:

Depending on the modification made to Part I.C.2 as discussed and for the reasons stated above for making such changes, Part I.D.2 should be qualified by the "maximum extent practicable" limitation.

ii. EPA Response:

The basis for issuing the MS4 Permit in August of 2004 was the District's Upgraded Storm Water Management Plan (SWMP) dated October 19, 2002. The fact sheet accompanying the August, 2004 MS4 Permit provides that EPA has determined that the Upgraded SWMP represents the technology-based level of pollution reduction. The fact sheet further indicates that pollution reduction should be achieved through the combination of best management practices (BMPs) controlling the quantity as well as the quality of pollutants in the MS4 to the maximum extent practicable (MEP). EPA believes that making reference to the Upgraded SWMP in Part I.D.2 accomplishes the same objective and eliminates the redundancy issue.

D. Comment No. 2b/Permit I.D.-Effluent Limits:

i. Comment:

Part I.D.3 of the draft Amendment should be revised so that the permittee is expected to implement controls for managing waste load allocations associated with the Total Maximum Daily Loadings (TMDL) Implementation Plans under development within the Anacostia River and Rock Creek subwatersheds to the maximum extent practicable.

ii. EPA Response:

The Upgraded SWMP dated October 19, 2002, provides the framework for identifying a long-term approach for managing storm water which is both practicable and reasonable. The intent of the TMDL Implementation Plan is to develop specific storm water controls and methodologies designed for that particular subwatershed to better enhance and support the framework that was identified through the Upgraded SWMP. Since the same principles of "practicable and reasonable" controls for managing storm water are the basis on which these documents have been developed, EPA believes the reference to the Upgraded SWMP in Part I.D.3 addresses this issue and any revision would be redundant.

E. Comment No. 3/Permit Part IX.B-OtherApplicable Provisions:

i. Comment:

Similar to above comment number 2b, the required submission of implemenation plans and

additional controls for addressing TMDL waste load allocations must be qualified by using the phrase, "to the maximum extent practicable".

ii. EPA Response:

See comment number 2b above for response.

III. Comment Letter 3.

A. Commentor(s):

The Government of the District of Columbia (as Permittee) and the District of Columbia Water and Sewer Authority (WASA) (as the District's Storm Water Administrator) were represented by David E. Evans, Esq. of McGuireWoods LLP from Richmond, Virginia in their August 19, 2005, comment letter.

B. General Comment II.A:

i. Comment:

The District of Columbia and WASA believe that with the exception of its failure to include the Maximum Extent Practicable (MEP) qualifier in the water quality-based requirements, the current MS4 Permit complies with the law and does not need to be modified. The parties are disappointed that they were not able to consult prior to the issuance of the draft document.

ii. EPA Response:

The intent of the draft Amendment was to resolve Earthjustice's appeal of the final permit issued in August, 2004, in such a way that the iterative process established through the MS4 Permit was supportive and not compromised. The document was shared prior to issuance and EPA's views that the draft Amendment was consistent with the iterative process were discussed, as well as expressed in the draft fact sheet.

C. Specific Comment II.B.1/Permit PartI.C-Limitations to Coverage:

i. Comment:

The District and WASA object to the words "or from' in Part I.C.2 of the draft Amendment and ask that they either be deleted or qualified by the MEP standard.

ii. EPA Response:

See comment number 1 under comment letter number 2 from the Municipal Coalition for response.

D. Specific Comment II.B.2/Permit I.D-Effluent Limits:

i. Comment:

The District and WASA are concerned that EPA's decision to remove the standards compliance language currently in the MS4 Permit in Part I.D.2 and Part I.D.3, although not as serious, suggests that the District has an ultimate unqualified obligation to meet water quality standards. The commentors thus recommend either keeping the language in the existing Permit or using an MEP standard qualifier.

ii. EPA Response:

See EPA response to comment letter number 2, comment #2a, from the Municipal Coalition for response.

E. Specific Comment II.B.3/Permit Part III.C-Annual Reporting:

i. Comment

The District and WASA have no objection to this additional annual reporting obligation.

ii. EPA Response:

EPA appreciates the comment.

F. Specific Comment II.B.4/ Permit Part VII.P-Reopener Clause for Permits:

i. Comment:

The new reopener language in Part VII.P of the draft Amendment should be qualified by the MEP standard because it suggests that the District has an unqualified obligation to meet water quality standards.

ii. EPA Response:

EPA is exercising its options to change direction through the permitting process based on the District's Upgraded SWMP should current Program controls need to be adjusted under the "iterative" approach.

G. Specific Comment II.B.5/Permit Part IX.A-Waivers and Exemptions:

i. Comment:

The District does not plan to grant any waivers and exemptions, and therefore, has no objection to the additional reporting requirement.

ii. EPA Response:

EPA appreciates the comment.

H. Specific Comment II.b.6/Permit Part IX.b-TMDL WLA Implementation Plans and Compliance Monitoring:

i. Comment:

The District and WASA are concerned that by using the permit modification vehicle for changing from procedures other than those identified in the Upgraded SWMP for demonstrating compliance unnecessarily complicates and burdens the process.

ii. EPA Response:

A permit modification, which is governed by federal regulations at 40 C.F.R. Part 124.5, formalizes the procedure in the permit and is not done arbitrarily. Prior to EPA taking such action, a scientifically defensible argument would have to be made for deviating from the procedures and method presently in place to demonstrate compliance.

I. Specific Comment II.B.7/Permit Part X-Permit Definitions:

ii. Comment:

The District and WASA have no objection to the addition of the "Benchmark" or "measurable performance standard" definition.

ii. EPA Response:

EPA appreciates the comment.

IV. **Comment Letter Number 4.**

A. Commentor:

The District of Columbia Department of Health (DOH) certified the draft Amendment under Section 401 of the Clean Water Act, 33 U.S.C. Part 1341, provided three modifications are included in the document. EPA received correspondence from the certifying District agency dated August 19, 2005, during the public comment period. EPA Region III provides the following responses to the issues raised by DOH.

B. Modification #1: [Amend the Draft Amendment No. 1, Part I(C)(2) Provision to Reflect Authorized Discharges].

i. Comment:

DOH recommends that EPA delete this provision and replace it with the existing language of the current MS4 Permit since Part I(C)(2) does not address the District's impaired waters and the current wording is, in effect, excluding allowed discharges.

ii. EPA Response:

EPA will be substituting replacement language in the final issued Amendment to address the points raised by DOH in its Section 401 certification letter.

C. Modification #2: [Amend Draft Amendment No. 1, Part I(D)(3) to Clarify that the Controls in the MS4 Permit are Appropriate Effluent Limits Consistent with TMDL WLAs]:

i. Comment:

DOH recommends that EPA replace this provision with the language currently in the MS4 Permit since Part I(D)(3) removes EPA's determination that the controls in the MS4 Permit "are appropriate effluent limits consistent with the assumptions and requirements of the approved waste load allocations(WLAs)" established in the District's TMDLs. Also, DOH takes issue with the requirement that EPA conduct an assessment whether further controls are necessary which "in effect" imposes more stringent compliance with effluent limits.

ii. EPA Response:

EPA is adding additional language to the provision in the final issued Amendment to address the points raised by DOH in its Section 401 certification letter.

D. Modification #3 [Delete Draft Amendment No. 1, Part VII(P)(c) Reopener Clause for Permit Provision which states that "to ensure that the effluent limits are sufficient to prevent an exceedance of water quality standards"]:

i. Comment:

DOH recommends that this phrase be deleted from this provision for reasons stated above in Modification #1 and Modification #2.

ii. EPA Response:

EPA is modifying some of the wording in the provision when the final Amendment is issued to address the concerns raised by DOH in its Section 401 certification letter.

Re: Fact Sheet
National Pollutant Discharge Elimination System (NPDES)
NPDES Permit Renewal (Storm Water)

NPDES PERMIT NUMBER: DC0000221

FACILITY ADDRESS:

Office of the City Administrator
Government of the District of Columbia
The John A. Wilson Building
1350 Pennsylvania Avenue, NW
Washington, DC 20004

FACILITY LOCATION:

District of Columbia
Municipal Separate Storm Sewer System (MS4)

RECEIVING STREAM:

Potomac River, Anacostia River,
And Tributaries

FACILITY BACKGROUND AND DESCRIPTION:

The Government of the District of Columbia owns and operates a Municipal Separate Storm Sewer System (MS4) which discharges storm water during wet weather events from various outfall locations throughout the District into its waterways. The District of Columbia Government was issued its first MS4 Permit in April, 2000, which required the permittee to implement its existing Storm Water Management Plan (SWMP) over the next three years and during that time review and propose an improved SWMP. In that time, the District has established and refined the infrastructure for dealing with MS4 permit compliance activities within their jurisdiction through passage of the District of Columbia Storm Water Permit Compliance Amendment Act of 2000 (DC Law #13-311) in June, 2001; developed a monitoring program to determine the chemical and physical characteristics of the municipal storm water being discharged from the MS4 outfalls; performed an assessment of existing MS4 activities which contribute to the runoff being discharged into the MS4 system; provided an implementation plan for managing the MS4 activities within the District; and submitted an upgrade to their existing SWMP. The Permit coverage extends to all areas within the corporate boundaries of the District of Columbia served by, or otherwise contributing discharges, from the MS4 system, but does not include the District's combined or sanitary sewer systems. Rather than establishing specific numeric outfall effluent limits, the Environmental Protection Agency (EPA)

Exhibit 8

has established a combination of narrative and best management practices as the effluent limits in this permit in Section I requiring implementation of the Upgraded SWMP as a non numeric effluent limit consistent with 40 CFR Part 122.44(k)(2). As explained below EPA has determined that the Upgraded SWMP represents (1) the technology based level of pollution reduction achieved through the combination of best management practices (BMPs) controlling the quantity as well as the quality of pollutants in the MS4 to the maximum extent practicable (MEP); and (2) the implementation of the Upgraded SWMP (in conjunction with narrative prohibition in Section I.C. of the permit) is sufficient to ensure compliance with applicable water quality standards. The MS4 Permit characterizes and controls storm water, and because of the indiscriminate nature of storm water focuses on controls of the sources of pollutants through the use of Best Management Practices (BMPs) under existing Federal rules and regulations. EPA has also identified an effluent limit consistent with the applicable total maximum daily loads (TMDLs) waste load allocations (WLAs).

EPA's implementing regulations for Section 301(b)(1)(C) among other things prohibit the issuance of an NPDES permit "when imposition of conditions cannot ensure compliance with the applicable water quality requirements" and to ensure that adequately protective NPDES effluent limits are imposed whenever "a discharge causes, has the reasonable potential to cause or contributes to an in-stream excursion about the allowable ambient concentration" of an applicable water quality standard. See 40 CFR §§ 122.4(d) and 122.44(d)(1)(iii). EPA views the MS4 NPDES permit program as an iterative process requiring reexamination of ongoing controls and continued improvements to the respective storm water management programs of each facility while continuing to adequately protect the water quality of the receiving stream.

When the MS4 Permit was issued on April 19, 2000, it was subsequently appealed for a number of reasons. After the parties fully briefed the issues, the appeal resulted in two decisions finally by the Environmental Appeals Board (EAB) in February, 2002 and upon reconsideration in May, 2002. The focus of those appeals was on a total of nine issues which included compliance with water quality standards through the use of BMPs, rather than through establishing numeric effluent limits; aggregate versus single outfall discharge limits and monitoring procedures for the Hickey Run Total Maximum Daily Load (TMDL) in the Permit; EPA's determination that the MS4 would reduce storm water pollutant discharges to the Maximum Extent Practicable (MEP); the process for addressing SWMP deliverables and modifications during the Permit cycle; and the conflict in the use of "waivers and exemptions" between District and Federal storm water regulations. One of the issues which the EAB agreed with EPA included the finding that MS4 permits may have BMPs as permit effluent controls sufficient to meet water quality standards, specifically affirming the Agency's position that NPDES permits are not required to have numeric effluent limits (especially storm water permits) but rather may contain BMPs as permit controls. The EAB also observed that the numeric limit for the Hickey Run TMDL in the Permit saying that the Permit was not necessarily required to have outfall specific limits. On BMPs and MEP, EPA's position was upheld on our determinations that the SWMP and BMPs represent the controls sufficient to achieve reduction of pollutants to "the maximum extent practicable"(MEP); that the Permit properly allowed for

improvements and upgrades; that EPA properly allowed a three year compliance schedule; and that the Permit properly considers cost benefit information.

With regard to permit modifications, the EAB upheld the compliance schedule and extension of time provisions which were up to 120 days in the Permit. Issues remanded to the Region included establishing a record justifying that the MS4 effluent limits will "ensure compliance" necessary to meet applicable water quality standards; inclusion in the Permit of the methodology for monitoring procedures and requirements for either a narrative or the numeric standard to address the Hickey Run TMDL; revise the Permit to explain how major and minor modifications with regard to MS4 monitoring location and SWMP changes will be addressed; and clarification of the District's "waivers and exemptions"clause in the Permit. Since that time, consistent with the EAB's ruling on this issue, EPA has clarified through Amendment Numbers 1and 2 to the 2000 MS4 Permit how the MS4 is to be modified and addressing the different types of changes that may be required during the life of the permit. Amendment Number 2 also authorized a change in monitoring stations from the Anacostia watershed to the Rock Creek watershed. This Permit reflects those changes to the modification procedures and the monitoring stations. EPA has addressed the other remand issues in the fact sheet and/or in the reissued MS4 Permit.

ACTION TAKEN:

This action involves reissuing a second round National Pollutant Discharge Elimination System (NPDES) MS4 Permit to the Government of the District of Columbia. The reissued MS4 Permit will replace the one originally issued on April 19, 2000, and subsequently changed by Amendment Number 1 issued on January 12, 2001, and Amendment Number 2 issued on March 19, 2003. The reissued draft MS4 Permit was public noticed on November 14, 2003, for a thirty day review and comment period. EPA received four multiple comment letters from interested parties during the public comment period and has prepared individual responses to each of those letters (refer to MS4 Responsiveness Summary document). This permit incorporates information and schedules contained in the Upgraded SWMP as the primary pollutant control mechanism for addressing storm water issues during the next permitting cycle. Changes in the permit and Upgraded SWMP reflect information set forth in the District's First Annual Review dated April 19, 2001; the 2002 Annual Report dated April 19, 2002; the 2002 Implementation Plan dated April 19, 2002; and the Discharge Monitoring Report dated April 19, 2002; and which is supplemented by the 2003 Annual Report, the 2003 Implementation Plan, and the 2003 Discharge Monitoring Report, all of which are dated April 19, 2003. The Permit will require action and implementation of all MS4 activities by the permittee as set forth in this Permit and the Upgraded SWMP. The Permit promotes the demonstration of the effectiveness of various BMPs. The requirements of this Permit build on existing MS4 inventories, databases, and studies which support implementation of MS4 activities. Finally this Permit continues to require the development, collection and reporting of baseline and trend monitoring data under the District's current MS4 watershed-based monitoring program. Besides compliance with the conditions of this Permit, such information will be used to evaluate the overall effectiveness of current controls and direct the developments of additional controls to be taken to enhance the

District's storm water management program and provide further protection for water quality.

Based on the information available as described above for this Permit, EPA has determined that the District's Upgraded Storm Water Management Plan establishes controls that will reduce the discharge of pollutants to the maximum extent practicable consistent with EPA's MS4 storm water program requirements of Section 402(p)(3)(B)(iii) of the CWA. In reaching this conclusion, EPA reviewed not only the monitoring information discussed above, the TMDLs and resulting wasteload allocations (detailed in the Fact Sheet) but also the District's Annual Reports dated April 19, 2002 and April 19, 2003. In addition EPA also reviewed the District's Implementation Plans dated April 19, 2002 and April 19, 2003; the District's fifth Semi-Annual Report to the Mayor and City Council dated December 2003. To implement these requirements in the Permit, EPA has revised Part I.D. to clarify that the effluent limits for this permit are to implement the requirements set forth in the Upgraded Storm Water Management Plan. EPA has also provided a clarifying definition of the "maximum extent practicable" standard for the specific purposes in this MS4 Permit. The narrative effluent limits provide the performance-based standard for evaluating the environmental outcome of the storm water management activity which is being monitored for compliance. The Region finds that the Permit effluent limits and other requirements (such as those establishing "measurable performance standards" in Parts III.C.6 and III.D of the Permit) adequately hold the Permittee to continue meeting quantifiable outcomes tied to pollution reduction and real achievable results under the current system of annual permit deliverables.

Based on the following discussion, EPA finds that the Upgraded SWMP and the Permit effluent limits to implement that SWMP are sufficient to ensure compliance with applicable water quality standards. Because of continued uncertainty and lack of data regarding the efficiency of various BMPs, this Permit also includes substantial monitoring to verify and inform EPA's findings.

The District's Upgraded SWMP which EPA approved on October 29, 2003, set forth a framework for a long term storm water management control program under the reissued Permit for assessing its effectiveness in ensuring compliance with applicable water quality standards to the maximum extent practicable. The basic strategy for assessing the effectiveness of the Upgraded SWMP in meeting the applicable District water quality standards has been and continues to be dependent on the cyclic watershed monitoring and assessment program established under the current permit for assessing long term water quality impacts and trends, on specific BMP monitoring, where appropriate, and on the direct (i.e., number of BMPs installed; removal efficiencies; storm water volume reduction; event mean concentration reduction; pollutant loading reduction) and indirect (i.e., education of the public; monitoring for illicit discharges and construction impacts; cleaning of catch basin and streets; removal of floatables from District waterways) measurement systems of storm water management controls currently being implemented within the District. Within the next two years, the District will complete their initial baseline monitoring under the MS4 Permit and start with their next round of monitoring in the Anacostia, Rock Creek, and Potomac watersheds to be in a position to evaluate the

effectiveness of the storm water controls being implemented annually in achieving compliance with applicable water quality standards. This monitoring will serve to further inform and/or verify to EPA whether the Permit controls (including BMP effectiveness) are sufficient to ensure compliance with applicable water quality standards.

While the recommendations for each of the MS4 activities identified in the Upgraded SWMP will continue to be implemented during the reissued Permit cycle to ensure compliance with applicable water quality standards, District studies and reports indicate that there are over 350 BMPs installed currently to reduce the MS4 pollutants being discharged to the system, up to 60 tons per month during heavy rainfall periods of floating debris being removed from District waterways, 700 tons of trash per month being collected from 2,000 litter cans placed at bus stops and in heavy pedestrian traffic areas, approximately 6,000 tons of trash being cleaned annually through the catch basin program, and 5,298 construction sites inspected in FY2001 with 234 enforcement actions taken for violations of storm water regulations. Functional landscaping and low impact development (LID) practices will continue to be promoted and offered as cost effective means of addressing storm water management through site design modifications and implementation of BMPs. These practices encourage development in a hydrologically functional manner, consistent with the natural landscape. Between January, 2001, and February, 2002, the District's Department of Health approved 21 LID storm water management plans as demonstration projects. The 8th Street, S.E., pilot project scheduled for completion during FY 2004 by the Department of Transportation incorporates LID principles and will be used to evaluate the effectiveness of LID techniques within transportation capital projects to reduce storm water runoff and improve storm water quality. (Refer to Chapters 5 and 6 of the Storm Water Management Plan dated October 19, 2002, for additional information regarding MS4 activities).

As previously mentioned, the Permit to be reissued will build through implementation of BMPs and numeric criteria and program standards, where appropriate, on current projects already underway for each of the MS4 activities outlined in Part III.B of the existing Permit. This will be achieved through institutional and other accomplishments to date which included passage of the District's "Storm Water Permit Compliance Amendment Act of 2000" that created a permanent management infrastructure and funding source for implementing MS4 activities and additional actions under the existing Permit that increased District inspection and enforcement of MS4 activities; integrated BMPs and low impact development projects into all MS4 activities; enhanced informational databases for MS4 activities to support implementation; established programs to deal with source characterization and identification, snow and ice removal, and illicit discharge detection and correction; created a sampling program to monitor representative MS4 outfalls on a rotating subwatershed basis for the Anacostia River, Rock Creek, and Potomac River; and developed programs for educating the public and private sectors to effectively manage storm water.

On January 12, 2001, the Region issued Amendment No.1 to the existing Permit which clarified when the Permit would be reopened and modified in accordance with current NPDES

permit regulations. The Amendment was subsequently appealed to the EAB and packaged with the original appeal to be decided along with the February, 2002 ruling. The reissued Permit clarifies through the use of a reopener clause when modifications are appropriate and specifies throughout the Permit when major modifications to the Permit will be required. On March 19, 2003, the Region issued Amendment No. 2 to the existing Permit which authorized changes to the District's monitoring program shifting the stations and associated MS4 outfall locations from the Anacostia River subwatershed to the Rock Creek subwatershed and further discussed the modification issue. The outstanding issues remanded to the Region by the EAB which still remain are discussed below along with an explanation of how they are to be addressed in the reissued Permit.

Hickey Run is a very small tributary to the Anacostia River. The drainage area is a mere 1.7 square miles. The upper reach is essentially a closed stream and the lower reach an open channel. The headwaters of Hickey Run consist of underground storm sewer pipes with outfalls that are very close to each other. Through four outfalls, the storm sewer gives way to an open stream channel. The stream flows through the National Arboretum for less than a mile before meeting the Anacostia River. The stream has been historically plagued by illegal oil and grease dumping. Above the open stream, there are a number of transportation-related facilities in the watershed (gas stations, repair shops, etc.), many of which have not properly disposed of waste oil in the past. Also, oil and grease flush into the storm sewer system during rain storms.

While much of the oil and grease originates from nonpoint sources in the upper half of the Hickey Run watershed upstream from the four outfalls, these pollutants find their way to the storm sewer system and are thus classified as point sources in the Hickey Run TMDL. The open channel that flows through the National Arboretum in the lower half of the watershed picks up oil and grease from groundwater and sediments as well as occasional illegal dumping. These sources make up the nonpoint source load. The following table shows the percent of the total load of the pollutants from point and nonpoint sources.

Source	Percent of Total Load	
	Existing Conditions	After the TMDL
Point Source (4 outfalls)	88.9%	44%
Nonpoint Source	11.1%	31%
Margin of Safety	0.0%	25%

The TMDL required a wasteload allocation of 11.9 lbs/day of oil and grease at a stream flow in Hickey Run of 0.5 cubic feet per second representing the load from these four sewer outfalls. The effluent limit is 11.9 lbs per day for the MS4 discharge to Hickey Run.

Monitoring for oil and grease in Hickey Run is presently conducted by the District at their

ambient sampling site identified as THRO1 and the MS4 site identified in the existing Permit. Current monitoring data collected at both locations indicate that this parameter consistently meets the water quality standard criteria of 10 mg/l and should be no longer be considered a pollutant of concern. The improved conditions for oil and grease within the Hickey Run subwatershed are attributed to the use of source controls and effective enforcement actions. Work will still continue in the Hickey Run subwatershed under this Permit by implementing additional techniques designed to identify violators and structural controls for ensuring TMDL requirements are met on a continuous basis. One of the measures which the District intends to pursue under this Permit is the establishment of a BMP structure below the largest outfall from Hickey Run prior to it becoming an open channel through the National Arboretum as a means to ensuring full compliance with the applicable water quality standard criterion. Development of a monitoring program for measuring the effectiveness and performance of the BMP in achieving the TMDL endpoint of 10mg/l for oil and grease is a provision of the Memorandum of Understanding which was signed in January, 2004 with the agencies responsible for the project. The aggregate approach and the setting of one limit at this outfall for monitoring the TMDL was decided based on the configuration of the enclosed stream, the volume of storm water that the outfall contributes to the open channel and that the ambient monitoring site downstream of the four outfalls that comprise Hickey Run has not shown oil and grease violations.

When the oil and grease TMDL for Hickey Run was developed, a single wasteload allocation (WLA) was assigned to the combined four outfalls that comprised the man-made reconfigured piped stream prior to it becoming a natural waterway in the vicinity of the National Arboretum. The 2000 MS4 Permit based a numeric effluent limit on that WLA and determined that the single numeric effluent limit was an appropriate control for all four outfalls because as discussed below the three downstream outfalls of the current MS4 monitoring site were not considered to be contributors to the oil and grease problem. That limit had a three year compliance schedule before it became effective. Because of the NPDES permit appeal and subsequent remand, that limit never became effective.

EPA now has two years of water quality monitoring data from the representative MS4 site for Hickey Run which demonstrates that the numeric criteria of 10mg/l is being met during wet weather events. Further evidence that the oil and grease criteria is being met is shown through monitoring records from the long established Hickey Run ambient sampling site further downstream which is maintained by the District of Columbia Department of Health under their Section.106 Program. EPA further notes that the improvement can be attributed to the source controls through the use of effective BMPs in the upper parts of the subwatershed in reducing the wasteload allocations initially entering each of the four outfalls to which the wasteload allocations in the TMDL were assigned (at the point of reentry into the main stream at the National Arboretum). Based on the above information regarding current achievement of the WLA through the SWMP BMPs, the Region has reconsidered the specific numeric effluent limit and has adopted a non-numeric narrative effluent limit (subsumed in the Part I.D.1, 2 and 3 narrative effluent limits) consistent with EPA regulations and the applicable WLA. EPA has also identified continued representative monitoring for Hickey Run to ensure that the current effluent

limits are sufficient to protect water quality consistent with the WLA in Part VI of the Permit. EPA notes that in addition the District has committed to install a structural floatable control BMP in the lower part of the Hickey Run subwatershed and to develop a comprehensive MS4 retrofit program in the headwaters of the subwatershed which is discussed in Chapter 3.0 of the 2004 Annual Report included in the final administrative record for the reissued Permit. This BMP will also further control oil and grease. While the installation of this control device is not a requirement of the Permit, the structure will reinforce the permittee's goal of continuing to maintain compliance with the oil and grease criteria established in the water quality standards and the WLA. Since EPA has adopted a narrative effluent limit applicable to the Hickey Run outfalls and representative monitoring consistent with 40 CFR 122.26 and 122.44 (k)(2), the EAB's remand of the numeric effluent limit and requisite monitoring procedures is moot.

Initiated two years ago, the District's continuous monitoring program under the MS4 has been limited to the sampling of representative MS4 sites in the Anacostia River subwatershed which includes the Hickey Run station. While the program is being designed to rotate the sampling to encompass the Rock Creek and Potomac River subwatersheds to establish baseline information and trend data to evaluate MS4 performance, the Region reaches the following conclusions based on the storm water data sampled to date from the Anacostia River subwatershed. The storm water data sampled reveals minor or no loads of volatile organic compounds, acid extractable compounds, base/neutral compounds, pesticides, polychlorinated biphenyls (PCBs), or dioxin. A number of metals are contributed in minor amounts; highest among these are copper and zinc. Moderate loads of nutrients were contributed, while significant loads of suspended and dissolved solids, fecal coliforms, and fecal streptococcus should be noted. Oil and grease, even at the Hickey Run storm water monitoring site, are no longer major pollutants of concern based on the available data and according to the draft 303(d) list mentioned previously in the fact sheet. While this information represents only one of the three watersheds to be monitored, it would appear that sediments, bacteria, and nutrients pose the greatest concern from the MS4 discharges at this time and that the potential for causing or contributing to water quality standard exceedances from the other parameters being monitored are relatively low.

The monitoring results from the April 19, 2002, and 2003, Discharge Monitoring Reports show the water quality standard criteria for oil and grease (10mg/l) being met during storm water sampling events at the MS4 representative station for Hickey Run. This would indicate that Best Management Practices (BMPs)required by the previous Permit applied throughout the Hickey Run watershed are being effectively managed providing adequate controls to ensure achievement of the applicable water quality criteria and TMDL wasteload allocation. The signed agreement between the District of Columbia Government and the National Arboretum to install a BMP project to control oil and grease and trash is viewed as a further measure of compliance on Hickey Run as the stream reestablishes itself to a viable waterway before crossing National Arboretum property prior to entering the Anacostia River.

The strategy and approach set forth in the Upgraded SWMP has been successfully demonstrated in the Hickey Run watershed. In that watershed a series of source controls and

enforcement actions have resulted in achievement of the applicable water quality criteria and applicable wasteload allocation of 10mg/l water based on the monitoring data collected over the last two years.(see Discharge Monitoring Reports dated April19, 2002 and April 19, 2003) Based on that monitoring data, the criteria is being met during storm water events even through the low flow (base flow) was used in the Hickey Run TMDL effluent limit calculations. The District has determined that oil and grease is no longer a pollutant of concern as demonstrated by the District's draft 303(d) list (the list of impaired waterbodies). In that list, the District has proposed delisting the Hickey Run as a waterbody impaired by oil and grease as identified on previous 303(d) lists. Based on the information described above, the Region has thus determined that consistent with 40 CFR 122.44(d)(1) and EPA's Technical Support Document for Water Quality-Based Toxics Control that the BMP controls provided by the reissued Permit will be sufficient to ensure that the discharge from the Hickey Run outfalls will not cause or contribute to an exceedance of applicable water quality criteria for oil and grease. Work will still continue under the reissued Permit in the watershed however, through continued implementation of techniques for identifying and enforcing against illicit discharges, source control measures, and structural BMPs to provide preventative control measures for ensuring compliance with the applicable oil and grease water quality standard.

To further ensure compliance with water quality standards in addition to the non numeric limit requiring the use of BMPs identified in the SWMP, the Permit establishes narrative effluent limits identified in Parts I.C. and I.D of the reissued Permit which prohibits the permittee from discharging pollutants from the MS4 system to District waterways that could cause or result in an exceedance of applicable water quality standards. In further support of our determination that this MS4 Permit requires controls to reduce the discharge of pollutants to the "maximum extent practicable" (MEP) in accordance with Section 402(p)(3)(B)(iii) of the Clean Water Act which was specified previously in the fact sheet, EPA has added a definition of MEP in Part X of the reissued Permit. The permittee is also required in Part IX.B and IX.C. of the reissued Permit to demonstrate compliance with the effluent limits through the Annual Discharge Monitoring Report with the storm water component of any approved TMDL within the District [Refer to November 22, 2002, memorandum entitled, "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs] and when an exceedance occurs, to recommend a remedial course of action through the Annual Implementation Plan for correction to the maximum extent practicable within the permitting cycle. Language has been included in Part IX.A of the reissued Permit to say that "waivers and exemptions" under District law that are not consistent with applicable Clean Water Act requirements, regulations, policy, or guidance are prohibited; and, as such, this Permit does not authorize the discharge of any pollutant through such waivers, etc. The District's monitoring program for establishing baseline and trend data in the reissued Permit for determining BMP performance and compliance with water quality standards includes a complete set of MS4 representative sampling sites for the Anacostia and Potomac Rivers and Rock Creek.

Based in part on comments and on the analysis set forth above regarding the effluent limits developed to ensure compliance with water quality standards, EPA has adopted a narrative

effluent limit to the Part I.D.3 of the Permit that EPA has determined to be consistent with the applicable TMDL WLAs. EPA has determined that a combination of the narrative prohibition on discharges that "cause or contribute to the exceedance of the District's water quality standard in Part I.C.2 of the Permit along with the effluent limitations identified in Part I.D.2 (primarily through implementation of the Upgraded Storm Water Management Plan) are sufficient to ensure compliance with the those water quality standards and are moreover consistent with the applicable TMDL WLAs. Since no implementation plan was part of the approved TMDL or WLA (nor is such a plan a requisite element of a TMDL), EPA has determined that in addition to the effluent limits it is appropriate that the Permit require the development of an implementation plan to determine whether the controls are sufficient and/or whether additional controls are necessary to further reduce the discharge of particular pollutants. The Permit is written as an action document to require implementation and to minimize delays. Part III.A of the Permit requires submission of these implementation plans as part of the compliance schedule. The Permittee is required to submit implementation plans for all of the applicable TMDL WLAs in the Anacostia River and Rock Creek watersheds. (Hickey Run is addressed in a separate Section VI of the Permit.) The Permit also requires the Permittee to describe the past practices and activities that have been implemented to achieve the reductions, the environmental benchmarks by which performance may be appropriately measured and any additional practices or controls that may be necessary for achieving the necessary reductions identified in the applicable WLA. The Permit requires submission of these plans to EPA and a review and decision to approve or disapprove (and resubmit the plan) by the Region. The Permit includes a specific Permit reopener authorizing EPA to formally modify the Permit in the event that EPA determines additional NPDES controls are necessary to be consistent with the WLAs. The Region expects that such additional may be necessary for some parameters but not others, but is moving forward to gather that information and make an informed decision.

To clarify the narrative effluent limits developed consistent with the applicable TMDL wasteload allocations identified in Part I.D.3 of the reissued Permit, EPA has identified all applicable TMDL WLAs with their associated reductions from the most current estimated loadings available at this time and included them in the attached table, hereafter known as Appendix A, to the fact sheet. Appendix A is intended to summarize the applicable approved TMDL WLA information as it relates to the DC MS4 as of the effective date of the Permit. Each waterbody is identified by its pollutant(s) of concern, the existing baseline loads estimated to originate from the MS4s, corresponding units for these loads, and the load reduction percentage associated with each TMDL WLA. The figures relate only to the MS4 portion of the total stormwater load allocation, and associated reduction for each waterbody. The TMDL WLA for the MS4 were determined by estimating total MS4 loads through modeling, identifying the dimensions of each permitted watershed, and proportionally assigning pollutant loads to each MS4 sewershed for each waterbody. Appendix A is a compilation of data extracted from the final District of Columbia TMDLs, EPA TMDL decision rationales, and supporting information. Appendix A is for informational purposes only and is intended as a guide to assist the permittee with implementing and evaluating the effectiveness of MS4 Permit controls developed consistent with the approved WLAs. The applicable approved TMDL documents should be consulted

regarding specific details concerning the development and explanation of the MS4 WLA information identified in Appendix A.

In response to the remand from the EAB and various commenters to the draft Permit, EPA has adopted a Permit provision IX.A that specifically prohibits any discharge that the District could otherwise allow through such a waiver or exemption issued under District laws. Such a discharge would not be authorized by this Permit and as such could constitute a violation of the terms of this Permit.

In its decision of the appeals of the 2000 MS4 Permit, the EAB remanded to the Region that the District's Section 401 certification could not be relied on solely as a mechanism for concluding that the document would in fact achieve water quality standards (WQS) and that an additional record of support would be needed by the Region. In response, EPA requested Section 401 certification of the second round draft MS4 Permit from the District's Department of Health at the time of the public comment and review period. The information used as the basis for our rationale discussed in the fact sheet and comments received during the public noticing period which are addressed in the responsiveness summary to comments as well as the Upgraded SMWP and associated MS4 Permit deliverables has been used by the Department to establish a record of support for their decision. The Section 401 certification which EPA Region III received from the Department of Health and which is part of the administrative record concludes that the second round draft MS4 Permit will ensure compliance with applicable WQS. The EPA Regional office accepts the Section 401 certification from the Department of Health with the understanding that the Region is not basing its reliance solely on the certification but on the record of support which is discussed above that the Department used during this process to arrive at the conclusions which are stated in the certification letter.

EPA consultations under the Endangered Species Act with the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration Marine Fisheries Service (NOAA Fisheries) were conducted as part of the public comment on the draft Permit. Both Services agreed with the findings of the biological evaluation prepared by the Region that the storm water discharges covered under the MS4 Permit would not adversely affect Federally listed endangered and/or threatened species located within the permitted area. EPA has included copies of the correspondence (letters dated December 30, 2003, from NOAA Fisheries and dated February 11, 2004, from USFWS) in the final administrative record for the reissued Permit.

For more information, contact Mr. Garrison D. Miller, mail code 3WP13, Office of Watersheds, EPA Region III, Environmental Protection Agency, 1650 Arch Street, Philadelphia, Pennsylvania 19103-2029.

Attachment (Appendix A)
District of Columbia MS4 Waste Load Allocations (WLAs) with Legend of Terms

Explanation of Terms for the TMDL Table

Column 1 - Stream segment name and number of pollutants for which TMDLs have been prepared.

Column 2 - The "Pollutant" column identifies the pollutant determined to cause a water quality impairment of a specific stream for which a TMDL was established:

BOD - Biochemical Oxygen Demand
TSS - Total Suspended Solids
Polynuclear Aromatic Hydrocarbons - PAH1, PAH2, PAH3. Classes of similar compounds grouped according to the number of carbon rings. Occur naturally in oil, coal, coal tar, and creosote; also result from incomplete combustion of hydrocarbons such as coal and oil.
Chlordane - A pesticide
Heptachlor Epoxide - A pesticide
Dieldrin - An insecticide
DDT - A pesticide banned in 1972. DDD and DDE are two products resulting from the breakdown of DDT that are more toxic than DDT itself.
TPCB - Total Polychlorinated biphenyls were used as insulators for electrical equipment.

Column 3 - "Existing MS4 Load" identifies the estimated numerical quantity of pollutant discharged from the MS4 system. In many cases, the quantity and quality of the available water quality data regarding MS4 discharges was limited.

Column 4 - "TMDL MS4 WLA" identifies the waste load allocation portion of the total maximum daily load that may be discharged from the MS4 system.

Column 5 - "Units" describes how each numerical quantity is understood.

tons/G.S. - Tons per growing season. Growing season extends from April 1 through October 1.
lbs. for 3 yrs. - Describes the three year load in pounds. To get the annual load in pounds, must divide by three.
MPN/100ml - Describes fecal coliform bacteria count in terms of the Most Probable Number per 100 milliliters of solution

Column 6 - "MS4 % Reduction" describes the percentage decrease of individual pollutant loads from the estimated "Existing MS4 Load" necessary to achieve the to the "TMDL MS4 WLA."

"Unknown" - Refers to the current status of associated 'staged' TMDL and the need for additional data to quantify loads. Data will be collected in second stage of TMDL through a monitoring plan (See, e.g., Anacostia Oil & Grease TMDL and Approval Rationale for a more detailed discussion and/or the District's commitment to do follow up monitoring)..

District of Columbia MS4 WLAs

Upper Anacostia	Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Fecal Coliform Bacteria		4.40E+14	MPN/ 100 ml	90%
2	BOD	1.677E+05	8.10E+04	lbs/yr.	50%
3	Nitrogen	4.382E+04	2.92E+04	lbs/yr.	30%
4	Phosphorus	7.205E+03	4.88E+03	lbs/yr.	30%
5	TSS	1.468E+06	1.13E+02	tons/G.S.	77%
6	Oil/Grease	Unknown	3.70E+02	lbs/day	Unknown
7	Zinc	2.385E+03	2.361E+03	lbs/yr.	0%
8	Lead	3.916E+02	3.877E+02	lbs/yr.	0%
9	Copper	7.986E+02	7.906E+02	lbs/yr.	0%
10	Arsenic	1.217E+01	2.054E+00	lbs/yr.	85%
11	PAH1	9.759E+00	1.932E-01	lbs/yr.	98%
12	PAH2	5.777E+01	1.144E+00	lbs/yr.	98%
13	PAH3	57.76615488	1.144E+00	lbs/yr.	98%
14	Chlordane	1.423E-01	1.409E-02	lbs/yr.	90%
15	Heptachlor Epoxide	2.065E-02	4.089E-03	lbs/yr.	80%
16	Dieldrin	1.182E-02	8.192E-03	lbs/yr.	31%
17	DDD	5.265E-02	5.212E-03	lbs/yr.	90%
18	DDE	1.286E-01	1.273E-02	lbs/yr.	90%
19	DDT	3.443E-01	3.409E-02	lbs/yr.	90%
20	TPCB		3.522E-01	lbs/yr.	0%
Lower Anacostia	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Fecal Coliform Bacteria		7.70E+13	MPN/ 100 ml	90%
2	BOD	1.070E+05	5.17E+04	lbs/yr.	50%
3	Nitrogen	2.299E+04	1.53E+04	lbs/yr.	30%
4	Phosphorus	3.769E+03	2.63E+03	lbs/yr.	30%
5	TSS	7.101E+05	7.54E+01	tons/G.S.	77%
6	Oil/Grease	Unknown	2.024E+02	lbs/day	Unknown
7	Zinc	1.339E+03	1.326E+03	lbs/yr.	0%
8	Lead	2.215E+02	2.193E+02	lbs/yr.	0%
9	Copper	2.287E+02	2.192E+02	lbs/yr.	0%
10	Arsenic	2.025E+01	3.415E+00	lbs/yr.	83%
11	PAH1	5.330E+00	1.055E-01	lbs/yr.	98%
12	PAH2	3.240E+01	6.415E-01	lbs/yr.	98%
13	PAH3	3.240E+01	6.415E-01	lbs/yr.	98%
14	Chlordane	7.855E-02	7.777E-03	lbs/yr.	90%
15	Heptachlor Epoxide	1.008E-02	2.082E-03	lbs/yr.	79%
16	Dieldrin	5.019E-03	3.478E-03	lbs/yr.	31%
17	DDD	8.746E-02	8.658E-03	lbs/yr.	90%
18	DDE	2.136E-01	2.115E-02	lbs/yr.	90%
19	DDT	5.720E-01	5.663E-02	lbs/yr.	90%
20	TPCB		2.023E-01	lbs/yr.	0%
Kingman Lake	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Oil and Grease	Not Detected	1.278E+03	lbs/day	0%
2	Fecal Coliform Bacteria	3.849E+11	1.720E+11	MPN/ 100 ml	27%
3	Arsenic	2.650E-01	3.970E-02	lbs/yr.	85%
4	Copper	9.978E+00	1.000E+01	lbs/yr.	0%
5	Lead	4.872E+00	4.870E+00	lbs/yr.	0%
6	Zinc	2.974E+01	2.980E+01	lbs/yr.	0%
7	Chlordane	1.784E-03	1.780E-04	lbs/yr.	90%
8	DDD	1.301E-03	1.300E-04	lbs/yr.	70%
9	DDE	2.873E-03	2.870E-04	lbs/yr.	70%
10	DDT	7.766E-03	7.770E-03	lbs/yr.	97%
11	Dieldrin	1.598E-04	1.120E-04	lbs/yr.	30%
12	Heptachlor Epoxide	2.694E-04	5.390E-05	lbs/yr.	80%
13	PAH1	1.226E-01	1.200E-01	lbs/yr.	98%
14	PAH2	7.219E-01	7.080E+00	lbs/yr.	98%
15	PAH3	4.594E-01	4.500E-01	lbs/yr.	98%
16	TPCB				
Fort Chaplin	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Arsenic	1.266E+00	3.760E-01	lbs for 3 yrs.	70%
2	Copper	4.620E+01	1.829E+01	lbs for 3 yrs.	65%
3	Lead	2.214E+01	7.670E+00	lbs for 3 yrs.	65%

4	Zinc	1.366E+02	1.339E+02	lbs for 3 yrs.	0%
Fort Stanton	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Arsenic	1.699E-01	5.046E-02	lbs for 3 yrs.	70%
2	Copper	6.273E+00	2.484E+00	lbs for 3 yrs.	55%
3	Lead	1.704E-01	6.748E-02	lbs for 3 yrs.	65%
4	Zinc	1.712E-01	1.695E-01	lbs for 3 yrs.	0%
5	Chlordane	1.132E-03	1.682E-04	lbs for 3 yrs.	85%
6	DDD	9.440E-04	9.346E-05	lbs for 3 yrs.	90%
7	DDE	1.895E-03	1.486E-04	lbs for 3 yrs.	92%
8	DDT	5.171E-03	1.536E-04	lbs for 3 yrs.	97%
9	Dieldrin	1.170E-04	2.340E-05	lbs for 3 yrs.	80%
10	Heptachlor Epoxide	7.513E-03	1.841E-05	lbs for 3 yrs.	90%
11	PAH1	7.831E-02	7.752E-02	lbs for 3 yrs.	0%
12	PAH2	4.528E-01	8.875E-03	lbs for 3 yrs.	98%
13	PAH3	2.871E-01	5.629E-03	lbs for 3 yrs.	98%
14	TPCBs			lbs/yr.	99.90%
Fort Davis	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Arsenic	3.300E-01	9.800E-02	lbs for 3 yrs.	70%
2	Copper	1.184E+01	4.690E+00	lbs for 3 yrs.	60%
3	Lead	5.624E+00	1.949E+00	lbs for 3 yrs.	65%
4	Zinc	3.488E+01	3.453E+01	lbs for 3 yrs.	0%
Fort Dupont	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Arsenic	5.560E-01	1.651E-01	lbs for 3 yrs.	70%
2	Copper	1.933E+01	7.654E+00	lbs for 3 yrs.	50%
3	Lead	8.994E+00	3.561E+00	lbs for 3 yrs.	60%
4	Zinc	2.338E+02	5.589E+01	lbs for 3 yrs.	0%
Nash Run	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Arsenic	3.462E+00	8.569E-01	lbs for 3 yrs.	75%
2	Copper	1.337E+02	5.293E+01	lbs for 3 yrs.	60%
3	Lead	6.614E+01	1.965E+01	lbs for 3 yrs.	70%
4	Zinc	4.007E+02	3.967E+02	lbs for 3 yrs.	0%
5	Chlordane	2.349E-02	3.488E-03	lbs for 3 yrs.	85%
6	DDD	1.404E-02	1.390E-03	lbs for 3 yrs.	90%
7	DDE	3.610E-02	2.859E-03	lbs for 3 yrs.	92%
8	DDT	9.623E-02	2.858E-03	lbs for 3 yrs.	97%
9	Dieldrin	1.645E-03	3.290E-04	lbs for 3 yrs.	80%
10	Heptachlor Epoxide	3.146E-03	3.115E-04	lbs for 3 yrs.	90%
11	PAH1	1.610E+00	1.594E+00	lbs for 3 yrs.	0%
12	PAH2	9.696E+00	1.920E-01	lbs for 3 yrs.	98%
13	PAH3	6.150E+00	1.230E-01	lbs for 3 yrs.	98%
14	TPCBs				
Popes Branch	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Arsenic	1.763E+00	5.237E-01	lbs for 3 yrs.	70%
2	Copper	6.483E+01	2.567E+01	lbs for 3 yrs.	60%
3	Lead	3.122E+01	1.082E+01	lbs for 3 yrs.	65%
4	Zinc	1.921E+02	1.902E+02	lbs for 3 yrs.	0%
5	Chlordane	1.172E-02	1.740E-03	lbs for 3 yrs.	85%
6	DDD	1.007E-02	7.582E-04	lbs for 3 yrs.	90%
7	DDE	3.610E-02	1.568E-03	lbs for 3 yrs.	92%
8	DDT	5.414E-02	1.608E-03	lbs for 3 yrs.	97%
9	Dieldrin	1.250E-03	2.500E-04	lbs for 3 yrs.	80%
10	Heptachlor Epoxide	1.962E-03	1.942E-04	lbs for 3 yrs.	90%
11	PAH1	1.944E+00	8.746E-01	lbs for 3 yrs.	0%
12	PAH2	4.675E+00	9.166E-02	lbs for 3 yrs.	98%
13	PAH3	2.950E+00	5.900E-02	lbs for 3 yrs.	98%
14	TPCB				
Texas Ave. Tributary	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Arsenic	1.341E+00	3.984E-01	lbs for 3 yrs.	70%
2	Copper	4.996E+01	1.978E+01	lbs for 3 yrs.	60%
3	Lead	1.343E+00	4.653E-01	lbs for 3 yrs.	65%
4	Zinc	1.351E+00	1.337E+00	lbs for 3 yrs.	0%
5	Chlordane	8.975E-03	1.333E-03	lbs for 3 yrs.	85%
6	DDD	7.059E-03	6.989E-04	lbs for 3 yrs.	90%

7	DDE	1.477E-02	1.170E-03	lbs for 3 yrs.	92%
8	DDT	4.012E-02	1.180E-03	lbs for 3 yrs.	97%
9	Dieldrin	8.700E-04	1.740E-04	lbs for 3 yrs.	80%
10	Heptachlor Epoxide	1.420E-03	1.406E-04	lbs for 3 yrs.	90%
11	PAH1	6.192E-01	6.130E-01	lbs for 3 yrs.	0%
12	PAH2	3.609E+00	7.075E-02	lbs for 3 yrs.	98%
13	PAH3	2.250E+00	4.500E-02	lbs for 3 yrs.	98%
14	TPCB				
Upper Watts Branch	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	TSS	2.220E+01	9.900E+00	tons/yr	55%
2	Chlordane	6.509E-02	9.533E-03	lbs for 3 yrs.	85%
3	DDD	4.000E-02	3.960E-03	lbs for 3 yrs.	90%
4	DDE	9.987E-02	7.908E-03	lbs for 3 yrs.	92%
5	DDT	1.334E-02	3.962E-04	lbs for 3 yrs.	97%
6	Dieldrin	4.725E-03	9.450E-04	lbs for 3 yrs.	80%
7	Heptachlor Epoxide	8.913E-03	8.704E-04	lbs for 3 yrs.	90%
8	PAH1	4.419E+00	4.375E+00	lbs for 3 yrs.	0%
9	PAH2	2.650E+01	5.194E-01	lbs for 3 yrs.	98%
10	PAH3	1.675E+01	3.350E-01	lbs for 3 yrs.	98%
11	TPCB				
Lower Watts Branch	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	TSS	8.200E+00	3.700E+00	tons/yr	55%
2	Chlordane	2.478E-02	3.813E-03	lbs for 3 yrs.	85%
3	DDD	1.556E-02	1.541E-03	lbs for 3 yrs.	90%
4	DDE	3.886E-02	3.077E-03	lbs for 3 yrs.	92%
5	DDT	5.190E-03	1.542E-04	lbs for 3 yrs.	97%
6	Dieldrin	1.840E-03	3.680E-04	lbs for 3 yrs.	80%
7	Heptachlor Epoxide	3.393E-03	3.482E-04	lbs for 3 yrs.	90%
8	PAH1	1.719E+00	1.702E+00	lbs for 3 yrs.	0%
9	PAH2	1.031E+01	2.021E-01	lbs for 3 yrs.	98%
10	PAH3	6.500E+00	1.300E-01	lbs for 3 yrs.	98%
11	TPCB				
Hickey Run	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Chlordane	5.761E-02	8.556E-03	lbs for 3 yrs.	85%
2	DDD	3.261E-02	3.197E-03	lbs for 3 yrs.	90%
3	DDE	8.707E-02	6.896E-03	lbs for 3 yrs.	92%
4	DDT	2.314E-01	6.872E-03	lbs for 3 yrs.	97%
5	Dieldrin	3.436E-02	6.872E-03	lbs for 3 yrs.	80%
6	Heptachlor Epoxide	7.510E-03	7.435E-04	lbs for 3 yrs.	90%
7	PAH1	3.922E+00	7.765E-02	lbs for 3 yrs.	0%
8	PAH2	2.372E+01	4.649E-01	lbs for 3 yrs.	98%
9	PAH3	1.502E+01	3.004E-01	lbs for 3 yrs.	98%
10	TPCB				
Upper Rock Creek	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Fecal Coliform Bacteria	1.265E+15	6.266E+13	MPN/ 100 ml	95%
2	Copper	155.600	147.820	lbs/yr.	0%
3	Lead	71.820	9.550	lbs/yr.	86%
4	Zinc	365.040	346.790	lbs/yr.	0%
5	Mercury	3.800E-01	5.500E-02	lbs/yr.	85%
Lower Rock Creek	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Fecal Coliform Bacteria	4.457E+14	2.206E+13	MPN/ 100 ml	95%
2	Copper	149.670	142.190	lbs/yr.	0%
3	Lead	69.080	9.190	lbs/yr.	86%
4	Zinc	351.140	333.580	lbs/yr.	0%
5	Mercury	3.600E-01	5.300E-02	lbs/yr.	85%
Broad Branch	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Chlordane	1.895E-02	2.815E-03	lbs/yr	85%
2	DDD	1.393E-02	1.379E-03	lbs/yr	90%
3	DDE	3.059E-02	2.423E-03	lbs/yr	92%
4	DDT	8.271E-02	2.457E-03	lbs/yr	97%
5	Dieldrin	1.713E-03	3.391E-04	lbs/yr	80%
6	HeptachlorEpoxide	2.875E-03	2.847E-04	lbs/yr	90%
7	PAH1	1.303E+00	1.290E+00	lbs/yr	0%

8	PAH2	7.665E+00	1.518E-01	lbs/yr	98%
9	PAH3	4.877E+00	9.656E-02	lbs/yr	98%
10	TPCB	1.275E-01	1.275E-04	lbs/yr	100%
Dumbarton Oaks	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Chlordane	4.193E-04	6.225E-05	lbs/yr	85%
2	DDD	2.426E-04	2.401E-05	lbs/yr	90%
3	DDE	6.369E-04	5.043E-05	lbs/yr	92%
4	DDT	1.695E-03	5.032E-05	lbs/yr	97%
5	Dieldrin	2.860E-05	5.661E-06	lbs/yr	80%
6	HeptachlorEpoxide	5.532E-05	5.475E-06	lbs/yr	90%
7	PAH1	2.856E-02	2.827E-02	lbs/yr	0%
8	PAH2	1.724E-01	3.413E-03	lbs/yr	98%
9	PAH3	1.103E-01	2.183E-03	lbs/yr	98%
10	TPCB	2.736E-03	2.736E-06	lbs/yr	99.90%
Fenwick Branch	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Chlordane	3.317E-03	4.926E-04	lbs/yr	85%
2	DDD	2.747E-03	2.719E-04	lbs/yr	90%
3	DDE	5.542E-03	4.389E-04	lbs/yr	92%
4	DDT	1.511E-02	4.489E-04	lbs/yr	97%
5	Dieldrin	3.435E-04	6.801E-05	lbs/yr	80%
6	HeptachlorEpoxide	5.424E-04	5.369E-05	lbs/yr	90%
7	PAH1	2.294E-01	2.271E-01	lbs/yr	0%
8	PAH2	1.328E+00	2.630E-02	lbs/yr	98%
9	PAH3	8.425E-01	1.668E-02	lbs/yr	98%
10	TPCB	2.275E-02	2.275E-05	lbs/yr	99.90%
Klingle Valley	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Chlordane	9.244E-03	1.373E-03	lbs/yr	85%
2	DDD	5.529E-03	5.473E-04	lbs/yr	90%
3	DDE	1.415E-02	1.121E-03	lbs/yr	92%
4	DDT	3.774E-02	1.121E-03	lbs/yr	97%
5	Dieldrin	6.561E-04	1.299E-04	lbs/yr	80%
6	HeptachlorEpoxide	1.242E-03	1.230E-04	lbs/yr	90%
7	PAH1	6.305E-01	6.242E-01	lbs/yr	0%
8	PAH2	3.794E+00	7.511E-02	lbs/yr	98%
9	PAH3	2.424E+00	4.800E-02	lbs/yr	98%
10	TPCB	6.046E-02	6.046E-05	lbs/yr	99.90%
Luzon Branch	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Chlordane	3.226E-03	4.790E-04	lbs/yr	85%
2	DDD	1.974E-03	1.954E-04	lbs/yr	90%
3	DDE	4.965E-03	3.932E-04	lbs/yr	92%
4	DDT	1.326E-02	3.938E-04	lbs/yr	97%
5	Dieldrin	2.352E-04	4.658E-05	lbs/yr	80%
6	HeptachlorEpoxide	4.392E-04	4.348E-05	lbs/yr	90%
7	PAH1	2.202E-01	2.180E-01	lbs/yr	0%
8	PAH2	1.322E+00	2.617E-02	lbs/yr	98%
9	PAH3	8.444E-01	1.672E-02	lbs/yr	98%
10	TPCB	2.117E-02	2.117E-05	lbs/yr	99.90%
Melvin-Hazen	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Chlordane	3.583E-03	5.321E-04	lbs/yr	85%
2	DDD	2.200E-03	2.178E-04	lbs/yr	90%
3	DDE	5.520E-03	4.372E-04	lbs/yr	92%
4	DDT	1.474E-02	4.379E-04	lbs/yr	97%
5	Dieldrin	2.623E-04	5.194E-05	lbs/yr	80%
6	HeptachlorEpoxide	4.888E-04	4.839E-05	lbs/yr	90%
7	PAH1	2.446E-01	2.422E-01	lbs/yr	0%
8	PAH2	1.468E+00	2.907E-02	lbs/yr	98%
9	PAH3	9.377E-01	1.857E-02	lbs/yr	98%
10	TPCB	2.355E-02	2.355E-05	lbs/yr	99.90%
Normanstone Creek	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Chlordane	5.233E-03	7.771E-04	lbs/yr	85%
2	DDD	3.363E-03	3.329E-04	lbs/yr	90%
3	DDE	8.152E-03	6.457E-04	lbs/yr	92%
4	DDT	2.184E-02	6.487E-04	lbs/yr	97%

5	Dieldrin	4.044E-04	8.008E-05	lbs/yr	80%
6	HeptachlorEpoxide	7.328E-04	7.255E-05	lbs/yr	90%
7	PAH1	3.579E-01	3.543E-01	lbs/yr	0%
8	PAH2	2.137E+00	4.232E-02	lbs/yr	98%
9	PAH3	1.364E+00	2.701E-02	lbs/yr	98%
10	TPCB	3.457E-02	3.457E-05	lbs/yr	99.90%
Pinehurst Branch	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Chlordane	4.441E-03	6.595E-04	lbs/yr	85%
2	DDD	3.984E-03	3.944E-04	lbs/yr	90%
3	DDE	7.605E-03	6.023E-04	lbs/yr	92%
4	DDT	2.086E-02	6.196E-04	lbs/yr	97%
5	Dieldrin	5.032E-04	9.963E-05	lbs/yr	80%
6	HeptachlorEpoxide	7.649E-04	7.572E-05	lbs/yr	90%
7	PAH1	3.084E-01	3.053E-01	lbs/yr	0%
8	PAH2	1.765E+00	3.494E-02	lbs/yr	98%
9	PAH3	1.117E+00	2.211E-02	lbs/yr	98%
10	TPCB	3.085E-02	3.085E-05	lbs/yr	99.90%
Portal Branch	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Chlordane	1.228E-03	1.824E-04	lbs/yr	85%
2	DDD	1.024E-03	1.014E-04	lbs/yr	90%
3	DDE	2.056E-03	1.628E-04	lbs/yr	92%
4	DDT	5.610E-03	1.666E-04	lbs/yr	97%
5	Dieldrin	1.282E-04	2.538E-05	lbs/yr	80%
6	HeptachlorEpoxide	2.017E-04	1.997E-05	lbs/yr	90%
7	PAH1	8.496E-02	8.411E-02	lbs/yr	0%
8	PAH2	4.913E-01	9.728E-03	lbs/yr	98%
9	PAH3	3.116E-01	6.169E-03	lbs/yr	98%
10	TPCB	8.394E-03	8.394E-06	lbs/yr	99.90%
Soapstone Creek	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Chlordane	1.323E-02	1.965E-03	lbs/yr	85%
2	DDD	7.355E-03	7.282E-04	lbs/yr	90%
3	DDE	1.992E-02	1.578E-03	lbs/yr	92%
4	DDT	5.287E-02	1.570E-03	lbs/yr	97%
5	Dieldrin	8.601E-04	1.703E-04	lbs/yr	80%
6	HeptachlorEpoxide	1.708E-03	1.691E-04	lbs/yr	90%
7	PAH1	9.003E-01	8.913E-01	lbs/yr	0%
8	PAH2	5.455E+00	1.080E-01	lbs/yr	98%
9	PAH3	3.491E+00	6.912E-02	lbs/yr	98%
10	TPCB	8.579E-02	8.579E-05	lbs/yr	99.90%
Piney Branch	**Pollutant**	**Existing MS4 Load**	**TMDL MS4 WLA**	**Units**	**MS4 % Reduction**
1	Chlordane	2.731E-04	5.407E-05	lbs/yr	80%
2	DDD	3.173E-04	3.141E-05	lbs/yr	90%
3	DDE	5.115E-04	4.051E-05	lbs/yr	92%
4	DDT	1.432E-03	4.253E-05	lbs/yr	97%
5	Dieldrin	4.118E-05	8.154E-06	lbs/yr	80%
6	HeptachlorEpoxide	5.618E-05	8.342E-06	lbs/yr	85%
7	PAH1	1.927E-02	1.907E-02	lbs/yr	0%
8	PAH2	1.054E-01	2.086E-03	lbs/yr	98%
9	PAH3	6.606E-02	2.616E-03	lbs/yr	96%
10	Arsenic	4.229E-02	1.465E-02	lbs/yr	65%
11	Copper	1.471E+00	5.096E-01	lbs/yr	65%
12	Lead	6.845E-01	1.694E-01	lbs/yr	75%
13	Zinc	4.295E+00	4.252E+00	lbs/yr	0%
14	TPCB	2.434E-03	1.377E-06	lbs/yr	99.90%

THE DISTRICT OF COLUMBIA
WATER QUALITY ASSESSMENT

2002 REPORT TO THE ENVIRONMENTAL PROTECTION AGENCY
AND U.S. CONGRESS PURSUANT TO
SECTION 305(b) CLEAN WATER ACT (P.L. 97-117)

Department of Health
Environmental Health Administration
Bureau of Environmental Quality
Water Quality Division

Government of the
District of Columbia
Anthony A. Williams, Mayor

Exhibit 9

PREFACE

The Water Quality Division of the District of Columbia's Department of Health, Environmental Health Administration, prepared this report as required under §305(b) of the federal Clean Water Act (P.L. 97-117). This report provides water quality information on the District of Columbia surface and ground waters that were assessed during 2002 and only updates the water quality information required by law that has changed since the 2000 305(b) report. Various programs in the Bureau of Environmental Quality contributed to this report including the Watershed Protection Division and the Fisheries and Wildlife Division.

Questions or comments regarding this report or requests for copies should be forwarded to the address below.

The District of Columbia Government
Department of Health
Environmental Health Administration
Water Quality Division
51 N St., NE, Room - LL0003
Washington, D.C. 20002-3323
Attention: N. Shulterbrandt

PART I: EXECUTIVE SUMMARY

The District of Columbia 2002 305(b) report provides information on the quality of the City's water resources. In addition, the report describes changes since 2000 in the programs to correct impairments to D.C. waterbodies.

District of Columbia Water Quality

Thirty-six waterbodies were monitored for the goals of the Clean Water Act that apply to the District of Columbia. Each of those waterbodies have been assigned designated uses in the D.C. water quality standards. The standards also outline numeric and narrative criteria that must be met if a waterbody is to support its uses. Various types of water quality data collected during the period of 1997 to 2001 were evaluated to assess use support by the waterbodies. The evaluation found that the designated uses which directly relate to human use of the District's waters were generally not supported. The uses related to the quality of habitat for aquatic life were mostly partially supported. No waterbody monitored by the Water Quality Division fully supported all of its designated uses. The District of Columbia's water quality continues to be impaired.

The following tables show the degree to which the waters of the District of Columbia supported their designated uses. Figures 1.1 to 1.4 are maps showing the degree to which those waters met their uses.

Ground water is not monitored on the same basis as surface water. This is partly due to the fact that surface water north of the city's boundary is the drinking water source for the District of Columbia. However, ground water quality is scrutinized via compliance monitoring and on-going studies.

TABLE I.1
DESIGNATED USE SUPPORT BY RIVERS OR STREAMS

Waterbody Type: River, Streams	Degree of Use Support			
	Supporting (mi)	Partially Supporting (mi)	Not Supporting (mi)	Not Assessed (mi)
Overall Use *			38.40	
Swimmable Use			38.40	
Secondary Contact Recreation Use	1.70	3.80	32.90	
Aquatic Life Use		35	3.4	
Fish Consumption Use			26.60	11.80
Navigation Use	20.2[1]			

* = not a designated use
[1] = only 20.2 miles are designated for navigation

TABLE 1.2
DESIGNATED USE SUPPORT BY LAKES

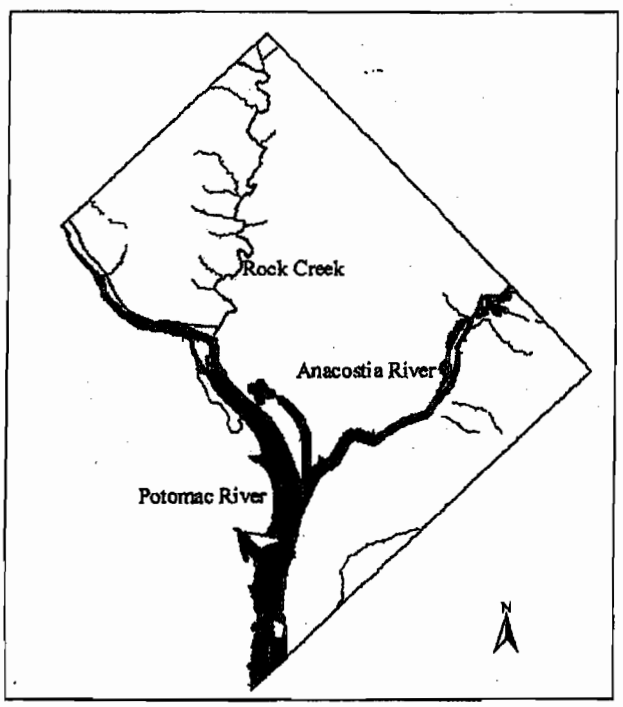
Waterbody Type: Lake, reservoir	Degree of Use Support			
	Supporting (ac)	Partially Supporting (ac)	Not Supporting (ac)	Not Assessed (ac)
Overall Use *			238.4	
Swimmable Use			238.4	
Secondary Contact Recreation Use		135.7	102.7	
Aquatic Life Use	27.3	108.4	102.7	
Fish Consumption Use			238.4	
Navigation Use	238.4			

* = not a designated use

TABLE 1.3
DESIGNATED USE SUPPORT BY ESTUARIES

Waterbody Type: Estuary	Degree of Use Support			
	Supporting (mi^2)	Partially Supporting (mi^2)	Not Supporting (mi^2)	Not Assessed (mi^2)
Overall Use *			5.93	
Swimmable Use			5.93	
Secondary Contact Recreation Use	3.35	1.78	0.80	
Aquatic Life Use	5.13	0.80		
Fish Consumption Use			5.93	
Navigation Use	5.93			

* = not a designated use



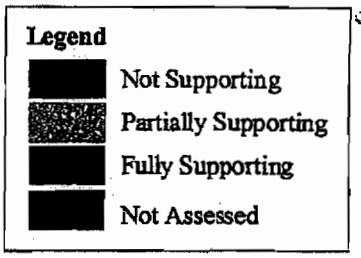


Figure 1.1: Degree of Support for the Protection of Primary Contact Recreation (Class A).

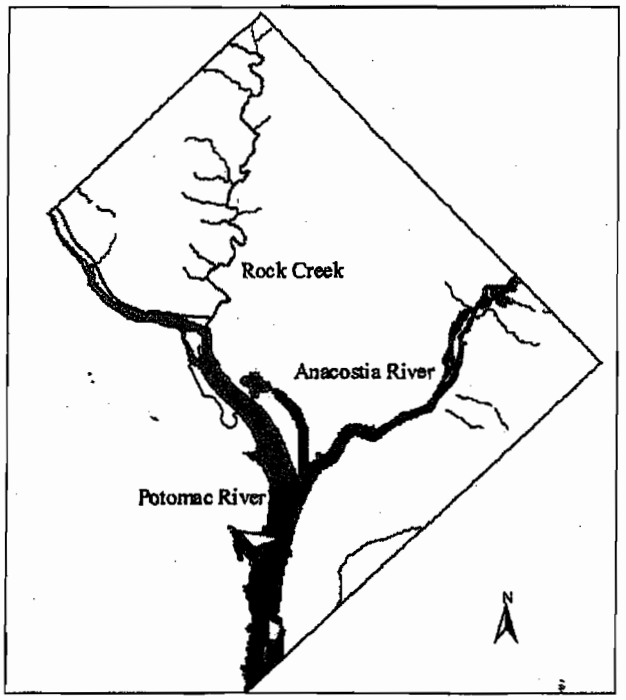


Figure 1.2: Degree of Support for the Protection of Secondary Contact Recreation and Aesthetic Enjoyment (Class B).

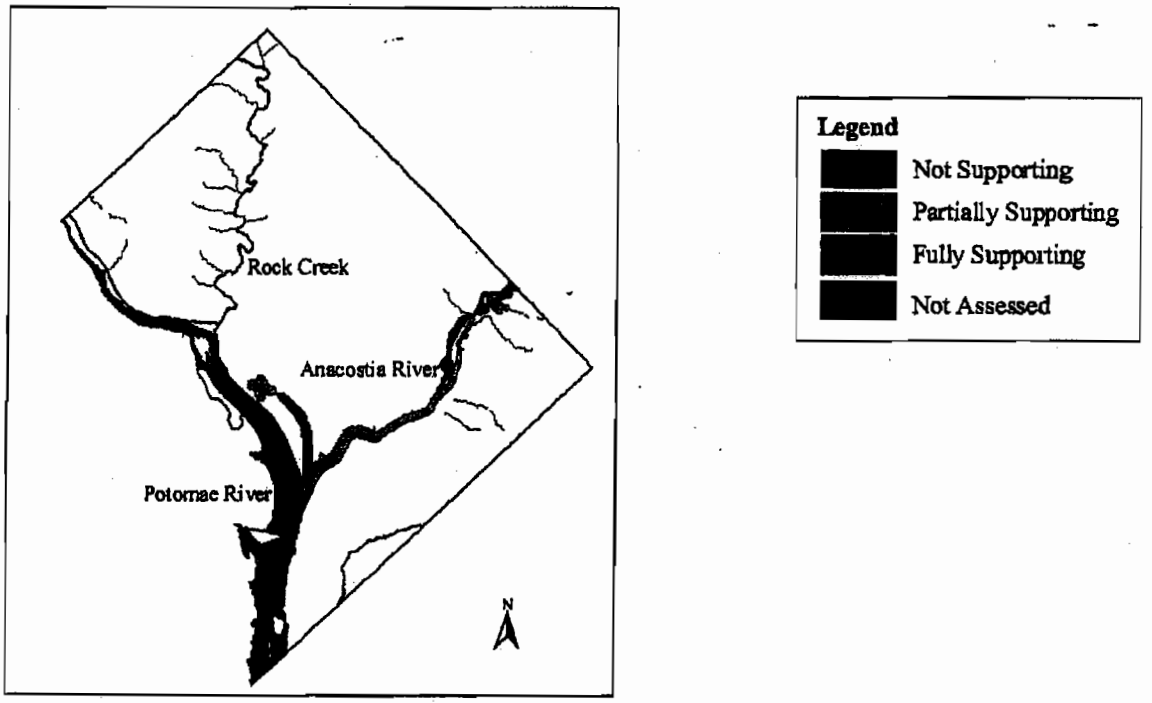


Figure 1.3: Degree of Support for the Protection and Propagation of Fish, Shellfish, and Wildlife (Class C).

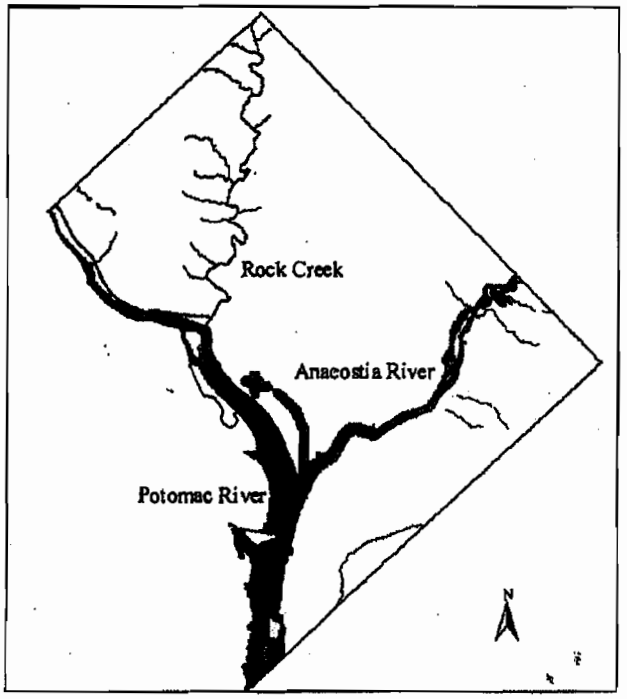


Figure 1.4: Degree of Support for the Protection of Human Health Related to the Consumption of Fish and Shellfish (Class D).

Causes and Sources of Water Quality Impairment

The major causes of impairment to D.C. rivers are total toxics, pathogens, and organic enrichment/low dissolved oxygen (D.O.). Lakes are impaired by total toxics and pathogens. While the estuaries are impaired by total toxics, pathogens, and organic enrichment/low D.O.

The sources with major impacts on D.C. waters are combined sewer overflows, urban runoff/storm sewers. Municipal point sources on the estuaries also have a major impact. Rivers and streams are also impacted by habitat modification and unknown sources.

Programs to Correct Impairment

Several programs within the District of Columbia's Bureau of Environmental Quality are involved in activities to correct water quality impairment. The water pollution control program implements the water quality standards, monitors and inspects permitted facilities in the city, and comprehensively monitors D.C. waters to identify and stop impairment. The water pollution control program is involved in the search for solutions that will provide maximum water quality benefits. The revised water quality standards were posted on the D.C. Register in May 2002. The revisions were subject to interviews, a public hearing, and EPA reviews before being published.

Given the District's urban landscape, nonpoint source pollution has a large impact on its waters. The sediment and stormwater control program regulates land disturbing activities, stormwater management, and flood plain management by providing technical assistance and inspections throughout the city. The Nonpoint source program also provides education and outreach to residents and developers on pollution prevention to ensure that their actions do not further impair the District's water quality.

Several activities are coordinated within the ground water protection program. Those activities include underground storage tank installation and remediation, pesticide use certification and ground water quality standards implementation.

Water Quality Trends

The Potomac River continues to benefit from the CSO improvements and implementation of improvements at the Blue Plains wastewater treatment plant. The Anacostia River remains aesthetically and chemically polluted as action to clean up the sources of pollutants to the river has not taken place. Both of the main waterbodies, do support fish and other wildlife populations. For example, submerged aquatic vegetation in the Anacostia River continues to struggle with a decrease in overall coverage. While in the Potomac River, it is more prevalent and diverse.

Rivers and Streams Water Quality Assessment

Designated Use Support

Twenty-five (25) rivers and streams were assessed for this update. Each of those waterbodies were impaired for one or more uses (Table 3.4). Appendix D contains individual assessments for each of th.. waterbodies.

TABLE 3.4
SUMMARY OF FULLY SUPPORTING, THREATENED, AND IMPAIRED RIVERS AND STREAMS

Degree of Use Support	Assessment Category		Total
	Evaluated	Monitored	Assessed Size (miles)
Size Fully Supporting All *Assessed* Uses	0.00	0.00	0.00
Size Fully Supporting All *Assessed* Uses but Threatened for at Least One Use	0.00	0.00	0.00
Size Impaired for One or More Uses	0.00	38.40	38.40
TOTAL ASSESSED	0.00	38.40	38.40

Based on Table 3.5, the aquatic life use was not use was not supported at Oxon Run and Texas Avenue tributary. The other streams partially supported the use. The fish consumption use was not supported in any of the streams assessed due to the fish advisory in effect for all D.C. waterbodies. A high number of fecal coliform standard violations was the indicator of nonsupport of the swimming by streams with the designated use. One stream Fort Dupont tributary fully supported the swimming use. The secondary contact use was fully supported in Dalecarlia tributary, Fort Dupont Tributary, Fort Chaplin tributary, Fort Davis tributary, Texas Avenue tributary, Piney Branch, Fenwick Branch, and Normanstone Creek. The navigation use was fully supported in the streams and rivers.

TABLE 3.5
INDIVIDUAL USE SUPPORT SUMMARY

Type of Waterbody: Rivers and Streams (miles)

Goals	Use	Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Size Partially Supporting	Size Not Supporting	Size Not Assessed
Protect & Enhance Ecosystems	Aquatic Life	38.40	0.00	0.00	35	3.4	0.00
Protect &	Fish Consumption	26.60	0.00	0.00	0.00	26.60	11.80

Goals	Use	Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Size Partially Supporting	Size Not Supporting	Size Not Assessed
Enhance Public Health	Shellfishing	-	-	-	-	-	-
	Swimming	38.40	0.00	0.00	0.00	38.40	0.00
	Secondary Contact	38.40	1.70	0.00	3.80	32.90	0.00
	Drinking Water	-	-	-	-	-	-
Social & Economic	Agricultural	-	-	-	-	-	-
	Cultural or Ceremonial	-	-	-	-	-	-
	Navigation	20.20	20.20	0.00	0.00	0.00	-

- = not applicable

Relative Assessment of Causes/Stressors

The causes of impairment to streams and rivers are varied. For example, Nash Run and Hickey Run have occasional problems with low D.O. Pathogens play a minor role in impairing Fort Dupont. While all the other streams are at least moderately impacted by pathogens. Many of the streams are impacted by total toxics to some extent. The effect of toxics on the organisms that dwell in streams in the District of Columbia is seen in the relatively low bioassessment scores. Table 3.6 lists the causes of impairment to D.C. streams and rivers.

TABLE 3.6
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS CAUSE CATEGORIES

Type of Waterbody: Rivers and Streams (miles)

Cause Category	Total Size of Water Impaired
Total toxics	31.10
Pathogens	27.70
Organic enrichment/Low DO	21.90
Metals	12.40
Unknown toxicity	7.40
pH	7.10
Suspended solids	4.00

Cause Category	Total Size of Water Impaired
Oil and grease	3.20
Flow alterations	1.80
Other habitat alterations	0.80
Siltation	0.30

Relative Assessment of Sources

A source of impairment that is common to D.C. rivers and streams is urban runoff/storm sewers. Soapstone Creek, Piney Branch, and Portal Branch are highly impacted by runoff. Habitat modification still has an impact on many of the streams as riparian vegetation is removed and stream banks are destabilized due to heavy runoff. Combined sewer overflow continues to affect Klingle Valley Creek, Rock Creek and Piney Branch. Table 3.7 lists the sources of impairment.

TABLE 3.7
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS SOURCE CATEGORIES

Type of Waterbody: Rivers and Streams (miles)

Source Category	Total Size of Water Impaired
Urban runoff/Storm Sewers	38.40
Habitat Modification (other than hydromodification)	17.60
Source Unknown	15.90
Combined sewer overflow	12.30
Bank or shoreline modification/destabilization	9.90
Land disposal	9.80
Hydromodification	8.80
Channelization	8.80
Natural Sources	8.30
Removal of riparian vegetation	7.80
Other urban runoff	4.40.
Flow regulation/modification	3.70
Landfills	3.30
Spills	1.70

Source Category	Total Size of Water Impaired
Construction	1.60
Industrial point sources	1.40
Highway maintenance and runoff	1.20
Waste storage/storage tank leaks	0.90
Municipal point sources	0.90
Minor industrial point source	0.50
Highway/road/bridge construction	0.30

Lakes Water Quality Assessment

Three waterbodies were monitored for their designated use support. The waterbodies classified as lakes are Kingman Lake, C&O Canal, and the Tidal Basin. All of these waterbodies were impaired for one or more of their designated uses. Table 3.8 is a summary of the degree of support by lakes in the District of Columbia. Individual water quality assessments may be found in Appendix C.

TABLE 3.8
SUMMARY OF FULLY SUPPORTING, THREATENED, AND IMPAIRED LAKES

Degree of Use Support	Assessment Category		Total
	Evaluated	Monitored	Assessed Size (miles)
Size Fully Supporting All *Assessed* Uses	0.00	0.00	0.00
Size Fully Supporting All *Assessed* Uses but Threatened for at Least One Use	0.00	0.00	0.00
Size Impaired for One or More Uses	0.00	238.40	238.40
TOTAL ASSESSED	0.00	238.40	238.40

Designated Use Support

Lakes in the District of Columbia supported the goals of the *CWA* to various degrees. Based on physical/ chemical data, the aquatic life use was fully supported in the C&O Canal. It was not supported in the Tidal Basin or Kingman Lake. Due to the fish consumption advisory currently in effect in the District of Columbia, the fish consumption use was not supported in any of the lakes. The swimming use was not supported by lakes. While the secondary contact use was partially supported in

the Tidal Basin and the C&O Canal, but not supported in Kingman Lake. Navigation was fully supported in all the lake waterbodies. Table 3.9 is the use support summary for D.C. lakes.

TABLE 3.9
INDIVIDUAL USE SUPPORT SUMMARY

Type of Waterbody: Lakes (acres)

Goals	Use	Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Size Partially Supporting	Size Not Supporting	Size Not Assessed
Protect & Enhance Ecosystems	Aquatic Life	238.40	27.3	0.00	108.4	102.7	0.00
Protect &	Fish Consumption	238.40	0.00	0.00	0.00	238.40	0.00
Enhance	Shellfishing	-	-	-	-	-	-
Public Health	Swimming	238.40	0.00	0.00	0.00	238.4	0.00
	Secondary Contact	238.40	0.00	0.00	135.70	102.70	0.00
	Drinking Water	-	-	-	-	-	-
Social &	Agricultural	-	-	-	-	-	-
Economic	Cultural or Ceremonial	-	-	-	-	-	-
	Navigation	238.40	238.40	0.00	0.00	0.00	-

- = not applicable

Relative Assessment of Causes

Kingman Lake is highly impacted by organic enrichment/low D.O. and pathogens. The C&O Canal and the Tidal Basin are moderately impacted by pathogens and total toxics. Table 3.10 lists the causes of impairment to D.C. lakes.

TABLE 3.10
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS CAUSE CATEGORIES

Type of Waterbody: Lakes (acres)

Cause Category	Total Size of Water Impaired
Total toxics	238.40
Pathogens	238.40
Organic enrichment/Low DO	102.70
Siltation	102.70
Oil and grease	102.70
Suspended solids	102.70
pH	108.40

Relative Assessment of Sources

There are two sources of impairment to D.C. lakes, combined sewer overflow and urban runoff/storm sewers. The three waterbodies are at least moderately impacted by combined sewer overflow. Urban runoff/storm sewers is a source with moderate impact on the C&O Canal and the Tidal Basin, but a high impact on Kingman Lake. Table 3.11 shows the sources of impairment.

TABLE 3.11
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS SOURCE CATEGORIES

Type of Waterbody: Lakes (acres)

Source Category	Total Size of Water Impaired
Combined Sewer Overflow	238.40
Urban runoff/storm sewers	238.40

Clean Lakes Program

No change

Background

No change

Trophic Status

No change

Control Methods

No change

Restoration/Protection Efforts

No change

Impaired and Threatened Lakes

No change

Acid Effects on Lakes

No change

Toxic Effects on Lakes

No change

Trends in Lake Water Quality

No change

Estuary and Coastal Assessment

The Anacostia River, the Potomac River, and the Washington Ship Channel are classified as estuaries due to their tidal influences. The Potomac River and the Anacostia River are divided into segments for assessment purposes. Individual water quality assessments for the waterbodies can be found in Appendix D.

Designated Use Support

All of the estuary waterbodies were impaired for one or more of their designated uses. The total square miles monitored and assessed are shown in Table 3.12.

TABLE 3.12
SUMMARY OF FULLY SUPPORTING, THREATENED, AND IMPAIRED ESTUARIES

Degree of Use Support	Assessment Category		Total
	Evaluated	Monitored	Assessed Size (miles)
Size Fully Supporting All *Assessed* Uses	0.00	0.00	0.00
Size Fully Supporting All *Assessed* Uses but Threatened for at Least One Use	0.00	0.00	0.00
Size Impaired for One or More Uses	0.00	5.93	5.93
TOTAL ASSESSED	0.00	5.93	5.93

The aquatic life use was fully supported along 5.13 square mile of estuary (Potomac River and lower Anacostia River), and partially supported along 0.80 square miles of estuary (Washington Ship Channel and the upper Anacostia River). The fish consumption use was not supported due to the fish consumption advisory in effect for D.C. waters. The swimming use is not supported in the estuaries. The swimming use support is evaluated based on the number of times the fecal standard of 200 MPN/100ml is exceeded. Table 3.13 shows the secondary contact use fully supported along 3.35 square miles, partially supported along 1.78 square miles and not supported along 0.80 square miles (the entire Anacostia River and the upper Potomac River). The navigation use was fully supported in estuaries as no hazard to users by submerged or partially submerged artificial objects existed in the waterbodies during this study period.

TABLE 3.13
INDIVIDUAL USE SUPPORT SUMMARY

Type of Waterbody: Estuaries (square miles)

Goals	Use	Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Size Partially Supporting	Size Not Supporting	Size Not Assessed
Protect & Enhance Ecosystems	Aquatic Life	5.93	5.13	0.00	0.80	0.00	0.00
Protect & Enhance Public Health	Fish Consumption	5.93	0.00	0.00	0.00	5.93	0.00
	Shellfishing	-	-	-	-	-	-
	Swimming	5.93	0.00	0.00	0.00	5.93	0.00
	Secondary Contact	5.93	3.35	0.00	1.78	0.80	0.00
	Drinking Water	-	-	-	-	-	-
Social & Economic	Agricultural	-	-	-	-	-	-
	Cultural or Ceremonial	-	-	-	-	-	-
	Navigation	5.93	5.93	0.00	0.00	0.00	-

- = not applicable

Relative Assessment of Causes

The lower Anacostia has a slight pH impairment while the Washington Ship Channel has a moderate pH impairment. All the estuaries have a pathogen impairment. It is most pronounced in the Anacostia River. The pathogen impairment is moderate in the Potomac River and the Washington Ship Channel. Low D.O. is moderately impairing in the upper Anacostia segment, and slightly impairing in the lower Potomac River segment. Table 3.14 lists the causes of impairment to estuaries in D.C.

TABLE 3.14
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS CAUSE CATEGORIES

Type of Waterbody: Estuaries (square miles)

Cause Category	Total Size of Water Impaired
Total toxics	5.93
Pathogens	5.93
Organic enrichment/Low DO	3.35

Cause Category	Total Size of Water Impaired
Siltation	0.80
Oil and grease	0.80
Suspended solids	0.80
pH	0.80
Priority organics	0.80
Pesticides	0.80

Relative Assessment of Sources

The sources of impairment to the estuaries with high impact are combined sewer overflows (along the Anacostia and upper Potomac), municipal point sources, and urban runoff. A moderate source of impairment to the Potomac is natural sources. The Anacostia is impacted by surface mining, highway runoff and unknown sources in its watershed. The Washington Ship Channel is impacted by urban runoff and other unknown sources. Table 3.15 lists the sources of impairment to D.C. estuaries.

TABLE 3.15
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS SOURCE CATEGORIES

Type of Waterbody: Estuaries (square miles)

Source Category	Total Size of Water Impaired
Combined Sewer Overflows	5.93
Urban runoff/storm sewers	5.93
Municipal point sources	5.63
Natural sources	3.45
Unknown sources	2.48
Dredging	0.80
Other urban runoff	0.80
Highway maintenance and runoff	0.80

INDIVIDUAL WATERBODY WATER QUALITY ASSESSMENTS

Overall Use Support Status Report

Waterbody ID : DCTDU01R
Waterbody Name: FORT DUPONT CREEK
Waterbody Type: River
Basin: POTOMAC

Segment Number: 00
Size: 1.70 Miles

---------- Description of the Waterbody ----------

THE STREAM AT FORT DUPONT PARK IS AN EPHEMERAL MINOR TRIBUTARY OF THE ANACOSTIA RIVER WHICH ORIGINATES AT FORT DUPONT NEAR ALABAMA AND MASSACHUSETTS AVENUES, SE. THE STREAM FLOWS ENTIRELY WITHIN THE CONFINES OF FORT DUPONT PARK AND THE WATERSHED OF ABOUT 410 ACRES IS DELIMITED BY THE BOUNDARIES OF THE PARK OF WHICH OVER 90% IS PARKLAND. THERE ARE FEW DEVELOPMENTAL PRESSURES THAT CAN IMPACT THE STREAM WITH ONLY TWO SMALL STORM DRAINS FROM NATIONAL PARK SERVICE FACILITIES. FORT DUPONT FLOWS INTO A LARGE STORM DRAIN AFTER IT PASSES UNDER THE B&O RAILROAD WHERE IT IS SUBVERTED FOR APPROXIMATELY 900 FEET BEFORE DISCHARGING INTO THE ANACOSTIA RIVER.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

Assessment Date: 0210

---------- Use Support ----------

Designated Use	Fully Supp	Threat	Partial Supp	Not Supported	Not Attained	Not Assessed
FISH CONSUMPTION	0.00	0.00	0.00	1.70	0.00	0.00
OVERALL USE SUPPORT	0.00	0.00	0.00	1.70	0.00	0.00
AQUATIC LIFE SUPPORT	0.00	0.00	1.70	0.00	0.00	0.00
SWIMMABLE	0.00	0.00	0.00	1.70	0.00	0.00
SECONDARY CONTACT REC	1.70	0.00	0.00	0.00	0.00	0.00

---------- Nonattainment Causes ----------

Cause	Size	Mag
1700-PATHOGENS	1.70	M
2400-TOTAL TOXICS	1.70	M

---------- Nonattainment Sources ----------

Source	Size	Mag
4000-URBAN RUNOFF/STORM SEWERS	1.70	M
9000-SOURCE UNKNOWN	1.70	M

---------- Comments on the Assessment ----------

THE WATERSHED OF FORT DUPONT IS ALMOST ENTIRELY ENCOMPASSED BY PARK SERVICE LAND. ONLY TWO STORM DRAINS ENTER THE PARK AND THERE ARE NO SEWER LINE CROSSINGS UNTIL JUST ABOVE THE STREAM REACH ENTERS THE PIPE FLOWING TO THE RIVER. THE INVERTEBRATE SAMPLE WAS DOMINATED EQUALLY BE CHIRONOMID AND OLIGOCHAETES WHICH SUGGEST ORGANIC AND TOXIC INPUTS. THE NATIONAL PARK SERVICE BOARDS SEVERAL POLICE HORSES AND HOUSES A FACILITY MAINTENANCE YARD ON THE SITE.

THE EVALUATION OF FORT DUPONT CREEK AQUATIC LIFE SUPPORT USE IS BASED ON A LEVEL II BIOASSESSMENT CONDUCTED IN 1997. FORT DUPONT CREEK WAS FOUND TO BE PARTIALLY SUPPORTING OF ITS AQUATIC LIFE USE DESIGNATION. A BIOASSESSMENT SCORE OF 33% AND A HABITAT ASSESSMENT SCORE OF 69% OF ITS REFERENCE STREAM WAS DETERMINED.

THE EVALUATION OF FORT DUPONT CREEK SWIMMABLE AND SECONDARY USES ARE BASED ON SURFACE FECAL COLIFORM DATA COLLECTED IN 1997-2001. THOUGH FORT DUPONT CREEK FULLY SUPPORTS THE SECONDARY USE. SWIMMABLE USE IS NOT IN COMPLIANCE.

FORT DUPONT CREEK DID NOT SUPPORT THE EPA FISH CONSUMPTION USE DESIGNATION. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED UN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHES OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE FORT DUPONT CREEK IS A TRIBUTARY OF THE ANACOSTIA RIVER, FISH MAY MIGRATE FOR THE RIVER INTO THIS TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO FORT DUPONT CREEK.

Overall Use Support Status Report

Waterbody ID : DCTBR01R
Waterbody Name: BROAD BRANCH
Waterbody Type: River
Basin: POTOMAC

Segment Number: 00
Size: 1.70 Miles

Description of the Waterbody

BROAD BRANCH FLOWS THROUGH A RESIDENTIAL PARK PARALLELING BROAD BRANCH RD. FIFTEEN STORMWATER OUTFALLS FEED INTO THIS STREAM. BROAD BRANCH IS A WESTERN TRIBUTARY OF ROCK CREEK WHICH IS JOINED BY SOAPSTONE CREEK ABOUT 800 FEET BEFORE IT DISCHARGES INTO ROCK CREEK. THE SURFACE PORTION OF THE STREAM BEGINS NEAR NEBRASKA AND CONNECTICUT AVENUES AND IS BORDERED BY PARKLAND AND RESIDENTIAL PROPERTY FOR HALF OF ITS REACH AND A 200 FOOT BUFFER OF TREES AND SHRUBS FOR THE REST OF ITS REACH. THE WATERSHED ENCOMPASSES ABOUT 1120 ACRES.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

Assessment Date: 0210

Use Support

Designated Use	Fully Supp	Threat	Partial Supp	Not Supported	Not Attained	Not Assessed
OVERALL USE SUPPORT	0.00	0.00	0.00	1.70	0.00	0.00
AQUATIC LIFE SUPPORT	0.00	0.00	1.70	0.00	0.00	0.00
SWIMMABLE	0.00	0.00	0.00	1.70	0.00	0.00
SECONDARY CONTACT REC	0.00	0.00	0.00	1.70	0.00	0.00
FISH CONSUMPTION	0.00	0.00	0.00	0.00	0.00	1.70
NAVIGATION	1.70	0.00	0.00	0.00	0.00	0.00

Nonattainment Causes

Cause	Size	Mag
1200-ORGANIC ENRICHMENT/LOW DO	1.70	M

Nonattainment Sources

Source	Size	Mag
4000-URBAN RUNOFF/STORM SEWERS	1.70	H

Comments on the Assessment

THE EVALUATION OF BROAD BRANCH'S AQUATIC LIFE SUPPORT USE IS BASED ON LEVEL II RAPID BIOASSESSMENT PROTOCOLS PERFORMED BY THE DISTRICT IN 1998. THE BIOASSESSMENT RATED A SCORE OF 24%, AND THE HABITAT ASSESSMENT SCORED AT

81% OF THE REFERENCE STREAM. THE STREAM WAS PARTIALLY SUPPORTING OF THE AQUATIC SUPPORT USE.

THE SWIMMABLE USE WAS NOT SUPPORTED DUE TO A 100.0% VIOLATION OF THE 200 MPN/100ML STANDARD. THE SECONDARY CONTACT RECREATION USE WAS NOT SUPPORTED DUE TO A 100% VIOLATION OF THE 1000 MPN/100ML STANDARD.

THE FISH CONSUMPTION USE WAS NOT ASSESSED FOR THIS STREAM.

Overall Use Support Status Report

Waterbody ID : DCTCO01L Segment Number: 00
Waterbody Name: CHESAPEAKE AND OHIO CANAL
Waterbody Type: Lake, Reservoir Size: 27.30 Acres
Lake Latitude/Longitude: N/A/N/A
Significant Publicly Owned Lake => N
Basin: POTOMAC

---------- Description of the Waterbody ----------

IMPOUNDMENT RUNNING PARALLEL TO UPPER POTOMAC (TCO01:GEORGETOWN AND TCO06: FLETCHER'S BOATHOUSE).

Assessment Date: 0210

---------- Use Support ----------

Designated Use	Fully Supp	Threat	Partial Supp	Not Supported	Not Attained	Not Assessed
OVERALL USE SUPPORT	0.00	0.00	0.00	27.30	0.00	0.00
SWIMMABLE	0.00	0.00	0.00	27.30	0.00	0.00
SECONDARY CONTACT REC	0.00	0.00	27.30	0.00	0.00	0.00
AQUATIC LIFE SUPPORT	27.30	0.00	0.00	0.00	0.00	0.00
FISH CONSUMPTION	0.00	0.00	0.00	27.30	0.00	0.00
NAVIGATION	27.30	0.00	0.00	0.00	0.00	0.00

---------- Nonattainment Causes ----------

Cause	Size	Mag
1700-PATHOGENS	27.30	M
2400-TOTAL TOXICS	27.30	M
1000-pH	27.30	M
1200-ORGANIC ENRICHMENT/LOW DO	27.30	M

---------- Nonattainment Sources ----------

Source	Size	Mag
4000-URBAN RUNOFF/STORM SEWERS	27.30	M

---------- Comments on the Assessment ----------

THIS WATERBODY IS AN IMPOUNDMENT RUNNING PARALLEL TO UPPER POTOMAC (TCO01: GEORGETOWN AND TCO06: FLETCHER'S BOATHOUSE). USE SUPPORT DETERMINATIONS WERE MADE FROM THE ANALYSIS OF AMBIENT MONITORING DATA FROM 1997 TO 1998.

USE SUPPORT DECISIONS FOR SWIMMABLE AND SECONDARY CONTACT RECREATION WERE MADE USING FECAL COLIFORM DATA. THE C&O CANAL DID NOT SUPPORT ITS PRIMARY CONTACT RECREATION USE (SWIMMABLE) EXCEEDING THE FECAL COLIFORM BACTERIA STANDARD OF 200 MPN/100ML 56.3% OF THE TIME AND ONLY PARTIALLY SUPPORTED ITS SECONDARY CONTACT RECREATION USE BY EXCEEDING STANDARD OF 1000 MPN/100ML

15.7% OF THE TIME.

THE C&O CANAL FULLY SUPPORTED ITS AQUATIC LIFE USE DURING THE PERIOD UNDER REVIEW; TEMPERATURE, PH AND D.O. OBSERVATIONS WERE IN COMPLIANCE DURING THIS PERIOD. HIGH FECAL COLIFORM LEVELS COULD BE CONTRIBUTED TO URBAN/STORM WATER RUNOFFS.

THE C&O CANAL DID NOT SUPPORT THE FISH CONSUMPTION USE CLASSIFICATION. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994 BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

THERE HAS BEEN NO KNOWN MAN-MADE OBSTRUCTIONS DURING THE PERIOD IN REVIEW; THEREFORE, IT FULLY SUPPORTED ITS NAVIGATIONAL USE.

BECAUSE OF THE ABOVE USE SUPPORT DECISIONS, THE C&O CANAL DID NOT SUPPORT THE OVERALL USE CLASSIFICATION FOR WATERS WITH MULTIPLE USES.

IN JANUARY 1996, WASHINGTON, DC, EXPERIENCED A LARGE SNOW STORM THAT RESULTED IN MAJOR FLOODING IN THE POTOMAC RIVER WATERSHED. ALTHOUGH THIS FLOOD DOES NOT FALL WITHIN THE ASSESSMENT PERIOD, IT DID IMPACT THE QUALITY OF DCTCO01L. AS A RESULT OF THE FLOOD, THE CANAL WAS BREACHED AND DRAINED. THE CANAL REOPENED IN MAY OF 1999.

Overall Use Support Status Report

Waterbody ID : DCTDA01R Segment Number: 00
Waterbody Name: DALECARLIA TRIBUTARY
Waterbody Type: River Size: 1.70 Miles
Basin: POTOMAC

Description of the Waterbody

DALECARLIA TRIBUTARY (ALSO REFERRED TO AS DALECARLIA CREEK) IS A STREAM WHICH ORIGINATES IN DC THEN CROSSES INTO MARYLAND CONTRIBUTING TO THE MARYLAND STREAM, LITTLE FALLS RUN. DALECARLIA FORMS AT THE CONFLUENCE OF MILL CREEK AND EAST CREEK, UNNAMED STREAMS ON THE USGS QUADRANGLE MAP. MILL CREEK STARTS FROM TWIN 7'8" STORM DRAINS LOCATED ABOUT 600 FEET SW OF THE INTERSECTION OF YUMA STREET AND MASSACHUSETTS AVENUE AND FLOWS ABOUT A 1/2 MILE THROUGH PARKLAND BEFORE JOINING EAST CREEK. AT DALECARLIA, THE SHORT COMMON STREAM JOINS WITH A SMALL FIRST ORDER TRIBUTARY TO THE NORTH, FLOWS UNDER A CHAIN LINK FENCE, SKIRTS THE NORTHERN BORDER OF THE DALECARLIA RESERVOIR TO EMPTY INTO LITTLE FALLS RUN. LITTLE FALLS RUN, IN TURN, FLOWS INTO THE POTOMAC.

THE STREAM'S WATERSHED IS ALMOST ENTIRELY IN THE DISTRICT OF COLUMBIA. THE WATERSHED MEASURES ABOUT 270 ACRES AND DRAINS SOUTHERN SPRING VALLEY AND NORTHERN KENT. ABOUT 1/4 OF THE WATERSHED IS PARKLAND, WHILE THE REMAINDER IS COMPRISED OF UPSCALE SUBURBAN RESIDENTIAL HOUSING AND POCKETS OF LIGHT COMMERCIAL USE.

THE STORM DRAIN SYSTEM THAT EMPTIES INTO DALECARLIA TRIBUTARY IS PARALLELED BY SEWER PIPE. THE POTENTIAL FOR SEWER LEAKAGE IS HIGH.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA; THE AMERICAN UNIVERSITY, 1993.

Assessment Date: 0210

Use Support

Designated Use	Fully Supp	Threat	Partial Supp	Not Supported	Not Attained	Not Assessed
FISH CONSUMPTION	0.00	0.00	0.00	0.00	0.00	1.70
OVERALL USE SUPPORT	0.00	0.00	0.00	1.70	0.00	0.00
AQUATIC LIFE SUPPORT	0.00	0.00	1.70	0.00	0.00	0.00
SWIMMABLE	0.00	0.00	0.00	1.70	0.00	0.00
SECONDARY CONTACT REC	0.00	0.00	0.00	1.70	0.00	0.00

Nonattainment Causes

Cause	Size	Mag
1700-PATHOGENS	1.70	H
1200-ORGANIC ENRICHMENT/LOW DO	1.70	S
2400-TOTAL TOXICS	1.70	S

---------- Nonattainment Sources

Source	Size	Mag
4000-URBAN RUNOFF/STORM SEWERS	1.70	M
9000-SOURCE UNKNOWN	1.70	S

---------- Comments on the Assessment ----------

THE EVALUATION OF SUPPORT USES ARE BASED ON A STATISTICAL EVALUATION (1997-1998) OF CONVENTIONAL AND BACTERIAL WATER QUALITY DATA COLLECTED BY THE WQD.

THE EVALUATION OF DALECARLIA TRIBUTARY'S AQUATIC LIFE SUPPORT USE IS BASED ON LEVEL II RAPID BIOASSESSMENT PROTOCOLS PERFORMED BY THE DISTRICT IN 1997. DALECARLIA TRIBUTARY WAS FOUND TO BE PARTIALLY SUPPORTING OF THIS DESIGNATED USE.

A REVIEW OF D.O., TEMPERATURE, AND PH DATA COLLECTED OVER THE 1997-2001 STUDY PERIOD FOUND NO VIOLATIONS IN WATER QUALITY STANDARDS.

THE BIOASSESSMENT RATED A SCORE OF 29% WHILE THE HABITAT ASSESSMENT SCORED 63% OF THE REFERENCE STREAM. THE STUDY FOUND MOSTLY POLLUTION RESISTANT SPECIES OF CHIRONOMIDS AND OLIGOCHAETES. THE REPORT SUGGESTED THAT THE PRESENCE OF THESE SPECIES INDICATED ORGANIC ENRICHMENT MOST LIKELY FROM A LEAKING SEWER LINE. CRAYFISH AND WATERSTRIDERS WERE OBSERVED BUT NO FISH WERE SEEN.

THE EVALUATION OF DALECARLIA'S SWIMMABLE AND SECONDARY CONTACT USES WERE BASED ON SURFACE FECAL COLIFORM. THIS STREAM DID NOT SUPPORT ITS SWIMMABLE USE. ITS SECONDARY CONTACT RECREATION USE WAS NOT SUPPORTED. IT WAS NOT IN COMPLIANCE FOR ITS SWIMMABLE USE (200MPN/100ML) 94.1% OF THE TIME AND FOR ITS SECONDARY CONTACT USE (1000MPN/100ML) 52.9% OF THE TIME.

A WY 1990 ASSESSMENT OF THE STREAM (SEE DC 305(B),1992) INDICATED INFREQUENT ELEVATED LEVELS OF IRON AND ZINC IN THE WATER COLUMN IN EXCEEDANCES OF THE DC'S WATER QUALITY STANDARDS OF 1987. IRON LEVELS ARE CAUSED FROM NATURAL, GEOLOGICAL SOURCES.

TYPICAL OF STREAMS IN THE DISTRICT OF COLUMBIA, DALECARLIA IS NEGATIVELY IMPACTED BY URBAN NPS STORMWATER RUNOFF. RUNOFF FROM SURROUNDING RESIDENTIAL YARDS AND STREETS ARE A SOURCE OF PATHOGENS, ORGANICS AND METALS. A LARGE SECTION OF THE WATERSHED, BETWEEN MASSACHUSETTS AVENUE AND DALECARLIA PARKWAY, HAS RECENTLY BEEN DEVELOPED WITH LARGE HOUSES. DURING THE EXCAVATION OF THE LAND MANY ORDINANCES WERE DISCOVERED. THE AREA WAS USED AS A MILITARY WEAPONS TESTING GROUND IN THE EARLY 1900'S.

Overall Use Support Status Report

Waterbody ID : DCTD001R
Waterbody Name: DUMBARTON OAKS
Waterbody Type: River
Basin: POTOMAC
Segment Number: 00
Size: 0.60 Miles

---------- Description of the Waterbody ----------

DUMBARTON FLOWS THROUGH A RESIDENTIAL PARK ENTERING ROCK CREEK FROM THE WEST BELOW THE ZOO ABOUT 1000 FEET NORTHEAST OF THE MASSACHUSETTS AVENUE BRIDGE. THE SURFACE PORTION OF THE STREAM ORIGINATES AT A PAIR OF STORM DRAINS AND FLOWS A LITTLE MORE THAN HALF A MILE SOUTHEAST TO ROCK CREEK. THE WATERSHED OF 51 ACRES DRAINS MOSTLY PARKLAND AND INCLUDES ABOUT A QUARTER OF THE GROUNDS OF THE US NAVAL OBSERVATORY AND DUMBARTON OAKS GARDENS. DUMBARTON IS BUFFERED FOR ITS ENTIRE LENGTH BY FORESTED PARKLAND. THE STREAM IS PARALLELED BY A COMBINED SEWER/STORM DRAIN. TWO STORMWATER CONDUITS EXIST NEAR THE HEAD OF THE STREAM.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

Assessment Date: 0210

---------- Use Support ----------

Designated Use	Fully Supp	Threat	Partial Supp	Not Supported	Not Attained	Not Assessed
NAVIGATION	0.60	0.00	0.00	0.00	0.00	0.00
FISH CONSUMPTION	0.00	0.00	0.00	0.60	0.00	0.00
OVERALL USE SUPPORT	0.00	0.00	0.00	0.60	0.00	0.00
AQUATIC LIFE SUPPORT	0.00	0.00	0.60	0.00	0.00	0.00
SWIMMABLE	0.00	0.00	0.00	0.60	0.00	0.00
SECONDARY CONTACT REC	0.00	0.00	0.00	0.60	0.00	0.00

---------- Nonattainment Causes ----------

Cause	Size	Mag
1200-ORGANIC ENRICHMENT/LOW DO	0.60	M
2400-TOTAL TOXICS	0.60	M

---------- Nonattainment Sources ----------

Source	Size	Mag
4000-URBAN RUNOFF/STORM SEWERS	0.60	M

---------- Comments on the Assessment ----------

THE EVALUATION OF DUMBARTON OAKS'S AQUATIC LIFE SUPPORT USE IS BASED ON

LEVEL II RAPID BIOASSESSMENT PROTOCOLS PERFORMED BY THE DISTRICT IN 1998. DUMBARTON OAKS STREAM HAS BEEN DESIGNATED 'PARTIALLY SUPPORTING' WITH A 24% OF REFERENCE BIOASSESSMENT AND AN 82% OF REFERENCE HABITAT ASSESSMENT.

THE SWIMMABLE USE WAS NOT SUPPORTED DUE TO A 80.0% VIOLATION OF THE 200 MPN/100ML STANDARD. THE SECONDARY CONTACT RECREATION USE WAS NOT SUPPORTED DUE TO A 30.0% VIOLATION OF THE 1000 MPN/100 ML STANDARD.

DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994 BY THE D.C. COMMISSIONER OF PUBLIC HEALTH ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATER. THE FISH CONSUMPTION USE IS NOT SUPPORTING.

Overall Use Support Status Report

Waterbody ID : DCTFE01R
Waterbody Name: FENWICK BRANCH
Waterbody Type: River
Basin: POTOMAC

Segment Number: 00
Size: 1.00 Miles

---------- Description of the Waterbody ----------

FENWICK BRANCH FLOWS FROM A COMMERCIAL AREA IN MARYLAND TO A RESIDENTIAL PARK IN THE DISTRICT AND THEN INTO ROCK CREEK. FENWICK BRANCH IS A TRIBUTARY OF ROCK CREEK WHICH INCLUDES THE NORTHERN CORNER OF THE DISTRICT OF COLUMBIA. THE WATERSHED IS ABOUT 500 ACRES BUT ONLY ABOUT 90 ACRES OF IT ARE IN THE DISTRICT. PORTAL BRANCH JOINS FENWICK BRANCH ABOUT 120 FEET NORTH OF ITS MOUTH. THE SURFACE PORTION OF THE STREAM RUNS ALMOST COMPLETELY WITHIN THE DISTRICT. THE STREAM ORIGINATES AS A DISCHARGE FROM A STORM DRAIN A FEW FEET OUTSIDE THE DC BORDER IN MARYLAND SOUTH OF EAST-WEST HIGHWAY. WITHIN THE DISTRICT, SEVEN STORM DRAINS DISCHARGE INTO FENWICK BRANCH. THROUGHOUT ITS LENGTH THE STREAM IS BORDERED ON EITHER SIDE BY 100 FEET OF PARKLAND. BEYOND THAT THE STREAM IS ENTIRELY URBAN WITH RESIDENTIAL DEVELOPMENT INSIDE THE DISTRICT AND LIGHT INDUSTRIAL DEVELOPMENT IN MARYLAND.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

Assessment Date: 0210

---------- Use Support ----------

Designated Use	Fully Supp	Threat	Partial Supp	Not Supported	Not Attained	Not Assessed
FISH CONSUMPTION	0.00	0.00	0.00	0.00	0.00	1.00
NAVIGATION	1.00	0.00	0.00	0.00	0.00	0.00
OVERALL USE SUPPORT	0.00	0.00	0.00	1.00	0.00	0.00
AQUATIC LIFE SUPPORT	0.00	0.00	1.00	0.00	0.00	0.00
SWIMMABLE	0.00	0.00	0.00	1.00	0.00	0.00
SECONDARY CONTACT REC	0.00	0.00	1.00	0.00	0.00	0.00

---------- Nonattainment Causes ----------

Cause	Size	Mag
0100-UNKNOWN TOXICITY	1.00	M
1200-ORGANIC ENRICHMENT/LOW DO	1.00	M
2400-TOTAL TOXICS	1.00	S

---------- Nonattainment Sources ----------

Source	Size	Mag

4000-URBAN RUNOFF/STORM SEWERS 1.00 H

---------- Comments on the Assessment ----------

THE EVALUATION OF FENWICK BRANCH'S AQUATIC LIFE SUPPORT USE IS BASED ON LEVEL II RAPID BIOASSESSMENT PROTOCOLS PERFORMED BY THE DISTRICT IN 1998. THE STREAM RECEIVED A BIOASSESSMENT SCORE OF 29% AND A HABITAT ASSESSMENT SCORE OF 64% OF A REFERENCE. THE AQUATIC LIFE USE WAS PARTIALLY SUPPORTED.

THE SWIMMABLE USE WAS NOT SUPPORTED DUE TO A 90.0% VIOLATION OF THE 200 MPN/100ML STANDARD. THE SECONDARY CONTACT RECREATION USE WAS PARTIALLY SUPPORTED DUE TO A 20.0% VIOLATION OF THE 1000 MPN/100ML STANDARD OCCURRED DURING THE STUDY PERIOD.

FENWICK BRANCH WAS NOT ASSESSED FOR FISH CONSUMPTION.

District of Columbia Financial Responsibility
and Management Assistance Authority
Washington, D.C.

Camille Cates Barnett, Ph.D.
Chief Management Officer

DMPD

5 more volumes in about a week.

Bill Gilley

November 4, 1998

Thomas Maslany, Director
United States Environmental Protection Agency
Water Protection Division
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Dear Mr. Maslany:

The District of Columbia is pleased to submit the attached completed National Pollutant Discharge Elimination System (NPDES) Part 2 Permit for the District's municipal separate storm sewer system (MS4). This application includes a stormwater management program and fiscal plan that accurately reflects the District's current stormwater operations. This application also addresses specific questions raised by Ms. Patricia Gleason in her letter dated September 9, 1998. These concern Congressionally imposed changes in the governance of the District as a whole, and in the specific agencies with stormwater responsibilities; and the legal authority underlying the program.

This application is also responsive to the United States Environmental Protection Agency's (EPA) stated desire to issue an interim or short-term permit to the District in the near future. Chapter six of this application therefore describes both the elements of the current program, and certain assessment measures and elements to be used for any long-term program.

As we have explained to EPA representatives, important issues regarding governance, financing, and operation of the District's long-term stormwater management program are currently the subject of internal and external study. No final decisions on these issues are expected until late next year, and any decisions will also be the subject of further discussion with EPA. Any long-term MS4 ought to reflect final District decisions on these issues.

Exhibit 10

Thomas Maslany
United States Environmental Protection Agency
November 4, 1998

We believe that the enclosed application should be the basis for a short-term permit. Since my letter to you of July 8, 1998, the District has dedicated a great deal of energy and attention to these issues. I am proud of our progress, and I appreciate the cooperation your staff has shown. I am confident that we can continue to work together to complete this process expeditiously.

Sincerely,

Camille Cates Barnett, Ph.D.
Chief Management Officer

Attachment: District of Columbia National Pollutant Discharge Elimination System (NPDES) Part 2 - Storm Water Permit Application

DISTRICT OF COLUMBIA

DCFA# 309-WSU

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

(NPDES)

PART 2 - STORM WATER PERMIT APPLICATION

November 4, 1998

4. CHARACTERIZATION DATA

4.1 Introduction

This section addresses the requirements for reporting the physical and chemical characteristics of municipal stormwater runoff in the District. These requirements are set forth in 40 CFR 122.26(d)(2)(iii), *Characterization Data.*

4.1.1 Potential Impacts Of Stormwater Runoff

The actual impacts of pollutant loading in stormwater runoff on the waters of the District and on downstream waters including the lower Potomac River and Chesapeake Bay are not known at this time. Sampling and analysis under the terms of this permit, and through elements of a long term monitoring program, will provide valuable information regarding actual impacts.

Potential impacts of stormwater runoff are discussed at length in EPA's *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems, 1993.* Specific degradation effects depend on the characterization of the receiving water body, its designated beneficial use, pollutants affecting that use, and the quantity and quality of runoff as dictated by rainfall patterns and local land use. Potential impacts discussed in the guidance document are synthesized below.

Urbanization trends are often reflected by significant replacement of pervious land surfaces (vegetated or forest areas) with impervious surfaces (concrete, asphalt). An increase in impervious surfaces prevents infiltration of rain water to the ground water table, diverting runoff to collection systems and, therefore, increasing flow and velocity to surface water bodies.

The diversion of rain water from groundwater to surface runoff can impact the geometry of local waterways and ultimately result in increases in localized flooding. This is due to high discharge velocity from collection systems to surface waters that could result in erosion. Silting and sedimentation associated with erosion of natural stream banks can inhibit the growth of aquatic plants, clog fish gills, and impede fish reproductive cycles. Redistribution of sediment can also reduce streamflow capacity. Excessive stormwater runoff at high velocities will impact a stream's biotic health by increased mortality, reduced reproduction, and reduced biodiversity.

Research is being conducted on the fate of toxics in stream sediments and their effect on benthic organisms. Deposition and resuspension of such toxics due to storm events could impact the health of stream systems, under certain temperature and pH ranges The introduction of toxics to the stream environment and the accumulation of such pollutants in stream sediments can result in long-term exposure to toxics greater than chronic levels for stream organisms. Sublethal effects may include reduced fertility, reproduction, and growth rates; and a decline in the diversity of aquatic organisms. Lethal levels may be introduced or accumulated as well. Resuspension of accumulated pollutants may lead to higher toxic concentrations in stream

waters. Additionally, high levels of coliform bacteria may be present in urban runoff and may exceed EPA water quality standards during and immediately after storm events.

Reduction in dissolved oxygen levels due to increased chemical oxygen demand (COD) and biochemical oxygen demand (BOD) may be associated with urban stormwater runoff. The introduction or resuspension of oxygen consuming pollutants, biodegradable organic material, or organic pollutants may increase COD in receiving waters. Also, the introduction of nutrient materials such as nitrogen and phosphorous leading to increased algal growth in stream waters may drastically increase BOD levels. Severe dissolved oxygen depression can result in fish kills, the death of submerged vegetation, and the ultimate creation of anaerobic conditions in stream waters.

Thermal impacts of stormwater runoff and their impacts on aquatic ecosystems are of concern as well. The temperature of stormwater runoff may become elevated in runoff collection and conveyance systems. Increased temperature of stream water may be lethal to stream organisms and reduce available oxygen by increasing the rate of chemical reactions.

4.1.2 Use Of The Characterization Data

The data gathered in representative data sampling and analysis at the six selected outfalls was used to develop a baseline characterization of annual pollutant loadings, seasonal loadings and event mean concentrations for pollutants in urban runoff within the District. Additionally, data collected during the characterization studies will be used to identify sources of runoff pollution or illicit discharges that may be further investigated using procedures detailed in Section 4.6

4.1.3 Stormwater Sampling And Analysis Procedures

Data collection procedures for storm runoff at the six selected sites were developed and executed in accordance with 40 CFR 122.21(g)(7), *Effluent Characteristics.* This portion of the NPDES regulations describe representative storm conditions and sampling protocols. The EPA publication, *Stormwater Sampling Guidance Document,* also provided information of approved stormwater sampling protocols. Additionally, analysis of all discharge samples was conducted in accordance with EPA approved analytical methods as defined in 40 CFR Part 136, *Guidelines for Establishing Test Procedures for the Analysis of Pollutants.*

Section 122.21(g)(7) specifies that "grab samples must be used for pH temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform and fecal streptococcus." Additionally, BOD, COD and volatile organic compound (VOC) were analyzed from grab samples. Grab samples were collected for all sampled storm events.

For other pollutants, discrete samples were collected during the storm event and later flow-weight composited at the laboratory. Stormwater samples were collected using ISCO 3700 automatic samplers. ISCO 3230 flow meters were programmed to start the automatic samplers when a designated level of flow was reached in the monitoring station pipe. The

automatic samplers were programmed to collect 1 liter samples every 15 minutes for a three-hour period. Samples were collected in pre-cleaned glass sampling jars.

At the completion of the sampling period, the storm event was assessed to determine if the criteria described in Section 4.3.2 had been met. If the storm met the designated criteria, the collected samples were packed on ice at the end of the three-hour sampling period (or shortly thereafter with care taken so as not to exceed holding times for analysis), and transported directly to the laboratory.

4.2 Summary Of Regulatory Requirements

Section 4.3 discusses quantitative and qualitative data requirements for collection of stormwater discharge at the six representative outfalls selected by the District. These outfalls were selected as representative of commercial, industrial and residential land use activities as described in 40 CFR 122.26(d)(2)(iii)(A). Criteria for discharge sampling at these sites are defined in the following regulations:

* Acceptable storm conditions (122.26(d)(2)(iii)(A)(1)),
* Sampling protocol (122.21(g)(7)), and
* Analytical parameters (122.26(d)(2)(iii)(A)(3)).
* Narrative descriptions and results of the three required sampling rounds are provided (122.26(d)(2)(iii)(A)(2)).

Section 4.4 provides estimates of the annual pollutant load and the event mean concentration of cumulative discharges from all municipal outfalls during a storm event, as required in 40 CFR 122.26(d)(2)(iii)(B). Seasonal pollutant loads and event mean concentrations from March to October were also calculated.

Section 4.5 provides a proposed schedule for estimating the seasonal pollutant load and representative event mean concentration for constituents found in the discharge at each major outfall sampled. Requirements for the estimated schedule are prescribed in 40 CFR 122.26(d)(2)(iii)(C). The estimated schedule will follow the wet weather sampling schedule described in Section 4.6

Section 4.6 proposes a monitoring program for the term of the permit that meets specific requirements established in 40 CFR 122.26(d)(2)(iii)(D). Elements of the proposed monitoring program include dry weather outfall screening, wet weather outfall screening, investigation of potential discharges and runoff sources of pollutants, construction and update of a water quality database, and assessment of the effectiveness of existing and new Best Management Practices (BMPs). As discussed below, that monitoring program, as proposed, is for the long-term; it is expected that the initial MS4 permit may be for a shorter period than envisioned in the proposed

long term monitoring program. The District nevertheless sets it out here for informational purposes. Those elements that can be accomplished within the initial permit period will be.

4.3 Quantitative And Qualitative Data Requirements

4.3.1 Selection Of Representative Sampling Sites

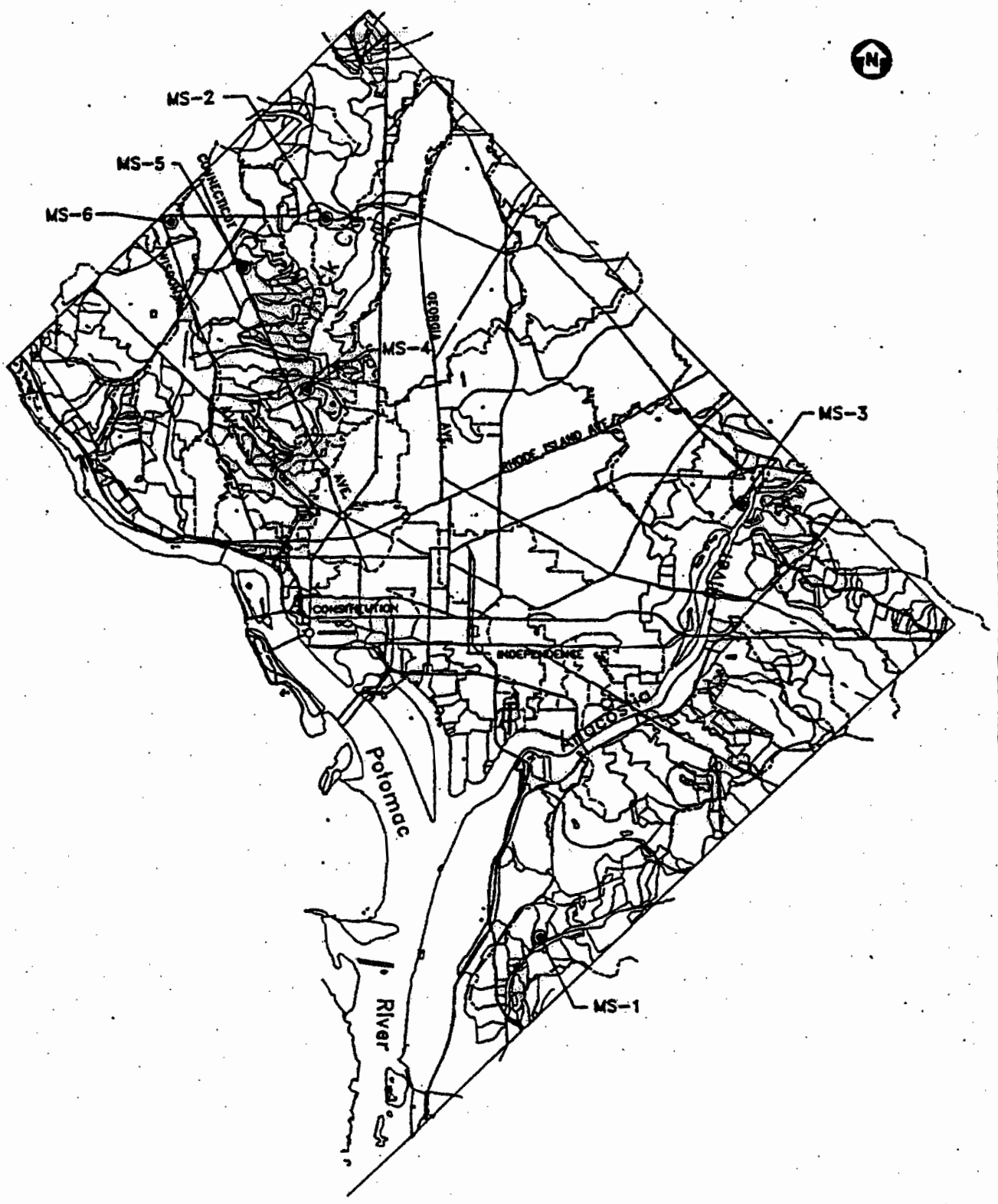
In the Part 1 application, the District identified six outfalls for initial screening and representative data collection to be conducted over three storm events for the Part 2 application. The six outfalls were selected, per 122.26(d)(2)(iii)(A), based on representative land use in their drainage basins, drainage basin areas, and hydraulic conditions in the storm sewer lines upstream from the outfalls. Criteria described in EPA's *Guidance Manual for the Preparation of Part I of the NPDES Permit Applications, April 1991,* were used in the selection process. These outfalls are described in Table 4.3.1-1. Figure 4.3.1-1 shows the locations of the six monitoring stations. Figures 4.3.1-2 through 4.3.1-7 display maps of the six selected drainage basin areas.

Sampling and flow metering equipment was installed in the nearest feasible manholes upstream from the outfalls. By installing equipment in the manholes, the possibility of encountering problems during equipment installation such as accessibility of the outfall, security of equipment installed, presence of extreme slopes above the outfall and the possibility of backflow in the manholes, thus, could be reduced or avoided.

Under Part 2 of the NPDES Permit application process, flow data was collected and stormwater runoff sampled at these six sites for three storm events each. Samples were analyzed at an analytical laboratory for the presence and concentrations of pollutants commonly found in urban stormwater runoff. Specific pollutants and water quality parameters of concern are discussed in Section 4.3.4. In addition, rain duration and intensity data was collected for the sampled storm events and used with sub-basin areas and pollutant concentrations present to determine system wide event-mean pollutant concentrations and annual pollutant loads for the District's municipal separate storm sewer system (MS4).

Table 4.3.1-1
Characteristics of Monitoring Stations Selected in the Part I Application
For Initial Screening and continued representative Data Collection

Monitoring Station	Subwater Shed	Sewershed ID No.	Approximate Acreage	Counter Map Number	Land Use	Description
MS-1	Oxon Run	118	103	CD 17-18 SE	90% Residential 10% Park	Monitoring Station MS-1 is in a mostly residential area of moderate density. The station is located south of Wheeler Road SE, at Oxon Run. The outlet drains approximately 103 acres and discharges into Oxon Run by a straight 48 inch concrete pipe.
MS-2	Rock Creek	586	54	GH 25-26 NW	93% Park 7% Public and Institutional	Monitoring Station MS-2 is in Rock Creek Park along Military Road NW, at Beach Drive (Ross Drive). The drainage basin covers about 54 acres on the south side of Military Road and drains into Rock Creek.
MS-3	Anacostia River	222	115	IK 9-10 NE	62% Industrial 38% Residential	Monitoring Station MS-3 is in an area of residential and industrial mixed land use located at V and 33rd Streets NE, and discharges to Hickey Run inside the National Arboretum and hence to the Anacostia River. The drainage area is approximately 86 acres.
MS-4	Rock Creek	469	130	H 12 NW	42% Residential Low Density 16% Residential High Density 29% Residential Moderate Density 13% Commercial	Monitoring Station MS-4 at Cathedra Avenue and Woodley Road, NW. The drainage area covers approximately 130 acres and drains into Rock Creek. The sub-basin is in an area of mixed residential and commercial use along Connecticut Avenue, NW.
MS-5	Rock Creek	849	66	LM 19-20 NW	22% Commercial 64% Public and Institutional 14% Residential	Monitoring Station MS-5 is located along Connecticut Avenue at Yuma Street, NW. The drainage area is about 45 acres and drains to the Soapstone Valley of Rock Creek. The sub-basin contains mainly the campus of the University of the District of Columbia, and is classified as public and institutional with some commercial use.
MS-6	Potomac River	1011	98	PQ 23-24 NW	66% Residential 15% Public and Institutional 11% Commercial	Monitoring Station MS-6 is located at Western Avenue between Jennifer and 44th Streets, NW. The drainage area is about 98 acres and drains into the storm sewer system in Montgomery County, Maryland, and hence to the Potomac River. The sub-basin contains mixed land use, primarily residential, but institutional and commercial uses are also present.



LEGEND

- SEPARATE STORM SEWERSHED
- CSO SEWERSHED
- SUBWATERSHED
- MS-1 MONITORING STATION NUMBER

FIGURE 4.3.1-1

PROJECT NUMBER:	DATE:	PEER CONSULTANTS, P.C.	DISTRICT OF COLUMBIA OFFICE OF POLICY AND PLANNING DEPARTMENT OF PUBLIC WORKS
DESIGNED BY:	6/95		
DRAWN BY:	6/95		

4.3.4 Pollutants And Water Quality Standards For Analysis

Each composite stormwater sample was analyzed at the laboratory for the pollutants listed in Table 4.3.4-1. In accordance with Exhibit 3-24 of NPDES *Stormwater Sampling Guidance Document*, U.S. EPA 833-B-92-001, July 1992, flow weighted composite samples were mixed at the laboratory based on the recorded flows and the time of each sample collection. Analytical methods, preservatives, holding times, and required containers and volumes for each analyte are described in Table 4.3.4-2.

Grab samples were analyzed for the following pollutants:

- cyanide,
- total phenols,
- oil and grease,
- BOD,
- COD,
- volatile organics,
- fecal coliform, and
- fecal streptococcus.

Analytic results for all positive findings from all sampled events to date are presented in Tables 4.3.4-3 through 4.3.4-14.

4.4 Estimation Of System Wide Event Mean Concentrations, Annual Pollutant Loads, And Seasonal Loads

System wide event annual pollutant loads and event mean concentration calculations were conducted following procedures described in EPA's *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Application for Discharges from Municipal Separate Storm Sewer Systems*, (EPA, 1992). Current annual pollutant loads, seasonal loads (March 1 to October 31), and loading reductions based on existing stormwater Best Management Practices (BMPs) and future BMPs are estimated and described.

4.4.1 Event Mean Concentrations

The development of Part 2 permit applications requires annual pollutant loading estimates for twelve pollutants associated with urban stormwater. The Event Mean Concentration (EMC) of these twelve pollutants were determined based on sampling and pollutant characterization undertaken in this project; monitoring data collected by the District (DCERA, 1993); and the results of the Nationwide Urban Runoff Program (NURP) Study (EPA, 1983). The twelve pollutants and the EMCs for each pollutant are presented in Table 4.4.1-1.

Table 4.3.4-1
Laboratory Analytes for Storm Water Samples

POLLUTANT	POLLUTANT
Volatile Organic Compounds	**Acid Extractable Compounds**
Acrolein Acrylonitrile Benzene Bromoform Carbon tetrachloride Chlorobenzene Chlorodibromomethane Chloroethane 2-Chloroethylvinyl ether Chloroform Dichlorobromomethane 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethylene 1,2-Dichloropropane 1,3-Dichloropropylene Ethylbenzene Methyl bromide Methyl chloride Methylene chloride 1,1,2,2-Tetrachloroethane Tetrachloroethylene Toluene 1,2-trans-Dichloroethylene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethylene Vinyl chloride	2-Chlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 4,6-Dinitro-o-cresol 2,4-Dinitrophenol 2-Nitrophenol 4-Nitrophenol p-Chloro-m-cresol Pentachlorophenol Phenol 2,4,6-Trichlorophenol
Base/Neutral Extractable Compounds	**Pesticides/PCBs**
Acenaphthene Acenaphthylene Anthracene Benzidine Benzo(a)anthracene Benzo(a)pyrene 3,4-benzofluoranthene Benzo(ghi)perylene Benzo(k)fluoranthene Bis(2-chloroethoxy)methane Bis(2-chloroethyl)ether (2-chloroisopropyl)ether Bis(2-ethylhexyl)phthalate 4-bromophenyl phenyl ether Butylbenzyl phthalate 2-Chloronaphthalene 4-Chlorophenyl phenyl ether Chrysene Dibenzo(a,h)anthracene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 3,3'-Dichlorobenzidine Diethyl phthalate Dimethyl phthalate Di-n-butyl phthalate 2,4-Dinitrotoluene 2,6-dinitrotoluene Di-n-octyl phthalate 1,2-diphenylhydrazine (as azobenzene) Fluoranthene Fluorene Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Indeno(1,2,3-od)pyrene Isophorone Naphthalene Nitrobenzene N-nitrosodimethylamine N-nitrosodi-n-propylamine N-nitrosodiphenylamine Phenanthrene Pyrene 1,2,4-trichlorobenzene	Aldrin Alpha-BHC Beta-BHC Gamma-BHC Delta-BHC Chlordane 4,4'-DDT 4,4'-DDE 4,4'-DDD Dieldrin Alpha-endosulfan Beta-endosulfan Endosulfan sulfate Endrin Endrin aldehyde Heptachlor Heptachlor epoxide PCB-1242 PCB-1254 PCB-1221 PCB-1232 PCB-1248 PCB-1260 PCB-1016 Toxaphene
Metals, Cyanide and Phenols	**Conventional Pollutants**
Antimony, total Arsenic, total Beryllium, total Cadmium, total Chromium, total Copper, total Lead, total Mercury, total Nickel, total Selenium, total Silver, total Thallium, total Zinc, total Cyanide, total Phenols, total	Total suspended solids (TSS) Total dissolved solids (TDS) COD BOD_5 Oil and grease Fecal coliform Fecal streptococcus pH Total Kjeldahl nitrogen (TKN)* Nitrate plus nitrite (NO_2 + NO_3) Dissolved phosphorus (DP) Total ammonia plus organic nitrogen (NH_4 + Org. N) Total phosphorus (TP)

* ammonia plus organic nitrogen is interchangeable with TKN.

Table 4.3.4-2
Analytical Methods, Preservatives, Holding Times,
Required Containers and Volumes

PARAMETER	METHOD	PRESERVE*	HOLD TIME	CONTAINER	VOL (mL)
TSS	160.2	N/A	48 hr		
TDS	160.1	N/A	7 day	250 ml HDPE	250
pH	150.1	N/A	ASAP		
BOD	405.1	N/A	48 hr	1 L HDPE	1,000
Oil & Grease	413.1	Sulf. Acid	14 Day	1 L Amber Glass	1,000
Phenols	420.1	Sulf. Acid	28 day	1 L Bos. Round	1,000
COD	410.4	Sulf. Acid	28 day		
Phos. Dissolved	365.2	Sulf. Acid	28 day	250 ml HDPE	250
Phosphorus Total	365.2	Sulf. Acid	28 day		
TKN	351.4	Sulf. Acid	28 day		
Nitrate+Nitrite	353.2	Sulf. Acid	28 day	250 ml HDPE	250
Ammonia	350.3	Sulf. Acid	28 day		
Fecal Coliform	9221C	Sodium Sulf.	6 hr	250 ml Sterile HDPE	250
Fecal Strep.	9230B	Sodium Sulf.	6 hr	250 ml Sterile HDPE	250
Cadmium	200.7				
Copper	200.7				
Lead	200.7	Nitric Acid	6 mos	500 ml HDPE	500
Zinc	200.7				
Mercury	245.1	Nitric Acid	(28 day)		
Chromium	200.7				
PP Metals (13)	200.7				
Volatile Organic Compounds	624	N/A	14 day	2x40 ml VOA	80
Base-Neutral and Acid Extractable Compounds	625	N/A	7 day	1 L Jug	1,000
Pesticides/PCBs	608	N/A	7 day	1 L Jug	1,000
Cyanide	335.3	Sod. Hydrox	14 day	1 L HDPE	1,000
TOTAL SAMPLE VOLUME					7,830 mL

* All samples were cooled to near 4°C.

Table 4.3.4-3
Sampling Results for MS-1 - Grab Sample

Chemical	Unit	Concentration		
		10/9/94	03/21/95	04/23/95
Bromodichloromethane	µg/L	-	1.21(1)	1.29(1)
Chloroform	µg/L	1.21	5.53	5.08
Toluene	µg/L	2.83	-	1.53(1)
Biochemical Oxygen Demand	mg/L	13.1	>82.0	>80.5
Total Cyanide	µg/L	9.85	20.4	16.3
Chemical Oxygen Demand	mg/L	138.0	256.0	309.0
Oil and Grease, Gravimetric	mg/L	-	8.1	12.2
Phenolic, Total Recoverable	mg/L	-	-	0.096
Fecal Coliform	#/100 mL	3,000	200	3,000
Fecal Strep	#/100 mL	9,000	9,000	5,000

Note: (1) Estimated, below detection limit.

10

Total

Table 4.3.4-4
Sampling Results for MS-1 - Composite Sample

Chemical	Unit	Concentration		
		10/09/94	03/21/95	04/23/95
Bis(2-Ethylhexyl)phthalate	µg/L	2.27(1)	3.43(1,3)	2.47(1)
Di-n-butylphthalate	µg/L	2.81(1)	-	4.10(1)
Lead	µg/L	9.76	6.88(4)	37.2
Mercury	µg/L	0.141(2)	0.172(4)	-
Copper	µg/L	15.1	32.8	50.2
Zinc	µg/L	84.6	87.8	269.0
Selenium	µg/L	-	3.33(4)	-
Ammonia	mg/L	0.47	1.21	1.68
Nitrite+Nitrate	mg/L	1.01	1.74	1.50
Phosphorus, Total Dissolved	mg/L	-	0.012	44.6
Phosphorus, Total	mg/L	-	0.027	130.0
Total Dissolved Solids	mg/L	156.0	208.0	81.0
Total Kjeldahl Nitrogen	mg/L	2.09	3.02	5.71
Total Suspended Solids	mg/L	114.0	16.7	115.0

2.5*

.012 CCC
.15 FC

Note:
(1) Estimated, below detection limit.
(2) Laboratory contamination.
(3) Exceed sample holding time when re-extracted.
(4) Low spike recovery, possible due to matrix interference.

* EPA chronic criteria assuming 100 mg/l hardness

Table 4.3.4-5
Sampling Results for MS-2 - Grab Sample

Chemical	Unit	Concentration		
		08/29/94	10/09/94	03/21/95
Methylene Chloride	µg/L	-	4.11	-
Biochemical Oxygen Demand	mg/L	18.8	7.88	62.5
Chemical Oxygen Demand	mg/L	127.0	70.6	1400.0
Total Cyanide	µg/L	-	-	40.0
Oil and Grease, Gravimetric	mg/L	8.8	6.8	20.7
Phenolics, Total Recoverable	µg/L	99.1	-	-
Fecal Coliform	#/100 mL	≥ 16,000	1,700	-
Fecal Strep	#/100 mL	9,000 ≥ 16,000	5,000	-

Table 4.3.4-6
Sampling Results for MS-2 - Composite Sample

Chemical	Unit	Concentration		
		08/29/94[3]	10/09/94	03/21/95
Bis(2-Ethylhexyl)phthalate	µg/L	34.0	31.2	4.28[1,2]
Butylbenzylphthalate	µg/L	-	5.03[1]	-
Di-n-butylphthalate	µg/L	-	6.89[1]	1.11[1,2]
Lead	µg/L	18.9	19.1	19.7[4]
Chromium	µg/L	-	5.54	-
Mercury	µg/L	-	-	0.155[4]
Cadmium	µg/L	-	-	12.4
Nickel	µg/L	-	-	32.4
Copper	µg/L	73.2	44.2	56.6
Zinc	µg/L	216.0	190.0	173.0
Ammonia	mg/L	-	0.62	0.948
Nitrite+Nitrate	mg/L	1.21	0.875	1.8
Phosphorus, Total Dissolved	mg/L	-	-	0.015
Phosphorus, Total	mg/L	0.01	-	0.082
Total Dissolved Solids	mg/L	140.0	55.0	208.0
Total Kjeldahl Nitrogen	mg/L	2.01	2.9	4.67
Total Suspended Solids	mg/L	22.0	178.0	48.5

Note:
(1) Estimated, below detection limit.
(2) Exceed sample holding time when re-extracted.
(3) Total cyanide was not retested due to insufficient sample. Also the accuracy of the results of this sample set may be questionable based on laboratory Quality Assurance/Quality Control (QA/QC) results.
(4) Low spike recovery, possible due to matrix interference.

Table 4.3.4-7
Sampling Results for MS-3 - Grab Sample

Chemical	Unit	Concentration		
		09/22/94	11/10/94	03/21/95
Methylene Chlorine	µg/L	-	25.6(2)	-
Toluene	µg/L	-	0.72	-
Biochemical Oxygen Demand	mg/L	5.08	18.7	64.5
Chemical Oxygen Demand	mg/L	26.8	21.6	292.0
Total Cyanide	µg/L	-	-	18.3
Oil and Grease, Gravimetric	mg/L	-	5.6	11.3
Fecal Coliform	#/100 mL	800	5,000	3,000
Fecal Strep	#/100 mL	24,000	16,000	3,000

Note: (1) Possible laboratory contamination.

Table 4.3.4-8
Sampling Results for MS-3 - Composite Sample

Chemical	Unit	Concentration		
		09/22/94	11/09/94	03/21/95
Bis(2-Ethylhexyl)phthalate	µg/L	6.76(1)	17.2	18.3(2)
Di-n-Octylphthalate	µg/L	-	-	2.34(1)
Endosulfan I	µg/L	-	0.03	-
Di-n-butylphthalate	µg/L	4.64(1)	-	1.71(1,2)
Lead	µg/L	22.9	20.0	38.5(3)
Copper	µg/L	35.7	26.1	144.0
Nickel	µg/L	-	29.6	38.0
Zinc	µg/L	97.3	176.0	537.0
Antimony	µg/L	-	-	7.17(3)
Mercury	µg/L	-	-	0.195(3)
Cadmium	µg/L	-	-	3.35
Chromium	µg/L	-	-	10.4
Ammonia	mg/L	0.275	0.647	2.52
Nitrite+Nitrate	mg/L	0.066	1.83	2.8
Phosphorus, Total Dissolved	mg/L	-	-	0.015
Phosphorus, Total	mg/L	0.01	0.01	0.045
Total Dissolved Solids	mg/L	100.0	311.0	2960.0
Total Kjeldahl Nitrogen	mg/L	6.67	6.49	5.05
Total Suspended Solids	mg/L	11.5	80.0	93.1

Note: (1) Estimated, below detection limit.
(2) Outside QA/QC limit, sample exceed holding time when re-extracted.
(3) Low spike recovery, possible due to matrix interference.

Table 4.3.4-9
Sampling Results for MS-4 - Grab Sample

Chemical	Unit	Concentration		
		10/09/94	01/20/95	03/21/95
Chloroform	µg/L	1.95	-	-
Ethyl Benzene	µg/L	33.5	-	-
Methylene Chloride	µg/L	4.84	7.63(2)	3.53(1)
Toluene	µg/L	23.9	-	-
Biochemical Oxygen Demand	mg/L	9.95	7.06	60.5
Total Cyanide	µg/L	7.96	-	18.3
Chemical Oxygen Demand	mg/L	172.0	47.1	1260.0
Oil and Grease, Gravimetric	mg/L	14.0	-	8.5
Phenolics, Total Recoverable	µg/L	92.0	-	-
Fecal Coliform	#/100 mL	≥16,000	≥16,000	1,700
Fecal Strep	#/100 mL	≥16,000	≥16,000	9,000

Note:
(1) Possible laboratory contamination.
(2) Below QA/QC criteria, low recovery.
(3) Estimated, below detection limit.

Table 4.3.4-10
Sampling Results for MS-4 - Composite Sample

Chemical	Unit	Concentration		
		10/09/94	01/20/95	03/21/95
Bis(2-Ethylhexyl)phthalate	µg/L	6.71(1)	-	4.46(1,3)
Di-n-butylphthalate	µg/L	5.03(1)	-	1.86(1,3)
Naphthalene	µg/L	16.0	-	-
Arsenic	µg/L	-	2.58	-
Lead	µg/L	33.2	30.9	40.3(4)
Mercury	µg/L	0.151(2)	-	0.248(4)
Copper	µg/L	53.8	12.4	186.0
Zinc	µg/L	183.0	107.0	366.0
Ammonia	mg/L	0.64	0.202	2.85
Nitrite+Nitrate	mg/L	1.15	-	2.67
Phosphorous, Dissolved, Total	mg/L	-	0.030	0.018
Phosphorous, Total	mg/L	-	0.052	0.03
Total Dissolved Solids	mg/L	62.0	30.0	607.0
Total Kjeldahl Nitrogen	mg/L	2.27	1.07	5.91
Total Suspended Solids	mg/L	30.0	41.6	24.1

Note:
(1) Estimated, below detection limit.
(2) Laboratory contamination.
(3) Exceed sample holding time when re-extracted.
(4) Low spike recovery, possible due to matrix interference.

Table 4.3.4-11
Sampling Results for MS-5 - Grab Sample

Chemical	Unit	Concentration		
		09/22/94	01/07/95	03/21/95
Tetrachloroethene	µg/L	-	3.55(1)	2.04(1)
Biochemical Oxygen Demand	mg/L	5.08	38.3(2)	42.0
Chemical Oxygen Demand	mg/L	26.8	83.9	6040.0
Total Cyanide	µg/L	-	-	29.7
Oil and Grease, Gravimetric	mg/L	-	9.0	11.4
Fecal Coliform	#/100 mL	200	-	20
Fecal Strep	#/100 mL	8,000	-	700

Note: (1) Estimated, below detection limit.
(2) Recoveries below acceptance limits.

Table 4.3.4-12
Sampling Results for MS-5 - Composite Sample

Chemical	Unit	Concentration		
		09/22/94	01/07/95	03/21/95
Bis(2-Ethylhexyl)phthalate	µg/L	297.0	22.0	4.89(1,2)
Di-n-butylphthalate	µg/L	-	3.24(1)	2.33(1,2)
Antimony	µg/L	1.37	-	-
Lead	µg/L	34.7	64.6	41.7(3)
Mercury	µg/L	-	0.13	0.169(3)
Chromium	µg/L	-	5.10	-
Copper	µg/L	55.3	61.0	201.0
Nickel	µg/L	-	-	27.7
Zinc	µg/L	121.0	139.0	380.0
Ammonia	mg/L	-	0.230	2.74
Nitrite+Nitrate	mg/L	0.066	0.784	2.81
Phosphorous, Total Dissolved	mg/L	-	0.020	0.015
Phosphorous, Total	mg/L	-	0.030	0.045
Total Dissolved Solids	mg/L	-	29.4	1,180.0
Total Kjeldahl Nitrogen	mg/L	5.73	1.44	5.68
Total Suspended Solids	mg/L	7.8	213.0	31.3

Note:
(1) Estimated, below detection limit.
(2) Exceed sample holding time when re-extracted.
(3) Low spike recovery, possible due to matrix interference.

Table 4.3.4-13
Sampling Results for MS-6 - Grab Sample

Chemical	Unit	Concentration		
		08/29/94	11/10/94	01/07/95
1,2-Dichlorobenzene	µg/L	-	3.34(1)	-
1,4-Dichlorobenzene	µg/L	-	0.42(1)	-
Chloroform	µg/L	1.71(1)	-	-
Methylene Chloride	µg/L	2.83(2)	26.9(2)	1.18(1)
Toluene	µg/L	-	2.19	-
Biochemical Oxygen Demand	mg/L	4.43	67.6	36.2(3)
Chemical Oxygen Demand	mg/L	45.9	210.0	54.0
Oil and Grease, Gravimetric	mg/L	-	-	10.0
Phenolics, Total Recoverable	µg/L	-	81.4	-
Fecal Coliform	#/100 mL	≥16,000	≥16,000	-
Fecal Strep	#/100 mL	≥16,000	≥16,000	-

Note:
(1) Estimated, below detection limit.
(2) Laboratory contamination.
(3) Below QA/QC criteria. Recoveries (glucose/glutamic acid and QC sample were below acceptance limits.

Table 4.3.4-14
Sampling Results for MS-6 - Composite Sample

Chemical	Unit	Concentration		
		08/29/94[1]	11/10/94	01/07/95
1,2-Dichlorobenzene	µg/L	-	2.81	-
Bis(2-Ethylhexyl)phthalate	µg/L	25.3	17.2	6.95[3]
Lead	µg/L	18.8	15.4	28.6
Mercury	µg/L	-	-	0.12
Chromium	µg/L	-	-	5.77
Copper	µg/L	45.5	67.5	76.1
Nickel	µg/L	-	18.0	-
Zinc	µg/L	238.0	309.0[2]	243.0
Ammonia	mg/L	0.495	0.286	0.440
Nitrite+Nitrate	mg/L	1.44	1.43	0.876
Ortho-P, Dissolved	mg/L	0.044	0.013	-
Phosphorous, Total, Dissolved	mg/L	-	-	0.02
Phosphorus, Total	mg/L	0.063	0.253	0.055
Total Dissolved Solids	mg/L	151.0	173.0	86.0
Total Kjeldahl Nitrogen	mg/L	3.79	3.62	3.13
Total Suspended Solids	mg/L	18.0	36.0	391.0

Note: (1) Total cyanide was not retested due to insufficient sample. Also the accuracy of the results of this sample set may be questionable based on laboratory QA/QC results.
(2) Possible laboratory contamination.
(3) Estimated, below detection limit.

Table 4.4.1-1 Event Mean Concentrations (EMCs) For Twelve Pollutants

Pollutant	National NURP	COG NURP	DCRA Set A	DCRA Set B	PEER Samples	EMC
TSS	-	-	17.8	102.9	54	54
BOD	11.9	5.1-36	23	41.5	9.2	11.9
COD	90.8	35.6	-	-	88	90.8
TDS	-	-	-	-	111	111
TN	3.31	2.0 - 2.17	-	-	4.47	4.47
TKN	2.85	1.49 - 1.51	2.52	5.09	3.63	3.63
TP	0.46	0.26	0.12	0.83	-	0.46
DP	0.16	0.16	0.13	0.45	-	0.16
Cadmium	-	-	-	-	< 0.002	0.002
Copper	0.047	-	-	-	0.046	0.047
Lead	0.18	0.018-0.37	0.005	0.077	0.022	0.05
Zinc	0.176	0.037-0.25	0.105	0.925	0.161	0.176

GOVERNMENT OF THE DISTRICT OF COLUMBIA
WASHINGTON, DC

Storm Water Management Plan

October 19, 2002

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Mayor

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Exhibit 11

4.0 CHARACTERIZATION DATA

4.1 INTRODUCTION

This section addresses the requirements for reporting the physical and chemical characteristics of municipal storm water runoff in the District. These requirements are set forth in 40 CFR 122.26(d)(2)(iii), Characterization Data.

4.1.1 Potential Impacts of Storm Water Runoff

Pollutants entering the waters of the District through its storm water system impact both the waters of the District and their receiving waters, i.e. the Potomac River and the Chesapeake Bay. Many studies, some of which are beyond the scope of the NPDES program, are required to fully characterize the pollutant loading of the District and its impacts. Sampling and analysis under the terms of this permit, and through elements of a long term monitoring program, will help to provide valuable information regarding actual pollutant impacts within the District.

Potential impacts of stormwater runoff are discussed at length in EPA's *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems,* 1993. Specific degradation effects depend on the characterization of the MS4 discharge into the waters of the District, pollutants affecting the beneficial use of the waters, and the quantity and quality of runoff as dictated by rainfall patterns and local land use.

4.1.2 Use of the Characterization Data

In FY 2000, the DOH proposed nine monitoring stations along the Anacostia River that would characterize the quality of storm water discharges from the MS4 to the Anacostia River. These data were used to develop a baseline characterization of annual pollutant loadings, seasonal loadings, and event mean concentrations of pollutants.

In FY 2002, the DOH proposed six monitoring sites along Rock Creek that would characterize the quality of storm water discharges from the MS4 to Rock Creek. These data will be used to develop a baseline characterization of annual pollutant loadings, seasonal loadings and event mean concentrations of pollutants and to target sewersheds for further investigations as indicated by the data. Approval of these monitoring sites by EPA is pending.

4.1.3 Storm Water Sampling and Analysis Procedures

Data collection procedures for storm runoff at the nine current and six proposed sites were developed and executed in accordance with 40 CFR 122.21(g)(7), *Effluent Characteristics*. This portion of the NPDES regulations describes representative storm conditions and sampling protocols. The EPA publication, *Storm Water Sampling Guidance Document*, also provided examples of approved storm water sampling protocols. Additionally, analysis of all discharge samples was conducted in accordance with EPA approved analytical methods as defined in 40 CFR Part 136, *Guidelines for Establishing Test Procedures for the Analysis of Pollutants.*

Section 122.21(g)(7) specifies that, "grab samples must be used for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform and fecal streptococcus." Additionally, biological oxygen demand (BOD), chemical oxygen demand (COD), and volatile organic compounds (VOC) were analyzed from grab samples. Grab samples were collected for all sampled storm events.

For other pollutants, discrete samples were collected during the storm event and flow weight composites were conducted at the laboratory. Storm water samples were collected using automatic samplers when a designated level of flow was reached in the monitoring station pipe. The automatic samplers were programmed to collect flow proportioned composite samples. Samples were collected in 5 gallon glass bottles.

At the completion of the sampling period, the storm event was assessed to determine if the criteria described in Section 4.3.2 had been met. If the storm met the designated criteria, the collected samples were packed in ice at the end of the three hour sampling period (or shortly thereafter, with care taken so as to not exceed holding time for analysis), and transported directly to the laboratory.

4.2 SUMMARY OF REGULATORY REQUIREMENTS

Section 4.3 discusses quantitative and qualitative data requirements for collection of storm water discharge at the nine representative outfalls selected by the District. These outfalls were selected as representative of commercial, industrial, residential, and recreational land use activities as described in 40 CFR 122.26(d)(2)(iii)(A). Criteria for discharge sampling at these sites are defined in the following regulations:

- Acceptable storm conditions [122.26(d)(2)(iii)(A)(1)]

- Sampling Protocol [122.21(g)(7)],
- Analytical parameters [122.26(d)(2)(iii)(A)(3)]
- Narrative descriptions and results of the three required sampling rounds are provided [122.26(d)(2)(iii)(A)(2)]

Event mean concentrations were determined from analyses of flow weighted composite samples collected from eight of the nine designated monitoring points. The mean concentration for the MS4 and Hickey Run are presented in Section 4.4.1. Section 4.4.2 provides estimates of the annual pollutant load of cumulative discharges from the nine selected sites along the Anacostia River during a storm event, as required in 40 CFR 122.26(d)(2)(iii)(B). Seasonal pollutant loads were also calculated.

Section 4.5 provides a proposed schedule for estimating the seasonal pollutant load and representative event mean concentrations for constituents found in the discharge at the six proposed monitoring sites along Rock Creek. Requirements for the estimated schedule are prescribed in 40 CFR 122.26(d)(2)(iii)(C). The estimated schedule follows the wet weather sampling schedule described in Section 4.5.

Section 4.5 proposes a monitoring program for the proposed sites along Rock Creek that meets specific requirements established in 40 CFR 122.26(d)(2)(iii)(D).

4.3 QUANTITATIVE AND QUALITATIVE DATA REQUIREMENTS

4.3.1 Selection of Representative Sampling Sites

The District identified nine outfalls for initial screening and representative data collection to be conducted over three storm events for the existing NPDES permit No. 0000221. The nine outfalls were selected, per 122.26(d)(2)(iii)(A), based on representative land use in their drainage basins, drainage basin areas, and hydraulic conditions in the storm sewer lines upstream for the outfalls. Criteria described in EPA's *Guidance Manual for the Preparation of Part I of the NPDES Permit Applications, April 1991*, were used in the selection process. A listing of the sites and the acreage monitored at those sites is found in Table 4.3.1-1. The acreage for each location was calculated by tracing the tributaries to the sampling location on a WASA sewer map, creating a grid based on the scale from the sewer map, and converting grid units to the desired unit of measurement. Street level maps of the sites are shown in Appendix B.

Table 4.3.1-1 – The District's Identified Monitoring Sites for Storm Event Sampling, NPDES Permit No. 0000221.

Site Number	Sampling Location	Sewershed Acreage
1	Stickfoot Sewer - 2400 block of Martin Luther King Jr. Ave., S.E.	367.31
2	O Street Storm Water Pump Station - 125 O St., S.E.	252.52
3	Anacostia High School - Corner of 17th St. and Minnesota Ave., S.E.	413.22
4	Gallatin St. & 14th Street, N.E.	619.83
5	Varnum St. & 19th Place, N.E.	1216.71
6	Nash Run - Intersection of Anacostia Dr. & Polk St., N.E.	344.35
7	East Capitol Street - 200 Block of Oklahoma Ave. at intersection with D St., N.E.	91.83
8	Ft. Lincoln-Newtown BMP - wooded area before South Dakota St. Exit off of New York Ave., NE	229.56
9	Hickey Run – 33rd and V Street, NE	149.22

Sampling and flow meter equipment were installed in the nearest feasible manholes upstream of the outfalls. By installing equipment in the manholes, various problems, such as, installation accessibility, security of equipment, presence of extreme slopes above the outfall and the possibility of backflow in the manholes, could be reduced or avoided.

Under the NPDES Permit No. 0000221, each of the nine sites was to be monitored for three (3) wet weather events per year. At sites with dry weather flows, samples were to be collected two (2) times per year. Dry weather samples were collected at sites 4 through 9. Samples were collected by Maryland Environmental Services, under contract with DOH. Following permit requirements, aqueous samples were analyzed at an analytical laboratory for pollutants commonly found in urban storm water runoff. Details of monitoring procedures, as well as, specific pollutants and water quality parameters of concern are discussed in the Quality Assurance Project Plan (QAPP). The QAPP is included in Appendix C. In addition, rain duration and intensity data were collected for the sampled storm events and used with sub-basin areas and pollutant concentrations

present to determine system wide event mean pollutant concentrations and annual pollutant loads for the District's MS4.

4.3.2 Criteria For Storm Water Discharge Sampling

The regulations require that storm water runoff at each of the nine outfalls be sampled from three storm events. An allowable storm event defined in 40 CFR 122.21 (g)(7) must meet the following:

- The storm event must contain greater than 0.1 inches of precipitation.
- Each storm event must be at least 30 days apart from a previously sampled storm.
- Each storm event must be preceded by a period of 72 hours during which no more that 0.1 inch of precipitation has been recorded.
- The rainfall intensity of each storm event must be within 50% of the average median rainfall volume and duration for the region.

Historical rain data for the District Metropolitan Area were collected from records maintained at the National Oceanographic and Atmospheric Administration (NOAA). Monthly summaries from 1949 through 1996 from the National Airport data collection station were used to determine the mean storm event precipitation and duration values for each month. Storms sampled during the characterization study theoretically fall within a 50 to 150 percentile of a representative storm for the appropriate month. Table 4.3.2-1 shows the monthly rain data summary and the anticipated rainfall ranges required for sampling. The average monthly rainfall in the District is 3.26 inches with an average rainfall duration of 7.38 hours.

Table 4.3.2-1 Monthly Rain Data Summary from the National Airport Database, 1949-1996.

Monthly Average				Event Averages					
				Precipitation (inches)			Duration (hours)		
Month	Precipitation (inches)	Intensity (inches / hour)	# of Storm Events	50%	100%	150%	50%	100%	150%
Jan	2.81	0.04	7.27	0.19	0.38	0.57	4.65	9.29	13.94
Feb	2.61	0.04	6.50	0.20	0.39	0.59	4.59	9.18	13.77
Mar	3.52	0.05	8.29	0.21	0.42	0.63	4.41	8.81	13.22
Apr	2.84	0.05	7.50	0.18	0.36	0.54	3.73	7.45	11.18
May	3.73	0.06	8.90	0.21	0.41	0.62	3.17	6.34	9.51
June	3.19	0.09	7.00	0.22	0.44	0.66	2.35	4.69	7.04
July	3.88	0.11	7.77	0.25	0.49	0.74	2.25	4.50	6.75
Aug	3.97	0.11	6.81	0.29	0.58	0.87	2.55	5.10	7.65
Sep	3.38	0.08	6.15	0.27	0.54	0.81	3.34	6.67	10.01
Oct	3.06	0.07	5.35	0.28	0.55	0.83	4.12	8.23	12.35
Nov	2.99	0.06	6.15	0.24	0.48	0.72	4.22	8.43	12.65
Dec	3.13	0.05	6.38	0.24	0.48	0.72	4.97	9.94	14.91
Avg.	**3.26**	**0.07**	**7.01**	**0.23**	**0.46**	**0.69**	**3.69**	**7.38**	**11.07**

The average number of rainfall events per month is seven. Using the above criteria, a representative storm event ranges from 0.23 to 0.69 inches of precipitation with a duration ranging from 3.69 to 11.07 hours.

Table 4.3.2-2 shows the actual, predicted normal, and average precipitation for the Washington D.C. area for the period of January 2001 through February 2002. During that period, the amount of precipitation was below the predicted norm. The ongoing decrease in precipitation has resulted in one of the driest periods on record. Therefore, a delay in wet weather event sampling occurred. Wet weather monitoring was not completed as required (i.e.- three times per year) for the current NPDES permit No. 0000221 due to the near drought conditions during this recent period. Data from February to June 2002 were used to fulfill the data requirements of the NPDES Permit No. 0000221. The period of data collection was therefore from January 2001 through June 2002.

Table 4.3.2-2 Actual, Predicted Normal, and Average Precipitation Records for Washington D.C., January 2001 through February 2002.

Precipitation			
Month	**Actual (in.)**	**Normal (in.)**	**Average (in.)**
January 2001	2.22	3.21	2.8
February	1.83	2.63	2.6
March	3.91	3.60	3.4
April	1.68	2.77	2.8
May	3.71	3.82	3.9
June	4.69	3.13	3.3
July	4.77	3.66	4.0
August	3.00	3.44	4.1
September	1.41	3.79	3.3
October	0.70	3.22	3.0
November	0.55	3.03	3.0
December	1.53	3.05	3.2
January 2002	1.53	3.21	--
February	0.35	2.63	--

Washington Times – AccuWeather, Inc. ; USA Today, Data are from Ronald Reagan National Airport, Source: U.S. Climatic Data Center, Ashville, N.C.

4.3.3 Narrative Descriptions of Storm Events Sampled

Data Logging rain gauges were installed at six of the District's monitoring stations. Selected rain gauge site locations and the monitoring stations they represent are described in Table 4.3.3-1. Rain events for which samples were collected are identified in Table 4.3.3-2. CFR 40 §122.26(d)(2)(iii)(A)(2) states that "a narrative description shall be provided of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event." Measurements describing the peak intensity of the storm, if available, should also be reported (EPA, *Guidance Manual for the Preparation of Part 2 of the*

NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems, 1992).

Table 4.3.3-1 Location of Six Rain Gauges Representing the District's Monitoring Stations.

Rain Gauge	Location Description	Represented Monitoring Station(s)
At MS-2	O- Street Pumping Station	MS-2
At MS-4	Gallatin Street and 14th Street, N.E.	MS-4, 5, 8, 9
At MS-5	Varnum and 19th Street	MS-3, MS-5
At MS-6	Nash Run – Intersection of Anacostia Drive and Polk Street, N.E.	MS –6, 8, 9
At MS-7	East Capitol Street – 200 Block of Oklahoma Avenue at intersection with D Street, N.E.	MS-1, 2, 3, 7, 9
At MS- 8	Ft. Lincoln – Newtown BMP	MS-6, 7, 9

Table 4.3.3-2 Storm Events Sampled at Six of the District's Rain Gauge Locations.

Date	Precipitation (Inches)	Duration (Hours)	Time to Previous (Hours)	Gauge Location	Sites Sampled
6/01/01	0.52	11	110	MS-6	MS-9
6/22/01	0.81	2.5	100	MS-7	MS-4
9/20/01	0.46	24	125	MS-8	MS-6, 9
12/17/01	0.12	9	145	MS-8	MS-6, 7
2/07/02	0.19	4.75	436	MS-5	MS-3, 5
3/02/02	0.8	14	86	MS-6	MS-2,3,6,9
3/26/02	0.37	4.5	123	MS-4	MS-1,4,5
4/09/02	0.27	8	304	MS-7	MS-1,2,3,7
4/18/02	0.31	0.67	185	MS-7	MS-1,7
6/06/02	0.38	0.3	224	MS-2	MS-2
6/13/02	2.04	>24	164	MS-4	MS- 4,5

Narrative descriptions of each sampled storm event are presented in Appendix D. Table 4.3.3-2 above, provides a summary of the precipitation accumulation and duration, and, time to the previous event for the rainfall events sampled.

4.3.4 Pollutants and Water Quality Standards for Analysis

Each composite storm water sample was analyzed at the laboratory for the parameters defined in the QAPP. The list of parameters, the detection limits, and EPA-approved methods utilized for monitoring activities are also included in the QAPP (Appendix C).

DOH maintains the records of monitoring information including:

- Description of Sampling
    - Location/Collection Time
    - Sampling Collection
    - Field Test
    - Maryland Environmental Services personnel who collected samples
- Storm Event Data
    - Date and duration of the storm events samples
    - Rainfall measurements
    - Duration between storm event sampled and the end of the previous measurable storm event
    - Estimate of the total volume of the discharge sampled
- Sampling Difficulties/Field Notes
- QA/QC Review and Clarification
    - Field Test Results
    - Laboratory Results Tables
    - Atlantic Coast Laboratories Data
    - Lancaster Laboratories Data
    - Triangle Laboratories Data
    - Martel Laboratories Data

Monitoring results for the wet and dry weather sampling events were reported on discharge monitoring report (DMR) forms. Analytical results for detected pollutant concentrations from all monitoring events to date are presented in Appendix E (Sampling Data).

Monitoring Station number 8, at Fort Lincoln was established to monitor an existing BMP. Because of problems with the BMP no samples were collected at that location.

4.4 ESTIMATION OF SYSTEM WIDE EVENT MEAN CONCENTRATIONS, ANNUAL POLLUTANT LOADS AND SEASONAL LOADS

System wide event mean concentrations and annual pollutant load calculations were conducted following procedures described in EPA's *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Application for Discharges from Municipal Separate Storm Sewer Systems, (EPA, 1992).* Current annual and seasonal pollutant loads (March 1 to October 31) are estimated and described in this section.

After several failed attempts by the contractor to collect wet weather samples at the Ft. Lincoln-Newtown BMP, MES requested that DOH investigate the BMP. During a January 2002 site visit by DOH staff, which designed and monitored construction of the BMP, found that the BMP was not functioning as designed. Consequently there are no sampling events to report for site 8 (Ft. Lincoln-Newtown BMP).

4.4.1 Event Mean Concentrations

The NPDES Part 2 application specified annual pollutant loading estimates for the twelve pollutants associated with urban stormwater (EPA 1992)[1]. The Event Mean Concentration (EMC) of these twelve pollutants were determined based on analysis of samples Collected between February 2001 and June 2002.. The twelve pollutants and the calculated Event Mean Concentrations are presented in Table 4.4.1-1. The EMC is defined as:

$$C_i = T\left(\sqrt{1+CV^2}\right)$$

Where: C_i = Event Mean Concentration

T = Median Concentration of the Samples

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[1]U.S. Environmental Protection Agency. 1992. Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Storm Sewer Systems. EPA/833/B-92/002.

APPENDIX E

SAMPLING RESULTS

Sampling Results for MS-1 Grab Sample, Stickfoot Sewer

Pollutant	Units	Concentration	
		7/16/01	11/06/01
Chloroform	µg/l	1.2	2.8
Bis(2-ethylhexl)phthalate	µg/l	3.7	ND
Copper, Total	mg/l	0.05	0.009
Nickel, Total	mg/l	0.007	ND
Thallium, Total	mg/l	0.002	ND
Zinc, Total	mg/l	0.013	0.009
TSS	mg/l	5	4
TDS	.mg/l	368	320
COD	.mg/l	22	11
BOD	mg/l	ND	2
Fecal Coliform	#/l 00 ml	240	30
Fecal Streptococcus	#/100 ml	500	930
TKN	mg/l	0.85	0.98
Nitrate + Nitrite	mg/l	1.96	0.972
Dissolved Phosphorous (DP)	mg/l	0.07	0.11
Total ammonia + organic Nitrogen	mg/l	0.85	ND
Total Phosphorous (TP)	mg/l	0.08	0.13
Total Nitrogen	mg/l	1.96	1.952

Sampling Results for MS-1 Composite Samples, Stickfoot Sewer

Pollutant	Units	Concentration		
		3/26/02	4/09/02	4/18/02
Chloroform	µg/l	0.8	2.9	ND
Toluene	µg/l	7.3	1.6	ND
Bis(2-ethylhexl)phthalate	µg/l	1.8	10	2.3
Chrysene	µg/l	ND	0.7	ND
Fluroranthene	µg/l	ND	1.4	ND
4,4'-DDT	µg/l	ND	ND	.012
Chromium, Total	mg/l	.003	.003	.006
Copper, Total	mg/l	.032	.066	.164
Lead, Total	mg/l	.009	.01	.054
Nickel, Total	mg/l	.006	.008	.019
Zinc, Total	.mg/l	.05	.148	.133
Phenols, Total	mg/l	ND	.015	.02
TSS	.mg/l	40	74	103
TDS	mg/l	145	186	279
COD	mg/l	32	140	176
BOD	mg/l	12	37	55
Fecal Coliform	#/100ml	2400	24000	11000
Fecal Streptococcus	#/100 mL	24000	24000	46000
TKN	mg/l	.66	2.7	3.3
Nitrate + Nitrite	mg/l	.94	1.73	2.21
Dissolved Phosphorous	mg/l	.13	.17	.29
Total ammonia + organic Nitrogen	mg/l	.66	2.7	3.3
Total Phosphorous	mg/l	.24	.26	.4
PCB-28	µg/l	ND	0.0007	ND
PCB-31	µg/l	ND	0.00073	ND
PCB-44	µg/l	ND	0.00065	ND
PCB-52	µg/l	ND	0.001	ND
PCB-101	µg/l	ND	0.0018	0.0019
PCB-110	µg/l	ND	0.0011	0.0013
PCB-114	µg/l	ND	ND	0.0014
PCB-118	µg/l	ND	ND	0.0011
PCB-126	µg/l	ND	ND	0.0012
PCB-141	µg/l	ND	ND	0.0015
PCB-151	µg/l	ND	0.00097	0.0015
PCB-153	µg/l	0.0025	ND	0.0052
PCB-170	µg/l	ND	0.0015	
PCB-177	µg/l	0.00053	0.00082	0.0012
PCB-180	µg/l	0.0017	0.0028	0.0044
PCB-194	µg/l	ND	0.00064	0.0011
PCB-195	µg/l	ND	ND	0.00052
PCB-92	µg/l	ND	ND	0.0087
PCB-127	µg/l	0.00072	ND	ND
PCB-132	µg/l	0.00069	0.00088	0.0013
PCB-149	µg/l	0.0015	0.0022	0.0033
PCB-171	µg/l	ND	ND	0.00065
PCB-174	µg/l	ND	0.0014	0.0021
PCB-179	µg/l	ND	0.001	0.0025
PCB-190	µg/l	ND	ND	0.00073
PCB-196	µg/l	ND	ND	0.00053
PCB-203	µg/l	ND	ND	0.00059

Sampling Results for MS-2 Composite Sample, O Street Pump Station

Pollutant	Units	Concentration		
		3/02/02	04/09/02	06/06/02
Toluene	µg/l	ND	ND	.09
4-Nitrophenol	µg/l	ND	ND	0.07
Bis(2-ethylhexl)phthalate	µg/l	31	9.8	6
Napthalene	µg/l	5.6	ND	ND
4,4'-DDE	µg/l	0.011	ND	0.005
Endrin aldehyde	µg/l	0.007	ND	ND
Antimony, Total	mg/l	0.002	ND	0.003
Arsenic, Total	mg/l	0.003	ND	ND
Cadmium, Total	mg/l	0.001	ND	0.002
Chromium, Total	mg/l	0.009	0.006	0.015
Copper, Total	mg/l	0.049	0.057	0.121
Lead, Total	mg/l	0.037	0.02	0.1
Nickel, Total	mg/l	0.011	0.01	0.023
Zinc, Total	mg/l	0.158	0.149	0.484
Cyanide	mg/l	0.007	0.017	ND
Phenols, Total	mg/l	0.014	0.112	0.009
TSS	mg/l	135	90	429
TDS	mg/l	494	256	235
COD	mg/l	244	230	311
BOD	mg/l	78	74	107
Oil and Grease	mg/l	15	7.2	10
Fecal Coliform	#/100ml	11000	4600	4600
Fecal Streptococcus	#/l 00 mL	240000	46000	240000
TKN	mg/l	6.5	4.6	4.3
Nitrate + Nitrite	mg/l	1.03	1.03	1.3
Dissolved Phosphorous	mg/l	0.56	0.4	0.37
Total ammonia + organic Nitrogen	mg/l	6.5	4.6	4.3
Total Phosphorous	mg/l	0.73	0.54	0.73
PCB-8	µg/l	0.003	0.00081	ND
PCB-18	µg/l	ND	ND	0.0096
PCB-28	µg/l	0.0066	ND	0.015
PCB-31	µg/l	0.0064	0.0014	0.016
PCB-37	µg/l	0.0016	ND	ND
PCB-44	µg/l	0.004	0.00087	0.011
PCB-49	µg/l	0.0038	ND	0.0053
PCB-52	µg/l	0.0047	0.0015	0.0093
PCB-74	µg/l	0.0013	0.00056	0.0036
PCB-101	µg/l	0.0019	0.0012	0.0065
PCB-110	µg/l	0.0018	0.0011	0.0068
PCB-180	µg/l	ND	ND	0.0052
PCB-194	µg/l	ND	ND	0.0015
PCB-195	µg/l	ND	ND	0.00061
PCB-33	µg/l	0.0041	0.00097	0.0095
PCB-42	µg/l	0.00067	ND	0.0033
PCB-64	µg/l	0.0021	0.00068	0.0053
PCB-82	µg/l	ND	ND	0.00084
PCB-92	µg/l	ND	0.0014	0.0089
PCB-127	µg/l	0.00076	ND	0.0028
PCB-135	µg/l	ND	ND	0.00097
PCB-149	µg/l	ND	0.00075	0.0047

Sampling Results for MS-3 Grab Sample, MN & 17th Street

Pollutant	Units	Concentration	
		7/16/01	11/06/01
Chloroform	µg/l	0.07	0.6
Phenol	µg/l	0.8	ND
Copper, Total	mg/l	0.011	0.004
Nickel, Total	mg/l	0.007	0.007
Selenium, Total	mg/l	0.087	ND
Silver, Total	mg/l	0.731	ND
Zinc, Total	mg/l	0.016	0.014
TSS	mg/l	5	ND
TDS	.mg/l	279	273
COD	.mg/l	21	ND
BOD	mg/l	2	4
Oil and Grease	Mg/l	ND	7.4
Fecal Coliform	#/l 00 ml	1600	500
Fecal Streptococcus	#/100 ml	170	90
TKN	mg/l	0.83	1.8
Nitrate + Nitrite	mg/l	1.65	0.952
Dissolved Phosphorous (DP)	mg/l	0.08	0.11
Total ammonia + organic Nitrogen	mg/l	0.83	ND
Total Phosphorous (TP)	mg/l	0.08	0.15
Total Nitrogen	mg/l	1.65	2.752

Sampling Results for MS-3 Composite Sample, MN &17th Street

Pollutant	Units	Concentration		
		2/07/02	3/02/02	4/09/02
Chloroform	µg/l	ND	ND	0.9
Bis(2-ethylhexl)phthalate	µg/l	4.1	25	8.2
Di-n-octyl phthalate	µg/l	ND	12	ND
Fluroranthene	µg/l	ND	ND	0.9
4,4'-DDT	µg/l	ND	ND	0.007
Antimony, Total	mg/l	ND	0.003	ND
Arsenic	mg/l	0.002	ND	ND
Chromium, Total	mg/l	0.003	0.003	0.005
Copper, Total	mg/l	0.022	0.025	0.1
Lead, Total	mg/l	0.009	0.01	0.021
Mercury, Total	mg/l	ND	0.01	ND
Nickel, Total	mg/l	0.005	ND	0.021
Zinc, Total	mg/l	0.057	0.099	0.194
Cyanide, Total	mg/l	0.01	ND	ND
Phenols, Total	mg/l	ND	0.004	0.016
TSS	mg/l	26	117	170
TDS	mg/l	517	160	246
COD	mg/l	45	79	256
BOD	mg/l	8	23	28
Oil and Grease	mg/l	116	5.9	ND
Fecal Coliform	#/100ml	110000	4600	930
Fecal Streptococcus	#/l 00 mL	11000	2400	460
TKN	mg/l	1.8	1.9	5.4
Nitrate + Nitrite	mg/l	1.41	0.81	1.04
Dissolved Phosphorous	mg/l	0.31	0.17	0.23
Total ammonia + organic Nitrogen	mg/l	1.8	1.9	5.4
Total Phosphorous	mg/l	0.25	0.24	0.63
PCB-92	µg/l	ND	ND	0.0019
PCB-110	µg/l	ND	ND	0.00054

Sampling Results for MS-4 Grab Sample, Gallatin & 14th Street, N.E.

Pollutant	Units	Concentration	
		7/16/01	11/06/01
Chloroform	µg/l	ND.	6.1
Dieldrin	µg/l	0.003	ND
Alpha-endosulfan (Endosulfan I)	µg/l	0.019	ND
PCB-31	µg/l	0.00056	ND
PCB-37	µg/l	0.0012	ND
PCB-70	µg/l	0.00096	ND
Chromium, Total	mg/l	0.004	ND
Copper, Total	mg/l	0.011	0.007
Nickel, Total	mg/l	0.016	0.007
Zinc, Total	mg/l	0.032	0.018
TSS	mg/l	ND	6
TDS	.mg/l	341	299
COD	.mg/l	25	ND
BOD	mg/l	ND	2
Oil and Grease	mg/l	ND	5.1
Fecal Coliform	#/l 00 ml	1600	17
Fecal Streptococcus	#/100 ml	170	90
TKN	mg/l	0.22	0.53
Nitrate + Nitrite	mg/l	3.7	1.68
Dissolved Phosphorous (DP)	mg/l	0.15	0.09
Total ammonia + organic Nitrogen	mg/l	0.7	0.53
Total Phosphorous (TP)	mg/l	0.16	.011
Total Nitrogen	mg/l	0.38	2.21

Sampling Results for MS-4 Composite Sample, Gallatin & 14th

Pollutant	Units	Concentration		
		6/22/01	3/26/02	6/13/02
Chloroform	µg/l	ND	2.1	ND
1,2-Dichloroethane	µg/l	0.5	ND	ND
Toluene	µg/l	ND	ND	2.0
Phenol	µg/l	0.8	ND	ND
Bis(2-ethylhexl)phthalate	µg/l	ND	4	3.6
1,2-diphenythydrazine as azobenzene	µg/l	0.5	ND	ND
Gamma-BHC	µg/l	0.002	ND	ND
Dieldrin	µg/l	0.002	ND	ND
4,4'-DDT	µg/l	ND	0.004	ND
Antimony, Total	mg/l	ND	0.003	ND
Arsenic, Total	mg/l	0.003	ND	0.003
Cadmium, Total	mg/l	ND	ND	0.0006
Chromium, Total	mg/l	0.006	0.007	0.006
Copper, Total	mg/l	0.037	0.026	0.035
Lead, Total	mg/l	0.017	0.029	0.019
Nickel, Total	mg/l	0.014	0.01	0.013
Selenium, Total	mg/l	0.005	ND	ND
Thallium,Total	mg/l	0.002	ND	ND
Zinc, Total	.mg/l	0.126	0.137	0.125
TSS	.mg/l	50	62	43
TDS	mg/l	138	97	141
COD	mg/l	93	96	88
BOD	mg/l	20	11	39
Oil and Grease	mg/l	ND	ND	7.4
Fecal Coliform	#/100ml	24000	4600	24000
Fecal Streptococcus	#/l 00 mL	24000	24000	110000
TKN	mg/l	2.9	1.6	2
Nitrate + Nitrite	mg/l	1.32	0.656	1.53
Dissolved Phosphorous	mg/l	0.3	0.13	0.18
Total ammonia + organic Nitrogen	mg/l	1.9	1.6	2
Total Phosphorous	mg/l	0.3	0.38	0.21
PCB-8	µg/l	0.0061	0.0036	ND
PCB-18	µg/l	0.0086	0.0067	0.00085
PCB-22	µg/l	0.003	ND	ND
PCB-28	µg/l	0.0094	ND	0.002
PCB-31	µg/l	0.0092	0.0097	0.0023
PCB-33	µg/l	0.0049	0.0052	0.0013
PCB-37	µg/l	ND	0.0031	ND
PCB-42	µg/l	0.0011	0.0016	ND
PCB-44	µg/l	0.0063	0.0053	0.0016
PCB-49	µg/l	0.0036	0.0044	ND
PCB-52	µg/l	0.005	0.0055	0.0016
PCB-64	µg/l	0.0036	0.0029	0.0011
PCB-74	µg/l	0.0033	0.00091	ND
PCB-77	µg/l	0.0012	0.00073	ND
PCB-101	µg/l	0.0022	0.0025	ND
PCB-105	µg/l	0.00098	ND	ND
PCB-110	µg/l	0.0025	0.002	0.00087
PCB-114	µg/l	0.00067	ND	ND
PCB-118	µg/l	0.002	0.0023	0.00088
PCB-127	µg/l	ND	0.0053	ND
PCB-146	µg/l	0.00051	ND	ND
PCB-149	µg/l	0.00067	ND	ND
PCB-153	µg/l	0.0015	ND	0.0007
PCB-170	µg/l	0.00063	ND	ND
PCB-179	µg/l	0.001	ND	ND
PCB-180	µg/l	ND	0.00085	ND

Sampling Results for MS-5 Grab Sample, Varnum & 19th Place, N.E.

Pollutant	Units	Concentration	
		7/16/01	11/06/01
Chloroform	µg/l	ND	6.1
Ethylbenzene	µg/l	ND	0.9
Methyl bromide (bromomethane)	µg/l	2	ND
Dieldrin	µg/l	0.003	ND
Alpha-endosulfan (Endosulfan I)	µg/l	0.003	ND
PCB-37	µg/l	0.0024	ND
PCB-70	µg/l	0.0015	ND
Copper, Total	mg/l	0.004	0.003
Nickel, Total	mg/l	0.006	0.005
Zinc, Total	mg/l	0.014	0.012
TSS	mg/l	ND	ND
TDS	.mg/l	329	343
COD	.mg/l	23	ND
BOD	mg/l	2	ND
Fecal Coliform	#/l 00 ml	1600	230
Fecal Streptococcus	#/100 ml	1600	230
TKN	mg/l	1.3	0.32
Nitrate + Nitrite	mg/l	3.61	1.78
Dissolved Phosphorous (DP)	mg/l	0.1	0.13
Total ammonia + organic Nitrogen	mg/l	1.3	0.32
Total Phosphorous (TP)	mg/l	0.1	0.14
Total Nitrogen	mg/l	3.61	2.1

Sampling Results for MS-5 Composite Sample, Varnum and 19th Place

Pollutant	Units	Concentration		
		2/07/02	3/26/02	6/13/02
Toluene	µg/l	1.0	ND	3.2
Bis(2-ethylhexl)phthalate	µg/l	3.8	3.0	5.6
4,4'-DDT	µg/l	ND	0.008	0.012
4,4'-DDE	µg/l	0.003	ND	ND
Antimony, Total	mg/l	ND	0.003	ND
Arsenic, Total	mg/l	ND	ND	0.003
Cadmium, Total	mg/l	ND	ND	0.0005
Chromium, Total	mg/l	0.003	0.004	0.004
Copper, Total	mg/l	0.017	0.032	0.049
Lead, Total	mg/l	0.007	0.026	0.03
Nickel, Total	mg/l	0.007	0.008	0.013
Zinc, Total	.mg/l	0.066	0.108	0.144
Cyanide	mg/l	0.006	ND	0.008
Phenols, Total	mg/l	0.012	ND	0.031
TSS	.mg/l	90	75	106
TDS	mg/l	209	134	110
COD	mg/l	55	94	181
BOD	mg/l	5	11	55
Oil and Grease	mg/l	38	ND	7.1
Fecal Coliform	#/100ml	2400	4600	110000
Fecal Streptococcus	#/100 mL	1000	46000	46000
TKN	mg/l	1.6	2.5	3.4
Nitrate + Nitrite	mg/l	0.982	0.888	1.92
Dissolved Phosphorous	mg/l	0.14	0.22	0.43
Total ammonia + organic Nitrogen	mg/l	0.7	2.5	3.4
Total Phosphorous	mg/l	0.21	0.48	0.48
PCB-92	µg/l	0.0047	ND	ND
PCB-110	µg/l	0.00061	ND	0.00063
PCB-118	µg/l	0.00056	ND	0.00063
PCB-148	µg/l	ND	0.0048	ND
PCB-153	µg/l	0.00063	ND	0.0006

Sampling Results for MS-6 Composite Sample, Nash Run

Pollutant	Units	Concentration		
		9/20/01	12/17/01	3/02/02
Toluene	µg/l	7.3	1.6	ND
Bis(2-ethylhexl)phthalate	µg/l	ND	3.4	28
Butylbenzylphthalate	µg/l	ND	ND	9.8
4,4'-DDE	µg/l	ND	ND	0.002
Chromium, Total	mg/l	ND	ND	0.005
Copper, Total	mg/l	0.177	0.051	0.025
Lead, Total	mg/l	0.007	0.002	0.017
Nickel, Total	mg/l	0.004	0.003	0.009
Zinc, Total	.mg/l	0.185	0.113	0.143
Cyanide, Total	mg/l	0.004	ND	ND
Phenols, Total	mg/l	ND	0.065	0.015
TSS	.mg/l	11	8	61
TDS	mg/l	100	48	121
COD	mg/l	112	44	114
BOD	mg/l	35	7	36
Oil and Grease	mg/l	ND	5.1	7.6
Fecal Coliform	#/100ml	46000	46000	210
Fecal Streptococcus	#/l 00 mL	110000	2400	2400
TKN	mg/l	1.6	1.6	1.7
Nitrate + Nitrite	mg/l	1.74	0.745	1.5
Dissolved Phosphorous	mg/l	0.32	0.23	0.17
Total ammonia + organic Nitrogen	mg/l	1.6	1.6	1.7
Total Phosphorous	mg/l	0.35	0.27	0.23
PCB-8	µg/l	ND	0.00053	ND

Sampling Results for MS-7 Composite Sample, E. Capitol Street

Pollutant	Units	Concentration		
		12/17/01	4/09/02	4/18/02
Chloroform	µg/l	1.7	1.2	3.6
Tetrachloroethane	µg/l	251	215	657
Toluene	µg/l	2.9	ND	ND
Trichloroethylene	µg/l	1.8	1.0	2.2
Bis(2-ethylhexl)phthalate	µg/l	2.7	7.3	1.9
Dieldrin	µg/l	ND	0.002	ND
Arsenic, Total	mg/l	ND	0.003	0.002
Beryllium, Total	mg/l	ND	0.0005	ND
Cadmium, Total	mg/l	ND	ND	0.0008
Chromium, Total	mg/l	0.002	0.005	0.004
Copper, Total	mg/l	0.011	0.039	0.031
Lead, Total	mg/l	0.005	0.044	0.032
Nickel, Total	mg/l	0.019	0.017	0.024
Zinc, Total	.mg/l	0.109	0.29	0.223
Phenols, Total	mg/l	0.087	0.011	0.003
TSS	.mg/l	9	15	80
TDS	mg/l	227	92	287
COD	mg/l	49	141	179
BOD	mg/l	ND	26	53
Fecal Coliform	#/100ml	11000	2400	24000
Fecal Streptococcus	#/l 00 mL	24000	11000	46000
TKN	mg/l	1.5	2.6	4.8
Nitrate + Nitrite	mg/l	1.91	1.14	3.37
Dissolved Phosphorous	mg/l	0.13	0.16	0.73
Total ammonia + organic Nitrogen	mg/l	0.54	2.6	4.8
Total Phosphorous	mg/l	0.2	0.74	0.76
PCB-101	µg/l	ND	0.0007	0.00086
PCB-110	µg/l	ND	0.00081	0.001
PCB-118	µg/l	ND	0.00082	0.0011
PCB-153	µg/l	ND	0.00074	0.0012
PCB-170	µg/l	ND	ND	0.00053
PCB-180	µg/l	ND	ND	0.00056
PCB-92	µg/l	ND	ND	0.0046
PCB-132	µg/l	ND	ND	0.00072
PCB-149	µg/l	ND	ND	0.00061
PCB-179	µg/l	ND	ND	0.00098

Sampling Results for MS-8 Grab Sample, Ft. Lincoln – Newtown BMP, Influent

Pollutant	Units	Concentration
		7/16/01
Bis(2-ethylhexl)phthalate	µg/l	2.6
PCB-31	µg/l	0.0005
PCB-70	µg/l	0.00075
Chromium, Total	mg/l	0.005
Copper, Total	mg/l	0.015
Lead, Total	mg/l	0.006
Nickel, Total	mg/l	0.009
Silver, Total	mg/l	0.731
Zinc, Total	mg/l	0.040
TSS	mg/l	121
TDS	.mg/l	386
COD	.mg/l	49
BOD	mg/l	3
Fecal Coliform	#/l 00 ml	300
Fecal Streptococcus	#/100 ml	1600
Nitrate + Nitrite	mg/l	1.6
Dissolved Phosphorous (DP)	mg/l	0.10
Total Phosphorous (TP)	mg/l	0.57
Total Nitrogen	mg/l	1.60

Sampling Results for MS-9 Composite Sample, Hickey Run-33rd & V St.

Pollutant	Units	Concentration		
		6/01/01	9/20/01	3/02/02
Bis(2-ethylhexl)phthalate	µg/l	8.3	ND	28
Butylbenzylphthalate	µg/l	ND	ND	45
Di-n-butylphthalate	µg/l	ND	ND	5
Chromium, Total	mg/l	0.006	0.003	0.002
Copper, Total	mg/l	0.017	0.017	0.073
Lead, Total	mg/l	0.016	0.03	0.009
Nickel, Total	mg/l	0.006	0.006	0.004
Zinc, Total	.mg/l	0.087	0.168	0.187
Cyanide, Total	mg/l	ND	0.002	ND
Phenols, Total	mg/l	0.024	ND	0.014
TSS	.mg/l	42	8	39
TDS	mg/l	53	84	52
COD	mg/l	60	47	60
BOD	mg/l	7	9	17
Oil and Grease	mg/l	ND	11	7.3
Fecal Coliform	#/100ml	11000	2400	930
Fecal Streptococcus	#/l 00 mL	110000	24000	4600
TKN	mg/l	0.7	1.1	1.7
Nitrate + Nitrite	mg/l	0.39	1.45	1.87
Dissolved Phosphorous	mg/l	0.14	0.07	0.11
Total ammonia + organic Nitrogen	mg/l	0.7	1.1	1.7
Total Phosphorous	mg/l	0.15	0.08	0.14
PCB-101	µg/l	0.0016	ND	ND
PCB-110	µg/l	0.0009	ND	ND
PCB-118	µg/l	0.0008	ND	ND
PCB-138	µg/l	0.001	ND	ND
PCB-153	µg/l	0.0014	ND	ND
PCB-170	µg/l	0.00097	ND	ND
PCB-180	µg/l	0.001	ND	ND
PCB-132	µg/l	0.001	ND	ND
PCB-149	µg/l	0.00057	ND	ND
PCB-179	µg/l	0.00059	ND	ND
PCB-190	µg/l	0.00058	ND	ND

Table 4.4.1-1 Event Mean Concentrations (C_i) (mg/L)
Monitoring Stations for MS4
February 2001 – June 2002.

	Monitoring Station							
Pollutant	**MS-1**	**MS-2**	**MS-3**	**MS-4**	**MS-5**	**MS-6**	**MS-7**	**MS-9**
TSS	78	369.1	119.5	47.3	99.4	54	67.3	48.0
BOD	39.5	94.5	20.4	34.6	45.8	42	37.6	13.3
COD	123.8	281.3	201.9	90.6	136.8	123.6	129.7	60.5
TDS	223.8	398	446	142	168.6	120	286.7	54.6
TN	4.01	6.67	5.38	2.68	4.13	2.82	6.53	2.63
TKN	2.33	5.54	4.35	2.56	2.66	1.65	3.62	1.31
TP	0.33	0.74	0.51	0.27	0.37	0.30	0.55	0.15
DP	0.23	0.48	0.28	0.26	0.33	0.26	0.61	0.13
Cadmium	--	0.0021	--	--	--	--	--	--
Copper	0.125	0.096	0.082	0.037	0.10	0.14	0.024	0.061
Lead	0.046	0.088	0.017	0.019	0.037	0.016	0.023	0.014
Zinc	0.101	0.396	0.146	0.126	0.021	0.17	0.18	0.146

Section 303(d) Waters

Background

Section 303(d) of the Federal Clean Water Act and regulations developed by U.S. EPA require states to prepare of a list of waterbodies that do not meet water quality standards even after all the pollution controls required by law are in place. Waterbodies not meeting the appropriate water quality standards are considered to be impaired. The law requires that states place the impaired waterbody segments on a list referred to as the 303(d) list and develop Total Maximum Daily Loads (TMDLs) for the waterbodies on the list.

In July 2003, EPA distributed new guidance for the assessment, listing, and reporting requirements for Section 303(d) and 305(b) of the Clean Water Act for the 2004 reporting cycle. The product of the July 2003 guidance is called the Integrated Report. The new guidance requires the categorization of all state waters into 5 assessment categories. Category 1 should include waters with the status that all designated uses are being met. Category 2 should include waters that meet some of their designated uses, but there is insufficient data to determine if remaining designated uses are met. Category 3 should include waters for which insufficient data exists to determine whether any designated uses are met. Category 4 should include waters that are impaired or threatened but a TMDL is not needed. Category 5 should include waters that are impaired or threatened and a TMDL is needed. Categories can be subcategorized.

EPA regulations require that the 2004 Integrated Report (305(b)/303(d) list) and methodology used to prepare the categorize the waters be submitted to EPA by April 1, 2004. The public must also be given the opportunity to comment on a draft list.

Basis for Consideration of Data

Various data sources were considered for use in the preparation of the draft 2004 303(d) List. As the 303d list is a tool of the regulatory TMDL process, D.C. wants to ensure that the 303(d) list produced and approved is based on data that utilized unbiased, scientifically sound collection and analytical methods. The DC Water Quality Monitoring Regulations (Title 21, Chapter 19 - District of Columbia Municipal Regulations) were developed to provide for accurate, consistent, and reproducible water quality monitoring data for decision making purposes. Data used must have been collected in the actual waterbody that is being assessed. Data that did not satisfy the above mentioned monitoring regulations were not reviewed for the development of the draft 2004 303d list.

Like the 2002 303(d) list, the draft 2004 list enumerates specific pollutants of concern, not categories of pollutants. The draft 2004 DC 303(d) List is based on the following data:

- 2002 303(d) list
- DC Ambient Water Quality Monitoring data for 1997-2002 used to make use support determinations for the 2002 305(b) report
- DC Municipal Separate Storm Sewer System 2001-2002 Monitoring data
- Draft Tributary Assessment Report, 2004 (Biological Data collected between 2002-2003) being

Exhibit 12

used to make aquatic life use support determinations for the 2004 305(b) report
- DC Fish Tissue Contamination Report, 2001

Data Interpretation for Listing

If a designated use is not supported, then a waterbody is listed for the pollutant associated with the applicable criteria. In order for a waterbody to be listed the data evaluated for water quality standard attainment must have been collected from that specific waterbody. Only relevant data should be used to make the attainment determination. This stipulation is necessary as development of a TMDL is a major time and monetary investment for the parties involved. The Water Quality Division must ensure that the funds expended for TDML purposes are used in an efficient manner and will result in maximum water quality benefits. For example, the Anacostia River cannot be listed for copper if there is no copper data available from water samples collected in a segment of the Anacostia River to indicate that impairment. MS4 data from an outfall to a tributary of the Anacostia River cannot be used to list a segment of the river.

Use Support Determination

-Ambient Monitoring Data and Draft Tributary Assessment Data
The Water Quality Division uses the D.C. Surface Water Quality Standards to evaluate its surface waters. The designated uses for the surface waters of the District of Columbia are delineated in the January 2003 Water Quality Standards. The designated uses are:

- primary contact recreation (swimmable),
- secondary contact recreation and aesthetic enjoyment (wadeable),
- protection and propagation of fish, shellfish, and wildlife (aquatic life) ,
- protection of human health related to consumption of fish and shellfish (fish consumption), and
- navigation.

For the draft 2004 303(d) list determination, physical, chemical, and bacterial data collected from January 1999 to December 2003 is being used to make the use support decisions for primary contact, secondary contact , and aquatic life support uses for the rivers. A waterbody is included on the draft 303(d) list if its designated use was not supported, i.e.- greater than 10% exceedance of the measurements taken with the data period of study. It is listed on Category 5 of the list if it is a new instance of non-support of a parameter.

Biological/habitat data collected during 2002-2003 in addition to the physical/chemical data is used to determine aquatic life use support for the small D.C. streams. Biological/ habitat data for small streams was evaluated using the U.S. EPA stressor identification guidance. If a stream's aquatic life use is not supported based on the biological information found in the D.C. Tributary Assessment Report (draft internal document) it is listed under Category 4C of the list, if a TMDL has not been completed.

Fish Tissue Contamination Data

Fish consumption use determinations (Class D) are based on known fish consumption advisories

in effect during the assessment period. Surface Water Quality Standards (SWQS) were not used to make fish consumption support decisions. It should however be noted that D.C. developed its fish consumption advisories from fish tissue contamination data collected in recent years. Fish tissue contamination data used to issue advisories are collected at stations located on the Anacostia and Potomac Rivers. If no barrier for fish movement exists, it is assumed that fish move freely to the smaller streams and other waterbodies. In addition, the EPA guidance on using fish advisories for Integrated Report categorization indicates that fish and shellfish consumption advisories demonstrate non-attainment when the advisor is based on fish and shellfish tissue data.

Municipal Separate Storm Sewer (MS4) Data

The MS4 data used is the result of wet and dry weather samples collected from the stations monitored during this MS4 monitoring cycle. The 8 stations were within the D.C. Anacostia River watershed. Only parameters for which numeric criteria was listed in the DC WQS were evaluated. The most strict criteria listed was used for comparison with the data results.

Category Placement Methodology

The pollutant causing an impairment in a waterbody must be identified. With multiple uses associated with each waterbody it is possible for a single waterbody to need more than one TMDL. The guidance allows a waterbody to be listed in only one category. So a waterbody placement in a category is dependent on the aggregate of TMDLs that may be needed and not a specific pollutant. Keep in mind that the main goal of this list is to have TMDLs approved and implemented so that water quality standards can be attained.

Category 1- No District of Columbia waters were placed in category 1 as none of the waterbodies attained all its designated uses. This decision is based on the surface water assessments included in the ADB database.

Category 2- No District of Columbia waters were placed in category 2. While some waters attained some of their designated uses, the criteria that there was insufficient data to determine attainment of all designated uses was not met for placement in this category. This decision is based on the surface water assessments included in the ADB database.

Category 3- No District of Columbia waters were placed in category 3 as sufficient data existed to determine designated use attainment. This decision is based on the surface water assessments included in the ADB database.

Category 4- Impaired waters for which TMDL is not needed for various reasons as specified in the following subcategories.

Subcategory 4A- Impaired waters for which TMDLs for pollutants causing impairments have been approved or established by EPA were place in this category. Several waterbodies are listed in this category as number of TMDLs have been approved.

Subcategory 4B- Impaired waters for which other pollution controls are expected to result in water quality standard attainment in a reasonable period of time. No waterbody/pollutant(s) combination fit this category.

Subcategory 4C- Impaired waters for which TMDL are not required. Impairment is not caused by a pollutant. No waterbody/pollutant(s) combination fit this category.

Category 5- Based on the surface water assessments included in the ADB database, D.C. waters that did not attain one or more of its designated uses were placed in this category. A waterbody is placed in this category even if TMDLs have been approved for some of the pollutants/pollution identified as causing non-attainment. All necessary TMDLs for a waterbody must be approved or established by EPA in order to placed in category 4A.

Pollutants/Waterbody Removals from the 2002 303(d) List

Some waters previously listed on the District of Columbia's 303(d) list have been removed based on EPA's analysis of available information. The waters removed are:

-Kingman Lake for BOD and TSS;
-Fort Davis Tributary for BOD;
-Lower Rock Creek for organics (chemicals evaluated are chlordane, TPCBs, DDT, Total PAHs, Dieldrin, Mirex, Heptachlorepoxide, Endosulfn (II), Gamma-BHC, Hexachlorobenzene and Endrin);
-Upper Rock Creek for organics (chemical evaluated are chlordane, TPCBs, DDT, Total PAHs, Dieldrin, Mirex, Heptachlorepoxide, Endosulfn (II), Gamma-BHC, Hexachlorobenzene and Endrin);
-Lower Rock Creek for metals (metals evaluated and not needing a TMDL are cadmium, chromium, arsenic, nickel and selenium);
-Upper Rock Creek for metals (metals evaluated and not needing a TMDL are cadmium, chromium, arsenic, nickel, and selenium);

The 2002 listing of the Anacostia River segments 1 and 2 for impairment due to nutrients is not included as a waterbody can only be listed in one category (based on the EPA Integrated Report guidance). A TMDL for nutrients (applies to the Potomac River) is not needed due to the pollution control requirements that are the result of the Chesapeake Bay program's Chesapeake 2000 Agreement and NPDES permits for Blue Plains and the D.C. MS4 being expected to attain water quality within a reasonable time of 5 years (the permit period). In addition, the Anacostia River segments 1 and 2 listing for 2002 are removed from the list as they were based on data for water samples not directly collected in the Anacostia River but from MS4 monitoring sites.

Priority Ranking

Waterbodies that are first placed in 2004 on the draft list for toxics substances such as metals, pesticides, carcinogens or noncarcinogens, etc. are ranked as high priority for TMDL development on the basis of their risk to human health. Due to experience with the TMDL

development process- data gathering, model development, public partcipation- the District of Columbia does not foresee the development of TMDL for waterbodies ranked as high priority (on the 2004 list) before the next four years or 2008. Keep in mind that impaired waters listed on the 2002 Section 303 (d) list are scheduled for development until April 2009.

Waterbodies first listed in 2004 for fecal coliform due to secondary contact recreation use violations with 50% or more exceedances are ranked as Medium priority waterbodies.(The term "50% or more exceedances" refers to the percentage of time within the 5-year period of study that monitoring data for a waterbody exceeded the water quality standard. For example, if the secondary contact recreation use was being evaluated and there are 60 fecal coliform readings for the Anacostia River during the 5- year study period and 33 of those readings were greater than 1000 MPN/100mL then 55% of the time during that study period the secondary contact recreation use was exceeded and that waterbody would be ranked as a medium priority waterbody.) Bacterial impairment also poses some human health risk, though the effects seen are usually not as severe as toxic substances' effects. The secondary contact recreation use exceedances (a current use) will take higher priority than the primary contact recreation use exceedances as it is also more a efficient use of resource to address the existing uses before the designated uses (such as primary contact recreation). Waterbodies listed for pH are also ranked as Medium priority as it is a aquatic life use criterion. The medium priority waterbodies will be scheduled for TMDL preparation in 2009.

Waterbodies first listed in 2004 for fecal coliform for secondary contact recreation use violations with less than 50% exceedances are ranked as low priority. Waterbodies listed for any other pollutant not previously mentioned will also be ranked low priority. Low priority waterbodies will be scheduled for TMDL preparation in 2010.

Georeferencing

The geographic location codes included in the draft 2004 303(d) List were taken from the National Hydrography Dataset. The District of Columbia has two codes. 02070010 - the Potomac Watershed and 02070008- the Middle Potomac-Catoctin Watershed. Only one D.C. waterbody, Dalecarlia Tributary, is in the Middle Potomac-Catoctin Watershed. All the remaining waterbodies are in the Potomac Watershed. The EPA Assessment DatabaseVersion 2 for ORACLE is being used to compile the data for the Integrated Report.

Public Participation

The draft 2004 Section 303(d) list will be available for a 30-day public comment period. The comment period commenced on March 1 and ends on March 30, 2004. A copy of the draft 303(d) list was available at the Martin Luther King, Jr. Public Library's Washingtonian Room starting on March 1, 2004. Notice of the availability of the draft 2004 303(d) list and instructions on how to comment on the list were scheduled for publication in the Washington Post and Washington Times newspapers on March 1, 2004. Due to technical difficulties at The Washington Times newspaper the notice was published on March 2, 2004. The notice was also be published in the D.C. Register. The formal required responses to the comments received by

the deadline will be prepared and sent to U.S. EPA Region 3 when completed.

Categorization of District of Columbia waters

See Appendix 3.9 for Categorization List.

Categorization of District of Columbia Waters

Category 1- All designated uses are attained and no use is threatened.

No DC waters fit this category.

Category 2- Some, but not all, of the designated uses are attained and no use is threatened. The attainment status of the remaining designated uses is unknown as insufficient data exists to make an attainment determination.

No DC waters fit this category.

Category 3- Insufficient data exists to determine whether any designated uses are attained.

No DC waters fit this category.

Category 4- Water is impaired or threatened for one or more designated uses, but a TMDL is not needed.
See subcategories below.

Category 4A- All TMDLs needed to result in designated use attainment have been approved or established by EPA.

DISTRICT OF COLUMBIA
PROPOSED LIST OF IMPAIRED WATERBODIES
Category 4A

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	TMDL Establishment Date
1998	02070010	DCTWB00R	Upper Watts Branch-segment 2	Organics Bacteria Total Suspended Solids	High	Mar 2003
1998	02070010	DCTWB00R	Lower Watts Branch-segment 1	Bacteria Organics Total Suspended Solids	High	Mar 2003
1998	02070010	DCAKL00L	Kingman Lake	Bacteria Organics Metals Oil and Grease	High	Mar 2003
1998	02070010	DCTDU01R	Fort DuPont Creek	Bacteria Metals	High	Mar 2003
1998	02070010	DCTFD01R	Fort Davis Tributary	Bacteria Metals	Medium	Mar 2003
1998	02070010	DCTFS01R	Fort Stanton Tributary	Bacteria Metals Organics	Medium	Mar 2003

DISTRICT OF COLUMBIA
PROPOSED LIST OF IMPAIRED WATERBODIES
Category 4A

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	TMDL Establishment Date
1998	02070010	DCTFC01R	Fort Chaplin Tributary	Bacteria Metals	High	Mar 2003
1998	02070010	DCTPB01R	Popes Branch	Bacteria Metals Organics	Medium	Mar 2003
1998	02070010	DCTTX27R	Texas Avenue Tributary	Metals Bacteria Organics	Medium	Mar 2003
1998	02070010	DCRCR00R	Upper Rock Creek-segment 2	Bacteria Organics Metals	Medium	Feb 2004
1998	02070010	DCRCR00R	Lower Rock Creek-segment 1	Organics Bacteria Metals	Medium	Feb 2004

DISTRICT OF COLUMBIA
PROPOSED LIST OF IMPAIRED WATERBODIES
Category 4A

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	TMDL Establishment Date
1998	02070010	DCANA00E	Lower Anacostia River-segment 1	BOD Bacteria Organics Metals Total Suspended Solids Oil and Grease	High	Dec 2001 Oct 2003 Oct 2003 Oct 2003 March 2002 Nov 2003
1998	02070010	DCANA00E	Upper Anacostia River-segment 2	BOD Bacteria Organics Metals Total Suspended Solids Oil and Grease	High	Dec 2001 Oct 2003 Oct 2003 Oct 2003 March 2002 Nov 2003

*BOD means biochemical oxygen demand

*The chemicals for which the Organics TMDL for Upper and Lower Watts Branch, Kingman Lake, Fort Stanton Tributary, Nash Run, Pope's Branch, Texas Avenue Tributary, Hickey Run, Upper and Lower Anacostia River have been approved are chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor Epoxide, PAH1, PAH2, PAH3.

*The chemicals for which the Metals TMDL for Kingman Lake, Fort Dupont Creek, Fort Chaplin Tributary, Fort Stanton Tributary, Nash Run, Pope's Branch, Texas Avenue Tributary, Hickey Run, Upper and Lower Anacostia River have been approved are Arsenic,

DISTRICT OF COLUMBIA
PROPOSED LIST OF IMPAIRED WATERBODIES
Category 4A

Cooper, Lead, and Zinc.
*Bacteria TMDLs have been approved for fecal coliform bacteria.
[1]- last position of alphanumeric code represents the waterbody type. E- estuary, R-river, stream, L- impoundment, lake

DISTRICT OF COLUMBIA
PROPOSED LIST OF IMPAIRED WATERBODIES
Category 4B

Category 4B- TMDL not required. Other pollution control requirements (such as permits, strategies) are expected to address all waterbody/pollutant combinations and result in attainment of all water quality standards in a reasonable period of time.

No DC waters fit this category.

DISTRICT OF COLUMBIA
PROPOSED LIST OF IMPAIRED WATERBODIES
Category 4C

Category 4C- Impaired or threatened waters for one or more designated uses. TMDL is not required as impairment is not caused by a pollutant.

No DC waters fit this category

DISTRICT OF COLUMBIA
PROPOSED LIST OF IMPAIRED WATERBODIES

Category 5

Category 5- Water is impaired or threatened for one or more designated uses and a TMDL is needed.

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	Targeted for TMDL within 2 years	TMDL Establishment Date
1998	02070010	DCTNA01R	Nash Run	Bacteria Metals Organics	Medium	N	Oct 2003
2002	02070010	DCTNA01R	Nash Run	Bis(2-ethylhexyl)phthalate 4,4'-DDE Dioxin	High	N	Dec 2007
1998	02070010	DCPMS00E	Upper Potomac River-segment 3	Organics Bacteria	High	N	Sept 2007
1998	02070010	DCPMS00E	Middle Potomac River-segment 2	Organics Bacteria pH	High	N	Sept 2007

DISTRICT OF COLUMBIA
PROPOSED LIST OF IMPAIRED WATERBODIES

Category 5

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	Targeted for TMDL within 2 years	TMDL Establishment Date
1998	02070010	DCPMS00E	Lower Potomac River-segment 1	Organics Bacteria	High	N	Sept 2007
1998	02070010	DCTOR01R	Oxon Run	Bacteria Metals Organics	Medium	Y	Dec 2004
1998	02070010	DCPWC04E	Washington Ship Channel	Bacteria Organics pH	Low	Y	Dec 2004
1998	02070010	DCTBK01R	Battery Kemble Creek	Bacteria Metals	Low	N	Oct 2003 (D) Sept 2007
1998	02070010	DCTFB01R	Foundry Branch	Metals Bacteria	Low	N	Sept 2007 Oct 2003(D)
2002	02070010	DCTFB02R	Foundry Branch	DO	Medium	N	Aug 2008
1998	02070010	DCTBR01R	Broad Branch	Organics	Low	Y	Feb 2004 (F)
2002	02070010	DCTBR01R	Broad Branch	Fecal coliform	Medium	N	Aug 2008

DISTRICT OF COLUMBIA
PROPOSED LIST OF IMPAIRED WATERBODIES

Category 5

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	Targeted for TMDL within 2 years	TMDL Establishment Date
1998	02070010	DCTDO01R	Dumbarton Oaks	Organics	Low	Y	Feb 2004(F)
2002	02070010	DCTDO01R	Dumbarton Oaks	Fecal coliform	Low	N	Apr 2009
1998	02070010	DCTFE01R	Fenwick Branch	Organics	Low	Y	Feb 2004(F)
2002	02070010	DCTFE01R	Fenwick Branch	Fecal coliform	Low	N	Apr 2009
1998	02070010	DCTKV01R	Klingle Valley Creek	Organics	Low	Y	Feb 2004(F)
2002	02070010	DCTKV01R	Klingle Valley Creek	Fecal coliform	Low	N	Apr 2009
1998	02070010	DCTLU01R	Luzon Branch	Organics	Low	Y	Feb 2004(F)
2002	02070010	DCTLU01R	Luzon Branch	Fecal Coliform	Medium	N	Aug 2008

DISTRICT OF COLUMBIA
PROPOSED LIST OF IMPAIRED WATERBODIES

Category 5

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	Targeted for TMDL within 2 years	TMDL Establishment Date
1998	02070010	DCTMH01R	Melvin Hazen Valley Branch	Organics	Low	Y	Feb 2004(F)
2002	02070010	DCTMH01R	Melvin Hazen Valley Branch	Fecal Coliform	Low	N	Apr 2009
1998	02070010	DCTNS01R	Normanstone Creek	Organics	Low	Y	Feb 2004(F)
2002	02070010	DCTNS01R	Normanstone Creek	Fecal coliform	Low	N	Apr 2009
1998	02070010	DCTPI01R	Pinehurst Branch	Organics	Low	Y	Feb 2004(F)
2002	02070010	DCTPI01R	Pinehurst Branch	Fecal coliform	Medium	N	Aug 2008
1998	02070010	DCTPO01R	Portal Branch	Organics	Low	Y	Feb 2004(F)
2002	02070010	DCTPO01R	Portal Branch	Fecal coliform	Medium	N	Aug 2008
1998	02070010	DCTPY01R	Piney Branch	Organics Metals	Low	Y	Feb 2004(F) Feb 2004(F)

DISTRICT OF COLUMBIA
PROPOSED LIST OF IMPAIRED WATERBODIES

Category 5

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	Targeted for TMDL within 2 years	TMDL Establishment Date
2002	02070010	DCTPY01R	Piney Branch	Fecal coliform	Low	N	Apr 2009
1998	02070010	DCTSO01R	Soapstone Creek	Organics	Low	Y	Feb 2004(F)
2002	02070010	DCTSO01R	Soapstone Creek	Fecal Coliform	Medium	N	Aug 2008
1998	02070008	DCTDA01R	Dalecarlia Tributary	Bacteria Organics	Low	N	Oct 2003 (D) Sept 2004
1998	02070010	DCPTB01L	Tidal Basin	Bacteria Organics	Low	Y	Dec 2004
2002	02070010	DCPTB01L	Tidal Basin	pH	Medium	N	Aug 2009
1998	02070010	DCTHR01R	Hickey Run	Bacteria Organics	High	Y	Oct 2003
2002	02070010	DCTHR01R	Hickey Run	Bis(2-ethylhexyl)phthalate Chlorine(total Residual)	High	N	Dec 2007

DISTRICT OF COLUMBIA
PROPOSED LIST OF IMPAIRED WATERBODIES

Category 5

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	Targeted for TMDL within 2 years	TMDL Establishment Date
1998	02070010	DCTCO01L	Chesapeake and Ohio Canal	Bacteria	Low	Y	Dec 2004

*BOD means biochemical oxygen demand

*The chemicals for which the Organics TMDL for Soapstone Creek, Broad Branch, Dumbarton Oaks, Fenwick Branch, Klingle Valley Creek, Luzon Branch, Melvin Hazen Valley Branch, Normanstone Creek, Pinehurst Branch, Portal Branch, and Piney Brach have been developed are Chlordane, DDD, DDE,DDT, Dieldrin, Heptachlor Epoxide, PAH1, PAH2, PAH3 and TPCBs.

*The chemicals for which the Metals TMDL for Piney Branch has been developed are Arsenic, Copper, Lead, and Zinc.

* Bacteria TMDLs are develop for fecal coliform bacteria.

[1]- last position of alphanumeric code represents the waterbody type. E- estuary, R-river, stream, L- impoundment, lake

(D)- draft completed

(F)- Final submitted to EPA

National Assessment Database

Assessment Data for the State of District Of Columbia Year 2002

- Total Assessed Waters of District Of Columbia
- Assessed Waters of District Of Columbia by Watershed
- Water Quality by Waterbody Type
  - Rivers, Streams, and Creeks
    - Individual Use Support for Assessed Waters
    - Overall Water Quality Attainment for Assessed Waters
    - Top State Causes of Impairments
    - Top State Probable Sources of Impairments
  - Lakes, Ponds, and Reservoirs
    - Individual Use Support for Assessed Waters
    - Overall Water Quality Attainment for Assessed Waters
    - Top State Causes of Impairments
    - Top State Probable Sources of Impairments
  - Bays and Estuaries
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- Glossary

National Assessment Database

About this Database

Assessing Water Quality (Questions and Answers)

The 2002 National Assessment Database(Fact Sheet)

Previous National Water Quality Reports

State of District Of Columbia websites: EXIT disclaimer State 305(b) Water Quality Assessment Report(s)

State Water Quality Program

Search for a Waterbody within District Of Columbia

Exhibit 13

Enter Waterbody Name: Search

Total Assessed Waters for the State of District Of Columbia

Description of this table

	Size Of Water							
	Rivers, Streams, Creeks (Miles)	Lakes, Ponds, Reservoir (Acres)	Bays, Estuaries (Square Miles)	Coastal Waters (Miles)	Oceans, Near Coastal Waters (Square Miles)	Wetlands (Acres)	Great Lakes Shoreline (Miles)	Great Lakes Open Water (Square Miles)
Total Assessed Waters	38.40	238.40	5.93	.00	.00	.00	.00	.00
Estimated Total Water Size in DC	39.00	238.40	6.00	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable
Percent of Waters Assessed	**98.46**	**100.00**	**98.83**	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable

Assessed Waters of District Of Columbia by Watershed

Description of this table

Watershed	Size of Water							
	Rivers, Streams, Creeks (Miles)	Lakes, Ponds, Reservoir (Acres)	Bays, Estuaries (Square Miles)	Coastal Waters (Miles)	Oceans, Near Coastal Waters (Square Miles)	Wetlands (Acres)	Great Lakes Shoreline (Miles)	Great Lakes Open Water (Square Miles)
MIDDLE POTOMAC-ANACOSTIA-OCCOQUAN	36.70	238.40	5.93	.00	.00	.00	.00	.00
Name Not Reported	1.70	.00	.00	.00	.00	.00	.00	.00

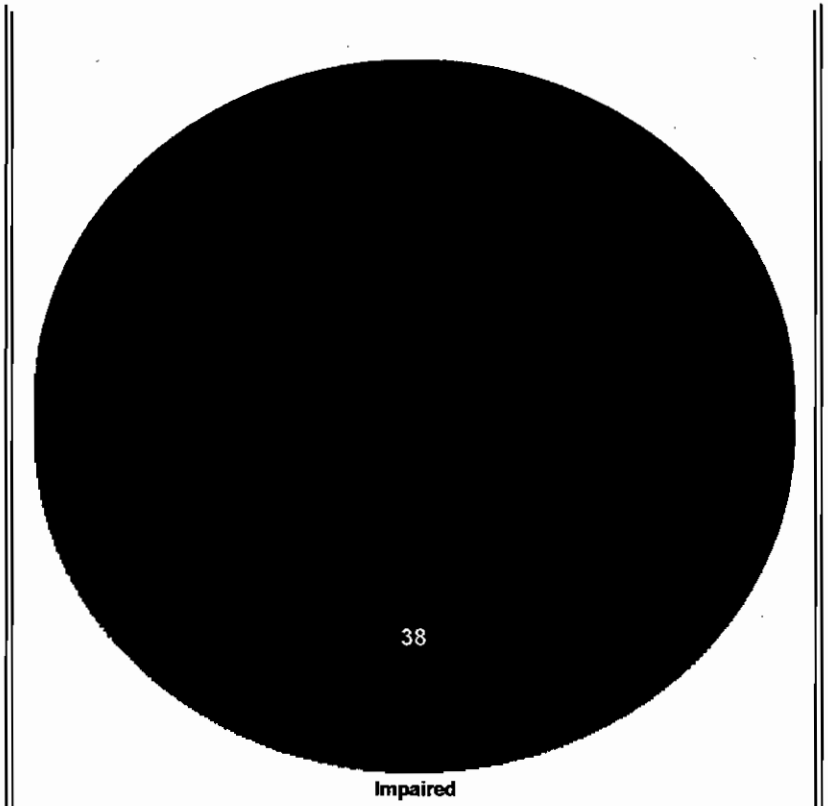
District Of Columbia Assessed Waters
Individual Use Support for Rivers and Streams

Description of this table

State Designated Use	Total Miles Assessed	Percent Good	Percent Threatened	Percent Impaired	% Good / % Threatened / % Impaired
Fish, Shellfish, and Wildlife Protection and Propagation	3.40	.00	.00	100.00	
Recreation	38.40	.00	.00	100.00	
Aquatic Life Harvesting	26.60	.00	.00	100.00	
Other	38.40	100.00	.00	.00	

District Of Columbia Assessed Waters
Overall Water Quality Attainment for Rivers and Streams

Description of this table



Attainment Status	Miles	Percent of Assessed
Good	.00	.00
Threatened	.00	.00
Impaired	38.40	100.00
Total Miles Assessed	38.40	100.00

District Of Columbia Top Causes of Impairments for Rivers and Streams

Description of this table

#	State Cause Name	Total Miles Impaired

1	TOTAL FECAL COLIFORM	27.70
2	OIL AND GREASE	1.70

District Of Columbia Top Probable Sources of Impairments for Rivers and Streams

Description of this table

#	State Source Name	Total Miles Impaired by Source
1	DISCHARGES FROM MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4)	23.30
2	SOURCE UNKNOWN	15.90
3	COMBINED SEWER OVERFLOWS	9.50
4	MUNICIPAL (URBANIZED HIGH DENSITY AREA)	4.40
5	ABOVE GROUND STORAGE TANK LEAKS (TANK FARMS)	.90
6	MUNICIPAL POINT SOURCE DISCHARGES	.90
7	LANDFILLS	.60

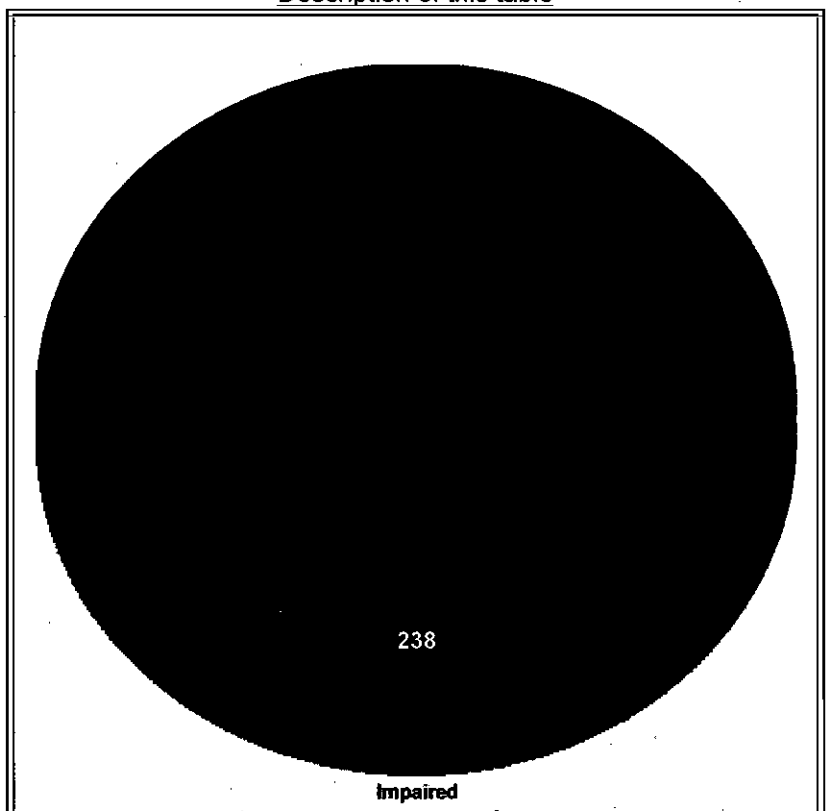
District Of Columbia Assessed Waters Individual Use Support for Lakes, Ponds and Reservoirs

Description of this table

State Designated Use	Total Acres Assessed	Percent Good	Percent Threatened	Percent Impaired	% Good / % Threatened / % Impaired
Fish, Shellfish, and Wildlife Protection and Propagation	130.00	21.00	.00	79.00	
Recreation	238.40	.00	.00	100.00	
Aquatic Life Harvesting	238.40	.00	.00	100.00	
Other	238.40	100.00	.00	.00	

District Of Columbia Assessed Waters
Overall Water Quality Attainment for Lakes, Ponds and Reservoirs

Description of this table



Attainment Status	Acres	Percent of Assessed
Good	.00	.00
Threatened	.00	.00
Impaired	238.40	100.00

Total Acres Assessed	238.40	100.00

District Of Columbia Top Causes of Impairments for Lakes, Ponds and Reservoirs

Description of this table

#	State Cause Name	Total Acres Impaired
1	TOTAL FECAL COLIFORM	238.40
2	OIL AND GREASE	102.70
3	OXYGEN, DISSOLVED	102.70
4	SEDIMENTATION/SILTATION	102.70
5	SOLIDS (SUSPENDED/BEDLOAD)	102.70

District Of Columbia Top Probable Sources of Impairments for Lakes, Ponds and Reservoirs

Description of this table

#	State Source Name	Total Acres Impaired by Source
1	DISCHARGES FROM MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4)	238.40
2	COMBINED SEWER OVERFLOWS	102.70

District Of Columbia Assessed Waters Individual Use Support for Bays and Estuaries

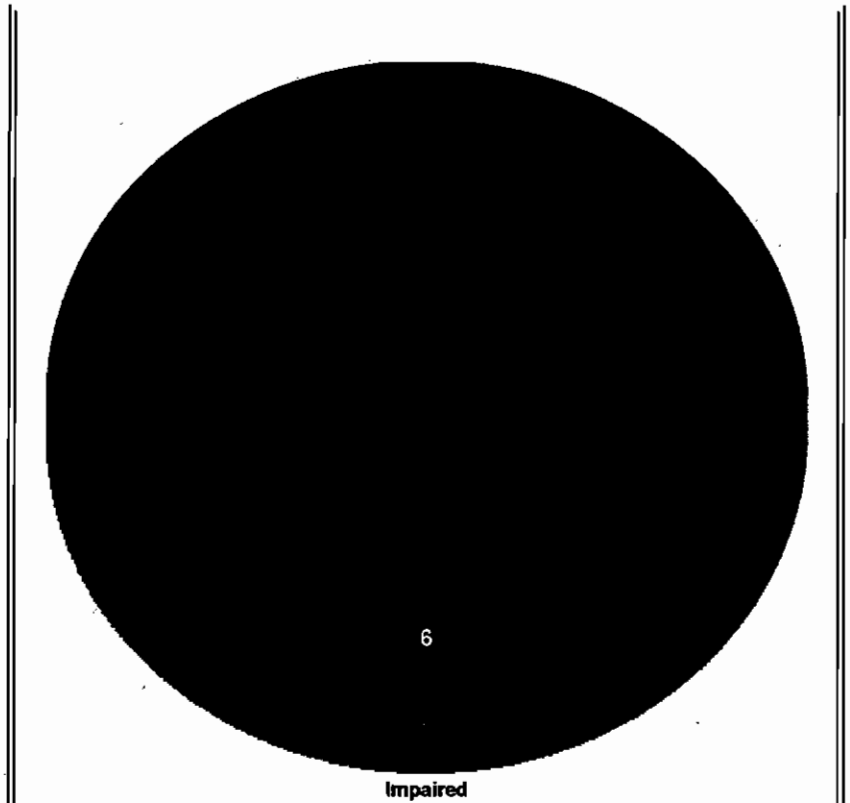
Description of this table

State Designated Use	Total Square Miles Assessed	Percent Good	Percent Threatened	Percent Impaired	% Good % Threatened % Impaired
Fish, Shellfish, and Wildlife Protection					

	and Propagation	5.13	100.00	.00	.00	[redacted]
	Recreation	5.93	.00	.00	100.00	[redacted]
	Aquatic Life Harvesting	5.93	.00	.00	100.00	[redacted]
	Other	5.93	100.00	.00	.00	[redacted]

District Of Columbia Assessed Waters
Overall Water Quality Attainment for Bays and Estuaries

Description of this table



Attainment Status	Square Miles	Percent of Assessed
Good	.00	.00
Threatened	.00	.00
Impaired	5.93	100.00
Total Square Miles Assessed	5.93	100.00

District Of Columbia Top Causes of Impairments for Bays and Estuaries

Description of this table

#	State Cause Name	Total Square Miles Impaired

1	TOTAL FECAL COLIFORM	5.93
2	OIL AND GREASE	.80

District Of Columbia Top Probable Sources of Impairments for Bays and Estuaries

Description of this table

#	State Source Name	Total Square Miles Impaired by Source
1	COMBINED SEWER OVERFLOWS	5.63
2	DISCHARGES FROM MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4)	5.53
3	MUNICIPAL POINT SOURCE DISCHARGES	4.43
4	SOURCE UNKNOWN	1.68
5	HIGHWAY/ROAD/BRIDGE RUNOFF (NON-CONSTRUCTION RELATED)	.80
6	PETROLEUM/NATURAL GAS PRODUCTION ACTIVITIES (PERMITTED)	.80
7	MUNICIPAL (URBANIZED HIGH DENSITY AREA)	.40

District Of Columbia

Causes of Impairment

Description of this table

State Cause Name	Size of Assessed Waters with Listed Causes of Impairment							
	Rivers, Streams, Creeks (Miles)	Lakes, Ponds, Reservoir (Acres)	Bays, Estuaries (Square Miles)	Coastal Waters (Miles)	Oceans, Near Coastal Waters (Square Miles)	Wetlands (Acres)	Great Lakes Shoreline (Miles)	Great Lakes Open Waters (Squar Miles)
OIL AND GREASE	1.70	102.70	.80	.00	.00	.00	.00	.00
OXYGEN, DISSOLVED	.00	102.70	.00	.00	.00	.00	.00	.00
SEDIMENTATION/SILTATION	.00	102.70	.00	.00	.00	.00	.00	.00
SOLIDS (SUSPENDED/BEDLOAD)	.00	102.70	.00	.00	.00	.00	.00	.00

TOTAL FECAL COLIFORM	27.70	238.40	5.93	.00	.00	.00	.00	.00

District Of Columbia

Probable Sources Contributing to Impairment

Description of this table

State Source Name	Size of Assessed Waters with Probable Sources of Impairment							
	Rivers, Streams, Creeks (Miles)	Lakes, Ponds, Reservoir (Acres)	Bays, Estuaries (Square Miles)	Coastal Waters (Miles)	Oceans, Near Coastal Waters (Square Miles)	Wetlands (Acres)	Great Lakes Shoreline (Miles)	Great Lakes Open Waters (Square Miles)
ABOVE GROUND STORAGE TANK LEAKS (TANK FARMS)	.90	.00	.00	.00	.00	.00	.00	.00
COMBINED SEWER OVERFLOWS	9.50	102.70	5.63	.00	.00	.00	.00	.00
DISCHARGES FROM MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4)	23.30	238.40	5.53	.00	.00	.00	.00	.00
HIGHWAY/ROAD/BRIDGE RUNOFF (NON-CONSTRUCTION RELATED)	.00	.00	.80	.00	.00	.00	.00	.00
LANDFILLS	.60	.00	.00	.00	.00	.00	.00	.00
MUNICIPAL (URBANIZED HIGH DENSITY AREA)	4.40	.00	.40	.00	.00	.00	.00	.00
MUNICIPAL POINT SOURCE DISCHARGES	.90	.00	4.43	.00	.00	.00	.00	.00
PETROLEUM/NATURAL GAS PRODUCTION ACTIVITIES (PERMITTED)	.00	.00	.80	.00	.00	.00	.00	.00
SOURCE UNKNOWN	15.90	.00	1.68	.00	.00	.00	.00	.00

Clicking anywhere on this state map will take you to the Enviromapper for Water website, where you can view and map various types of environmental information for the state. This information includes Superfund sites, water discharge permits, toxic releases, and more.

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THE DISTRICT OF COLUMBIA WATER QUALITY ASSESSMENT

2004 INTEGRATED REPORT TO THE ENVIRONMENTAL PROTECTION AGENCY AND U.S. CONGRESS PURSUANT TO SECTIONS 305(b) AND 303(d) CLEAN WATER ACT (P.L. 97-117)

Department of Health
Environmental Health Administration
Bureau of Environmental Quality
Water Quality Division

Government of the
District of Columbia
Anthony A. Williams, Mayor

Exhibit 14

PREFACE

The Water Quality Division of the District of Columbia's Department of Health, Environmental Health Administration, prepared this report to satisfy the listing requirements of §303(d) and the reporting requirements of §305(b) of the federal Clean Water Act (P.L. 97-117). This report provides water quality information on the District of Columbia surface and ground waters that were assessed during 2004 and updates the water quality information required by law. Various programs in the Bureau of Environmental Quality contributed to this report including the Watershed Protection Division and the Fisheries and Wildlife Division.

Questions or comments regarding this report or requests for copies should be forwarded to the address below.

The District of Columbia Government
Department of Health
Environmental Health Administration
Bureau of Environmental Quality
Water Quality Division
51 N St., NE, Room - LL0003
Washington, D.C. 20002-3323
Attention: N. Shulterbrandt

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PART I: EXECUTIVE SUMMARY

The District of Columbia 2004 Integrated Report provides information on the quality of the City's water. The Integrated Report combines the comprehensive biennial reporting requirements of the Clean Water Act's Section 305(b) and the Section 303(d) listing of waters for which total maximum daily loads are required. This report is the District of Columbia's first submission that includes the feature of placing waters in one of five categories. The categories, defined by U.S. EPA guidance, represent various levels of water quality standard attainment.

District of Columbia Water Quality

Thirty-six waterbody segments were monitored for the goals of the Clean Water Act that apply to the District of Columbia. Each of those waterbodies have been assigned designated uses in the D.C. water quality standards. The standards also outline numeric and narrative criteria that must be met if a waterbody is to support its uses. Various types of water quality data collected during the period of 1999 to 2003 were evaluated to assess use support by the waterbodies. The evaluation found that the designated uses which directly relate to human use of the District's waters were generally not supported. The uses related to the quality of habitat for aquatic life were not supported. No waterbody monitored by the Water Quality Division fully supported all of its designated uses. The District of Columbia's water quality continues to be impaired.

The following tables show the degree to which the waters of the District of Columbia supported their designated uses. Appendices 1.1 to 1.4 are maps showing the degree to which those waters met their uses.

Ground water is not monitored on the same basis as surface water. This is partly due to the fact that surface water north of the city's boundary, and not ground water, is the drinking water source for the District of Columbia. However, ground water quality is scrutinized via compliance monitoring and on-going studies.

TABLE 1.1
DESIGNATED USE SUPPORT BY RIVERS OR STREAMS

Waterbody Type: River, Streams	Degree of Use Support			
	Supporting (mi)	Not Supporting (mi)	Insufficient Information (mi)	Not Assessed (mi)
Overall Use *		38.40		
Swimmable Use		37.60	0.80	
Secondary Contact Recreation Use		37.60	0.80	
Aquatic Life Use		34.10	4.30	
Fish Consumption Use		35.6		2.80

	Supporting (mi)	Not Supporting (mi)	Insufficient Information (mi)	Not Assessed (mi)
Navigation Use	9.50			28.9*

* = not a designated use

TABLE 1.2
DESIGNATED USE SUPPORT BY LAKES

Waterbody Type: Lake, reservoir	Degree of Use Support			
	Supporting (ac)	Not Supporting (ac)	Insufficient Information (ac)	Not Assessed (ac)
Overall Use *		238.4		
Swimmable Use		238.4		
Secondary Contact Recreation Use	108.4	130.0		
Aquatic Life Use	27.3	211.1		
Fish Consumption Use		238.4		
Navigation Use	238.4			

* = not a designated use

TABLE 1.3
DESIGNATED USE SUPPORT BY ESTUARIES

Waterbody Type: Estuary	Degree of Use Support			
	Supporting (mi^2)	Not Supporting (mi^2)	Insufficient Information (mi^2)	Not Assessed (mi^2)
Overall Use *		5.93		
Swimmable Use		5.93		
Secondary Contact Recreation Use	3.75	2.18		
Aquatic Life Use	4.83	1.1		
Fish Consumption Use		5.93		
Navigation Use	5.93			

* = not a designated use

Causes and Sources of Water Quality Impairment

The major causes of impairment to D.C. rivers are total toxics, pathogens, and organic enrichment/low dissolved oxygen (D.O.). Lakes are impaired by total toxics and pathogens. While the estuaries are impaired by total toxics, pathogens, and organic enrichment/low D.O.

The sources with major impacts on D.C. waters are combined sewer overflows, urban runoff/storm sewers. Municipal point sources on the estuaries also have a major impact. Rivers and streams are also impacted by habitat modification and unknown sources.

Programs to Correct Impairment

Several programs within the District of Columbia's Bureau of Environmental Quality are involved in activities to correct water quality impairment. The water pollution control program implements the water quality standards, monitors and inspects permitted facilities in the city, and comprehensively monitors D.C. waters to identify and stop impairment. The water pollution control program is involved in the search for solutions that will provide maximum water quality benefits. The revised water quality standards were posted on the D.C. Register in May 2002. The revisions were subject to interviews, a public hearing, and EPA reviews before being published. EPA approved the D.C. water quality standards on January 24, 2003.

Given the District's urban landscape, nonpoint source pollution has a large impact on its waters. The sediment and stormwater control program regulates land disturbing activities, stormwater management, and flood plain management by providing technical assistance and inspections throughout the city. The Nonpoint source program also provides education and outreach to residents and developers on pollution prevention to ensure that their actions do not further impair the city's water quality.

Several activities are coordinated within the ground water protection program. Those activities include underground storage tank installation and remediation, pesticide use certification, and ground water quality standards implementation.

Water Quality Trends

The Potomac River continues to benefit from the CSO improvements and implementation of improvements and biological nutrient removal at the Blue Plains wastewater treatment plant. The Anacostia River remains aesthetically and chemically polluted. Much remains to be done. Both of the main waterbodies, do support fish and other wildlife populations. The small stream's aquatic communities are increasingly stressed. Submerged aquatic vegetation in the Anacostia and Potomac Rivers continues to struggle. The amount of SAV coverage dropped dramatically due to the excessive wet period from late 2002 through 2003 and the resultant decreased water clarity.

Highlights

The revisions to the D.C. water quality standards (WQS) were approved by U.S. EPA in January 2003. The revised standards address use attainability and numerical criteria for effluent limits.

An additional 15 acres of river wetlands were restored along the Anacostia River in 2003.

Notice to proceed on the project to remove the instream barriers in Rock Creek was given in

November 2003. The first barrier was removed in January 2004.

Low impact development projects to improve the quality and reduce the quantity of stormwater runoff are being implemented throughout the city. Projects such as rain gardens, green roofs, rain barrels, school yard conservation sites are in the process of being installed or are already in place.

Return

by the U.S. Congress to assess the environmental problems afflicting the Bay. As part of the original agreement, the signatories pledged to work toward reducing by 40% the amount of nutrients entering the Bay from their jurisdictions. In 1994, the District of Columbia prepared a strategy to reduce nutrient pollution to its waters and the Bay as part of the overall 40% reduction commitment. In addition, the CBP designated the Anacostia River, along with Baltimore Harbor, MD, and the Elizabeth River in VA, as regions of concern for toxics. In response to that designation, the District of Columbia prepared an Anacostia River Toxics Management Action Plan to begin to address the contamination. The Mayor of the District of Columbia served as the Chair of the Executive Council from 2000-2002. Virginia Governor Mark R. Warner is the current Chesapeake Executive Council Chair. On December 3, 2001, the Mayor Williams, along with the other signatories, signed the Chesapeake 2000 Agreement that will guide the program for the next 10 years. The District of Columbia sees its participation in the CBP as a way to help the Bay and to secure resources and inter-jurisdictional support to clean up its waters also.

Water Quality Standards Program

The U.S. EPA approved revised Surface Water Quality Standards for the District of Columbia in January 2003. Some features of the revised standards are they prohibit streams from being placed in pipes, add new numeric criteria for secchi, chlorophyl a, arsenic and ammonia and specify the applicability of certain numeric criteria. The D.C. Municipal Regulations and the D.C. Register should be consulted for the official edition. A user friendly version of the D.C. Surface Water Quality Standards is available on:

http://dchealth.dc.gov/services/administration_offices/environmental/services2/water_division/pdf/WQ_Standards03.shtm.

Water Quality Division has begun the process to revise the water quality standards (WQS) for the 2003/2004 WQS Triennial review. During FY' 2003, the WQD issued a public notice to interested parties to submit their comments and concerns for the triennial review. The WQD is currently completing the WQS technical revisions that include revising standards for over 100 constituents, adding 21 new constituents, revising standards consistent with 2002 Chesapeake Bay criteria, new definitions, updating references, and typographical and clarification corrections. Once the technical review has been completed, the WQS will be published after the completing a legal sufficiency review. The WQS will be subject to public comment, hearing and EPA approval.

Point Source Program

In the District of Columbia, there are twelve (12) facilities currently discharging under National Pollutant Discharge Elimination System (NPDES) industrial permits. The Blue Plains Advanced Wastewater Plant (Plant), operated by the Water and Sewer Authority continues to be the major discharger. Plant processes continue to operate efficiently and flows are within the design capacity.

The Plant, along with other industrial NPDES permitted facilities, is inspected annually or semi-annually, to insure compliance with permit conditions and District of Columbia Water Quality

Standards. As a part of its grant agreement with EPA, Region III, the Water Quality Division (WQD) reviews and certifies draft NPDES permits prepared by the Region. The District of Columbia is not a delegated state under the NPDES program and can not, therefore, issue its own permits. Draft permits prepared by EPA are reviewed by the WQD for completeness, compliance with both Federal and District laws, and D.C. Water Quality Standards. The WQD may require changes in a draft permit so as to more stringently comply with applicable laws/standards. Changes in draft permits may also incorporate comments received from various parties during the public comment period, the announcement of which is made in one or more of the District's local newspapers, and is a joint issue by both EPA and the District of Columbia. Final, certified, permits are issued for a five year period, but contain re-opener clauses in case facility conditions and/or Water Quality Standards or regulations change.

Although not a requirement of the Water Pollution Control Grant, the WQD also reviews and certifies permits issued by the US Army, Corps of Engineers, under the Nationwide Permits program (NWP). As with NPDES permits, NWPs are reviewed for compliance with Federal and District water quality laws and standards. The certification of both NPDES and NWP permits by the state water pollution control agency is a requirement of section 401 of the Clean Water Act.

Nonpoint Source Control Program

Environmental pollution from nonpoint sources occurs when water moving over land picks up pollutants such as sediment, bacteria, nutrients, and toxicants and carries them to nearby waters. Sediment and pollutant-laden water can pose a threat to public health. Pollutants come from both natural sources and human activity. Storm water runoff and associated soil erosion are significant causes of lost natural habitat and poor water quality in the District of Columbia and throughout the United States. EPA and United States Department of Agriculture (USDA) have made the control of soil erosion and the treatment of storm water runoff important pieces in their strategy to restore the quality of the Nation's waters.

Nonpoint source pollutants of concern in the District of Columbia are nutrients, sediment, toxicants, pathogens, and oil and grease. For the District of Columbia, the origins of nonpoint pollutants are diverse and include:

- stormwater runoff due to the high degree of imperviousness of urban areas
- development and redevelopment activities
- urbanization of surrounding jurisdictions
- agricultural activities upstream in the watershed

The District of Columbia has shown that urban runoff is one of the more important contributors to surface water impairment in the District. A process to rank watersheds for nonpoint source implementation in the District, conducted by the Nonpoint Source Management Program in 1993, determined that the Anacostia River and its tributaries should receive the highest priority.

The control of nonpoint source pollution requires the cooperation of many environmental programs. In 1989, the DC WPD developed *The District of Columbia Nonpoint Source*

Management Plan (DC, 1989). The Plan describes the various environmental programs and projects in place to help control nonpoint source pollution. It was the first step by the District to develop a Nonpoint Source Management Program. The District's Nonpoint Source Management Program has been in existence for over 12 years. Since its inception, it has grown and has become institutionalized into a branch under the WPD. This change in the program is described in more detail below under Nonpoint Source Program Highlights. The Nonpoint Source Management Program revised its Nonpoint Management Plan in FY 2000 to reflect the changes in program activities that had taken place over the previous 10 years and to prioritize future strategies.

1. *Nonpoint Source Assessment Update*

In 1998 the District of Columbia conducted a unified watershed assessment to characterize the condition of its watershed (Potomac) and sub-watersheds. The assessment identified so called *Category I Watersheds* or, in other words, watersheds in need of restoration. The assessment actually was a re-characterization of the condition of its watershed and sub-watersheds, done using existing waterbody assessments, strategies, surveys, and recommendations to compile an overall watershed assessment and ranking. The outcome of the assessment found its watershed and sub-watersheds to be of Category I, with the tidal Anacostia, Watts Branch, Rock Creek, Hickey Run, and Kingman Lake waterbodies having the highest priority for restoration (EHA, WQD). One of the main causes of degradation cited in the assessment was urban runoff. Seeking more specific information regarding the problems associated with its most degraded sub-watersheds, in lieu of habitat restoration, the District commissioned a number of individual assessments. To date, the Metropolitan Washington Council of Governments (MWCOG) has completed watershed assessments of Fort DuPont Tributary and Popes Branch Tributary, and the U.S. Fish and Wildlife service (U.S. FWS) has completed assessments of Hickey Run, Oxon Run, and Watts Branch. MWCOG is currently completing an assessment of Fort Chaplin Tributary.

2. *Nonpoint Source Program Highlights*

The WPD mission is to conserve the soil and water resources of the city and protect its watersheds from nonpoint source pollution. It has three branches:

- Nonpoint Source Management Branch,
- Sediment and Stormwater Technical Services Branch, and
- Inspection and Enforcement Branch

The WPD is primarily responsible for managing both the city's Nonpoint Source Management (§319(h)) and Chesapeake Bay Implementation (§117(b)) programs. Both the §319(h) and Bay Programs are non-regulatory programs that strive to achieve the same results. Included under the auspices of the Nonpoint Source Management Branch are tree plantings and riparian buffer restoration. In FY 2000 and 2001, the WPD coordinated planting of more than 1,000 native trees and shrubs along tributaries of the Anacostia. Tree planting also serves as an opportunity to teach school children the value of environmental stewardship. From FY 2002-2003, the WPD planted some 500 trees with the assistance of hundreds of District students and their teachers.

streams are impacted by total toxics to some extent. The effect of toxics on the organisms that dwell in streams in the District of Columbia is seen in the relatively low bioassessment scores. Table 3.6 lists the causes of impairment to D.C. streams and rivers.

TABLE 3.6
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS CAUSE CATEGORIES FOR RIVERS AND STREAMS

Type of Waterbody: Rivers and Streams (miles)

Cause Category	Total Size of Water Impaired
Total toxics	31.10
Pathogens	27.70
Organic enrichment/Low DO	21.90
Metals	12.40
Unknown toxicity	7.40
pH	7.10
Suspended solids	4.00
Oil and grease	3.20
Flow alterations	1.80
Other habitat alterations	0.80
Siltation	0.30

Relative Assessment of Sources

A source of impairment that is common to D.C. rivers and streams is urban runoff/storm sewers. Battery Kemble and Portal Branch are highly impacted by runoff. Habitat modification still has an impact on many of the streams as riparian vegetation is removed and stream banks are destabilized due to heavy runoff. Combined sewer overflow continues to affect Klingle Valley Creek, Rock Creek and Piney Branch. Table 3.7 lists the sources of impairment.

TABLE 3.7
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS SOURCE CATEGORIES FOR RIVERS AND STREAMS

Type of Waterbody: Rivers and Streams (miles)

Source Category	Total Size of Water Impaired
Site Clearance (Land Development or Redevelopment)	5.3
Landfills	0.6

Source Category	Total Size of Water Impaired
Channelization	5.6
Impacts from Hydrostructure Flow Regulations/modification	15.5
Loss of Riparian Habitat	1.2
Hydrostructure Impacts on Fish Passage	16.2
Wet Weather Discharges (Point Source and Combination of Stromwater, SSO, or CSO)	18.7
Illegal Dumping	9.9
Illegal Dumps or Other Inappropriate Waste Disposal	11.4
Cercla NPL (Superfund) Sites	2.4
Combined Sewer Overflows	9.5
Discharges form Municipal Separate Storm Sewer Systems (MS4)	23.5
Municipal (Urbanized High Density Area)	5.8
Post-development Erosion and Sedimentation	8.5
Residential Districts	30.9
Wet Weather Discharge (Non-Point Source)	18.7
Above Ground Storage tank Leaks (Tank Farms)	0.9
Yard Maintenance	16.4
Source Unknown	15.1

Lakes

Three waterbodies were monitored for their designated use support. The waterbodies classified as lakes are Kingman Lake, C&O Canal, and the Tidal Basin. All of these waterbodies were impaired for one or more of their designated uses. Table 3.8 is a summary of the degree of support by lakes in the District of Columbia. Individual water quality assessments may be found in Appendix 3.10.

TABLE 3.8
SUMMARY OF FULLY SUPPORTING, THREATENED, AND IMPAIRED LAKES

	Assessment Category	Total

Degree of Use Support	Evaluated	Monitored	Assessed Size (miles)
Size Fully Supporting All *Assessed* Uses	0.00	0.00	0.00
Size Fully Supporting All *Assessed* Uses but Threatened for at Least One Use	0.00	0.00	0.00
Size Impaired for One or More Uses	0.00	238.40	238.40
TOTAL ASSESSED	0.00	238.40	238.40

Designated Use Support

Lakes in the District of Columbia supported the goals of the *CWA* to various degrees. Based on physical/ chemical data, the aquatic life use was fully supported in the C&O Canal. It was not supported in the Tidal Basin or Kingman Lake. Due to the fish consumption advisory currently in effect in the District of Columbia, the fish consumption use was not supported in any of the lakes. The swimming use was not supported by lakes. While the secondary contact use was partially supported in the Tidal Basin and the C&O Canal, but not supported in Kingman Lake. Navigation was fully supported in all the lake waterbodies. Table 3.9 is the use support summary for D.C. lakes.

TABLE 3.9
INDIVIDUAL USE SUPPORT SUMMARY FOR LAKES

Type of Waterbody: Lakes (acres)

Goals	Use	Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Not Supporting	Insufficient Information	Size Not Assessed
Protect & Enhance Ecosystems	Aquatic Life	238.40	27.3	0.00	211.1	0.00	0.00
Protect &	Fish Consumption	238.40	0.00	0.00	238.4	0.00	0.00
Enhance	Shellfishing	-	-	-	-	-	-
Public Health	Swimming	238.40	0.00	0.00	0.00	238.4	0.00
	Secondary Contact	238.40	108.4	0.00	130.0	0.00	0.00
	Drinking Water	-	-	-	-	-	-
Social &	Agricultural	-	-	-	-	-	-

Goals	Use	Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Not Supporting	Insufficient Information	Size Not Assessed
Economic	Cultural or Ceremonial	-	-	-	-	-	-
	Navigation	238.40	238.40	0.00	0.00	0.00	-

- = not applicable

Relative Assessment of Causes

Kingman Lake is highly impacted by organic enrichment/low D.O. and pathogens. The C&O Canal and the Tidal Basin are moderately impacted by pathogens and total toxics. Table 3.10 lists the causes of impairment to D.C. lakes.

TABLE 3.10
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS CAUSE CATEGORIES FOR LAKES
Type of Waterbody: Lakes (acres)

Cause Category	Total Size of Water Impaired
Combined Sewer Overflows	102.7
Discharge for Municipal Separate Storm Sewer Systems (MS4)	238.40

Relative Assessment of Sources

There are two sources of impairment to D.C. lakes, combined sewer overflow and urban runoff/storm sewers. The three waterbodies are at least moderately impacted by combined sewer overflow. Urban runoff/storm sewers is a source with moderate impact on the C&O Canal and the Tidal Basin, but a high impact on Kingman Lake. Table 3.11 shows the sources of impairment.

TABLE 3.11
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS SOURCE CATEGORIES FOR LAKES
Type of Waterbody: Lakes (acres)

Source Category	Total Size of Water Impaired
Combined Sewer Overflow	238.40
Urban runoff/storm sewers	238.40

Estuary and Coastal Assessment

The Anacostia River, the Potomac River, and the Washington Ship Channel are classified as estuaries due to their tidal influences. The Potomac River and the Anacostia River are divided into segments for assessment purposes. Individual water quality assessments for the waterbodies can be found in Appendix 3.10.

Designated Use Support

All of the estuary waterbodies were impaired for one or more of their designated uses. The total square miles monitored and assessed are shown in Table 3.12.

TABLE 3.12
SUMMARY OF FULLY SUPPORTING, THREATENED, AND IMPAIRED ESTUARIES

Degree of Use Support	Assessment Category		Total
	Evaluated	Monitored	Assessed Size (miles)
Size Fully Supporting All *Assessed* Uses	0.00	0.00	0.00
Size Fully Supporting All *Assessed* Uses but Threatened for at Least One Use	0.00	0.00	0.00
Size Impaired for One or More Uses	0.00	5.93	5.93
TOTAL ASSESSED	0.00	5.93	5.93

The aquatic life use was fully supported along 4.83 square mile of estuary (Potomac River and lower Anacostia River), and not supported along 1.1 square miles of estuary (Washington Ship Channel and the upper Anacostia River). The fish consumption use was not supported due to the fish consumption advisory in effect for D.C. waters. The swimming use is not supported in the estuaries. The swimming use support is evaluated based on the number of times the fecal standard of 200 MPN/100ml is exceeded. Table 3.13 shows the secondary contact use fully supported along 3.75 square miles, not supported along 2.18 square miles (the entire Anacostia River and the upper Potomac River). The navigation use was fully supported in estuaries as no hazard to users by submerged or partially submerged artificial objects existed in the waterbodies during this study period.

TABLE 3.13
INDIVIDUAL USE SUPPORT SUMMARY FOR ESTUARIES FOR ESTUARIES
Type of Waterbody: Estuaries (square miles)

Goals	Use	Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Not Supporting	Insufficient Information	Size Not Assessed
Protect & Enhance Ecosystems	Aquatic Life	5.93	4.83	0.00	1.1	0.00	0.00
Protect & Enhance Public Health	Fish Consumption	5.93	0.00	0.00	5.93	0.00	0.00
	Shellfishing	-	-	-	-	-	-
	Swimming	5.93	0.00	0.00	5.93	0.00	0.00
	Secondary Contact	5.93	3.75	0.00	2.18	0.00	0.00
	Drinking Water	-	-	-	-	-	-
Social & Economic	Agricultural	-	-	-	-	-	-
	Cultural or Ceremonial	-	-	-	-	-	-
	Navigation	5.93	5.93	0.00	0.00	0.00	-

- = not applicable

Relative Assessment of Causes

The lower Anacostia has a slight pH impairment while the Washington Ship Channel has a moderate pH impairment. All the estuaries have a pathogen impairment. It is most pronounced in the Anacostia River. The pathogen impairment is moderate in the Potomac River and the Washington Ship Channel. Low D.O. is moderately impairing in the upper Anacostia segment, and slightly impairing in the lower Potomac River segment. Table 3.14 lists the causes of impairment to estuaries in D.C.

TABLE 3.14
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS CAUSE CATEGORIES FOR ESTUARIES
Type of Waterbody: Estuaries (square miles)

Cause Category	Total Size of Water Impaired
Dredging (E.g., for Navigation Channels)	0.8
Highway/Road/Bridge Runoff (Non-construction Related)	0.8
Petroleum/natural Gas Production Activities (Permitted)	0.8

Cause Category	Total Size of Water Impaired
Combined Sewer Overflows	5.63
Discharges from Municipal Separate Storm Sewer Systems (MS4)	5.23
Municipal (Urbanized High Density Area)	0.4
Municipal Point Source Discharges	4.43
Source Unknown	1.38

Relative Assessment of Sources

The sources of impairment to the estuaries with high impact are combined sewer overflows (along the Anacostia and upper Potomac), municipal point sources, and urban runoff. A moderate source of impairment to the Potomac is natural sources. The Anacostia is impacted by surface mining, highway runoff and unknown sources in its watershed. The Washington Ship Channel is impacted by urban runoff and other unknown sources. Table 3.15 lists the sources of impairment to D.C. estuaries.

TABLE 3.15
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS SOURCE CATEGORIES FOR ESTUARIES
Type of Waterbody: Estuaries (square miles)

Source Category	Total Size of Water Impaired
Combined Sewer Overflows	5.93
Urban runoff/storm sewers	5.93
Municipal point sources	5.63
Natural sources	3.45
Unknown sources	2.48
Dredging	0.80
Other urban runoff	0.80
Highway maintenance and runoff	0.80

Wetlands

Development of Wetland Water Quality Standards

The development of wetland water quality standards is on going.

Integrity of Wetland Resources

Re: Responsiveness Summary
National Pollutant Discharge Elimination System (NPDES)
Draft Municipal Separate Storm Sewer System (MS4) Permit

NPDES PERMIT NUMBER: DC0000221 (MS4)

FACILITY NAME:

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

FACILITY LOCATION:

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

RECEIVING STREAM:

Potomac River, Anacostia River, Rock Creek
And Tributaries

PUBLIC COMMENT PERIOD:

November 14, 2003 to December 17, 2003

EPA Region III received four multiple comment letters during the public comment period from interested parties regarding the Government of the District of Columbia (Permittee) draft Municipal Separate Storm Sewer System (MS4) NPDES Permit. A summary of the comments and EPA Region's III responses to those comments are provided below. In reaching its decision regarding the issuance of the final MS4 Permit, the Region considered these comments and made certain modifications in response to those comments in the permit and fact sheet.

A) Comment Letter Number 1. Commentor: Government of the District of Columbia by Acting Storm Water Administrator Michael Marcotte of the District of Columbia Water and Sewer Authority : Correspondence dated December 17, 2003, was received from the permittee during the public comment period. This commentor also provided additional follow up information in a letter dated March 19, 2004 that EPA considered. EPA Region III provides the following responses to the specific issues raised by the District of Columbia Water and Sewer Authority.

Specific comments on Permit:

Exhibit 15

Comment No. 1- "When discussing water quality requirements throughout the permit, EPA should develop a record to support its determination that compliance with a requirement is practicable or it should include language that the requirement must be completed with to the "maximum extent practicable"

EPA Response: EPA agrees that the record for this permit needs to clearly support our determination that this MS4 permit requires controls to reduce the discharge of pollutants to the "maximum extent practicable" (MEP) in accordance with Section 402(p)(3)(B)(iii) of the Clean Water Act (CWA). EPA has made that determination and has identified the basis of our determination that the MS4 Permit has met this requirement in the fact sheet supporting this Permit. EPA has also made modifications to Part I. D. Effluent Limits Sections of the Permit and added a definition of MEP in Part X. Definitions in response to this and other comments received below to better clarify EPA's position regarding the relationship between the MEP requirements and the requirements in Section 301(b)(1)(C) of the CWA to protect the water quality of the receiving streams.

EPA's implementing regulations for Section 301(b)(1)(C) among other things prohibits the issuance of an NPDES permit "when imposition of conditions cannot ensure compliance with the applicable water quality requirements" and to ensure that adequately protective NPDES effluent limits are imposed whenever "a discharge causes, has the reasonable potential to cause or contributes to an in-stream excursion about the allowable ambient concentration" of an applicable water quality standard. See 40 CFR §§ 122.4(d) and 122.44(d)(1)(iii). EPA views the MS4 NPDES permit program as an iterative process requiring reexamination of ongoing controls and continued improvements to the respective storm water management programs of each facility while continuing to adequately protect the water quality of the receiving stream. EPA has not to date adopted the finding of certain courts that Section 402(p)(3)(B)(iii) of the CWA gives EPA authority to "require less than strict compliance with state water quality standards" such as those imposed by Section 301(b)(1)(C). See Defenders of Wildlife v. Browner, 191 F.3d 1159 (9th Cir. 1999) and In re: Gov't of the District of Columbia, NPDES Appeal Nos. 00-14 & 01-09 (EAB, February 20, 2002), 10 E.A.D. ___, fn. 19.

With respect to the discharges from the MS4 outfalls, EPA now has available some additional water quality information (including certain systemwide allocations from various total maximum daily loads [TMDLs] established during this period) compared with April 2000 when EPA issued the first MS4 permit to the District. The 2000 Permit required the collection of monitoring data from six representative MS4 outfall locations throughout the District including sampling in both wet and dry weather. (The Permit also required collection of samples from Hickey Run which is discussed further below.) The Permit required samples to be collected during at least three storm events per year as specified in that Permit. The 2000 Permit required samples to be analyzed for the following parameters: pH, temperature, total ammonia nitrogen, organic nitrogen, total nitrogen, volatile organic compounds, acid extractable compounds, base/neutral extractable compounds, pesticides, PCBs, metals, cyanide, phenols, conventional pollutants and hardness. As part of Amendment No. 2 to the 2000 Permit, EPA changed the

original six representative monitoring locations to six watershed monitoring locations in the Rock Creek subwatershed based on EPA's determination that a rotating basin monitoring strategy would optimize the data collection. Not only will such an approach better characterize each the MS4 discharges to each of the three watersheds, it will provide more data that can be used in the development of TMDLs and the evaluation of the effectiveness of BMPs used in the MS4. Data to date has been collected and analyzed for the nine stations in the Anacostia River subwatershed and for stations in the Rock Creek watersheds.

So in summary, while EPA has better information it is still far from robust (especially compared with what is generally available for traditional NPDES permittee's discharges). As required by the 2000 Permit, the District has submitted an Upgraded Storm Water Management Plan identifying additional controls and refining existing practices. Based on the limited information available for this Permit, EPA has determined that the District's Upgraded Storm Water Management Plan establishes controls that will reduce the discharge of pollutants to the maximum extent practicable consistent with EPA's MS4 storm water program requirements of Section 402(p)(3)(B)(iii) of the CWA. In reaching this conclusion, EPA reviewed not only the monitoring information discussed above, the TMDLs and resulting wasteload allocations (detailed in the Fact Sheet) but also the District's Annual Reports dated April 19, 2002 and April 19, 2003. In addition, EPA also reviewed the District's Implementation Plans dated April 19, 2002 and April 19, 2003; the District's fifth Semi-Annual Report to the Mayor and City Council dated December 2003. To implement these requirements in the Permit, EPA has revised Part I.D to clarify that the effluent limits for this permit are to implement the requirements set forth in the Upgraded Storm Water Management Plan. EPA has also provided a clarifying definition of the "maximum extent practicable" standard for the specific purposes in this MS4 Permit.

EPA has reviewed the same materials with special attention on the TMDLs and associated waste load allocations to determine whether these controls are sufficient to ensure compliance with the applicable District water quality standards. Based on the best professional judgement of the permit writer as described in more detail in the Fact Sheet, recognizing the limitations of the current water quality information and additional requirements in the upgraded water quality management plan, EPA has determined that a combination of a narrative prohibition on discharges that "cause or contribute to the exceedance of the District's water quality standard in Part I.C.2 of the Permit along with the effluent limitations identified in Part I.D (primarily through implementation of the Upgraded Storm Water Management Plan) are sufficient to ensure compliance with the those water quality standards. EPA discussed in detail below why these controls are also consistent with the applicable wasteload allocations established by the respective TMDLs.

Comment Nos. 2,3,4,and 5- The Permittee provides additional information describing how the components of the Storm Water Management Program will continue to be implemented, how implementation of MS4 activities under the Storm Water Management Program will be reported through the Annual Report and the Annual Implementation Plan, how the District will continue to implement a sampling program to monitor representative outfalls on a rotating

subwatershed basis, and how measures are continuing to be implemented in the Hickey Run subwatershed now that the fact sheet notes that the oil and grease standard under the Total Maximum Daily Load for Hickey Run is being met.

EPA Response: The Region appreciates the comments made by the Permittee to further clarify these items and show its support by acknowledging the Permit requirements. See below in Response to Hickey Run TMDL for further discussion on how the new information regarding Hickey Run has been addressed.

Comment Nos. 6, 7, 8, and 9- The Permittee noted several sections of the draft Permit where there were topographical and formatting problems and recommended corrective changes.

EPA Response: To facilitate reading of the final MS4 Permit, the Region made the following changes: realignment of tabs for Sections A through D in the Table of Contents; change the word, "insure" to "ensure" in the Legal Authority and Resources subpart; and revised the text to read "A. Storm Event Discharges" and "B. Dry Weather Monitoring" under the Monitoring and Reporting Requirements section.

Specific Comments on the Fact Sheet:

Comment Nos. 1, 2, 3, 4, 5, and 6- The Permittee provided a number of comments to clarify wording within the fact sheet, to update projected dates for completion of MS4 activities, and to facilitate the reading of the document by suggesting changes in the formatting.

EPA Response: The Region appreciates these editorial suggestions. The following revisions have been made to the final fact sheet: the pages have been numbered to facilitate the reading of the document, the word, "permit" has been added after MS4 and National Pollutant Discharge Elimination System in the Facility Background and Description and Proposed Action to be Taken sections, FY 2003 has been changed to FY 2004 for the 8th Street, S.E. pilot project in the Proposed Action to be Taken section, and the clause "....many of which do not properly dispose of waste oil." in the Proposed Action to be Taken section was revised to read, "....many of which have not properly disposed of waste oil in the past."

B) Comment Letter Number 2. Commentor: DC Appleseed Center: Correspondence dated December 16, 2003, was received from this organization during the public comment period. EPA Region III provides the following responses to the specific issues raised by the DC Appleseed Center.

Comment No. 1(noted as I and I.A)-The draft Permit should be modified to enhance accountability for permit compliance by including the District of Columbia Water and Sewer Authority (WASA) as a co-permittee. This comment was also raised by the Natural Resources Defense Council and Earthjustice in their letters each of which were dated December 15, 2003.

EPA Response: WASA was originally created in 1996 by District government as an independent District authority to provide water distribution and sewage collection, treatment and disposal. See Title 34, Chapter 22 of District Code. The passage of the Storm Water Compliance Amendment Act of 2000 by District government during the first permitting cycle created a permanent management infrastructure and funding source for implementing the District's Storm Water Management Program. See D.C. Code Section 34-2202.06a. That legislation specifically identified WASA as responsible for administration and coordination of the storm water program by District government. The Government of the District of Columbia, unlike its counterpart arrangement with WASA for the sanitary sewers and treatment system, has stated in a letter dated February 17, 2004 that as a result of the passage of this legislation the role of permittee in applying for the MS4 Permit and holds all District agencies including WASA directly responsible for its implementation. The Act also established a Storm Water Permit Compliance Enterprise Fund for the Storm Water Administration's MS4 Permit implementation activities. To capitalize the Fund, the Act authorized the WASA to collect a flat storm water fee from all retail customers within the District. The Act further requires WASA along with the other MS4 District agencies to transmit a report every six months following the effective date of the Act to the Mayor and Council detailing the expenditures from the Fund, and expenditures on related storm water activities from annual appropriations, federal grants, and the Water and Sewer Enterprise Fund.

EPA Region III considers the interpretation of District law provided is a reasonable interpretation. That legislation adequately provides for WASA 's accountability and role as part of the Government of the District of Columbia role as Permittee in this Permit. The Region's experience with the District government and WASA's active and more prominent role in the stormwater program since the passage of that legislation also are factors that the Region has considered. Based on the above discussion, the Region does not agree with the commentor that it is necessary to identify WASA as a separate co-permittee to the Permit as the comment suggests. In response to this comment (and others received as noted) and to provide further clarity on this issue, the Region has modified the definition of the Permittee from the proposed definition of "the Government of the District of Columbia" to the following definition in the final Permit Section X: *"Permittee" refers to the Government of the District of Columbia and all subordinate District and independent agencies directly accountable and responsible to the City Council and Mayor as authorized under the Storm Water Permit Compliance Amendment Act of 2000 and any subsequent amendments for administrating, coordinating, implementing, and managing storm water for MS4 activities within the boundaries of the District of Columbia.*

Comment No. 2(noted as I.B)-The draft Permit should be modified to mandate development of an implementation plan for the storm water management program that includes deadlines, benchmarks, and quantifiable outcomes tied to appropriate pollution reduction and volume limiting standards. This comment was also raised by the Natural Resources Defense Council and Earthjustice in their letters each of which were dated December 15, 2003.

EPA Response: EPA Region III disagrees with the commentors to the extent that the

Upgraded Stormwater Management Plan (SWMP) does identify an implementation to perform a wide range of practices and controls to reduce the quantity of pollutants discharged from the MS4 system. This Permit requires the District to implement all aspects of that SWMP as a narrative effluent limit of the Permit Section I.D. The Region refers the commentor to further discussion of this issue in the Permit's Fact Sheet under the section entitled, "Proposed Action to be Taken," which provides a number of examples to illustrate the issue raised by the commentors. Examples of such activities include the District's street and alley sweeping and catch basin cleaning programs. The narrative effluent limits which are required to be met through the Permit provides the performance based standard for evaluating the environmental outcome of the of the storm water management activity which is being monitored for compliance. The Region finds that the Permit effluent limits and other requirements (such as those establishing "measurable performance standards" in Parts III.C.6 and III.D of the Permit) adequately hold the Permittee to continue meeting quantifiable outcomes tied to pollution reduction and real achievable results under the current system of annual permit deliverables.

Comment No. 3(noted as II and II.A)-The draft Permit should clarify that low impact development (LID) practices are mandated for new development as well as redevelopment and must be included in road, street, and highway maintenance and construction projects unless there is a specific finding that such practices would be inappropriate.

EPA Response: The CWA and implementing regulations have no specific requirement that MS4 permits mandate low impact development (LID) practices. EPA agrees that these practices are effective infiltration reduction tools that address many storm water issues. EPA Region III expects and encourages permittees to consider LID practices and identify how the permittee incorporates those practices (where storm water benefits are achievable through the use of these practices) as part of its application for the respective MS4 Permit. Successful LID practices will provide information for future incorporation of these practices especially in local highway construction projects. EPA actively works with the National Highway Program requirements for LID practices, and strongly advocates consideration of storm water runoff practices which can accomplished through LID projects. Currently, the District of Columbia Department of Health has signed agreements with the District of Columbia Department of Transportation and the General Services Administration which requires federal contractors working on buildings or highway improvements to comply with the District's erosion and sediment control regulations. As described in Chapter 4.0 of the 2004 Annual Report which is part of the administrative record, the compliance process promotes and encourages the use of LID techniques. In response to the commentor's concern and to better clarify the Permittee's obligation to consider LID in new or retrofitted highway projects, EPA has added language to the first paragraph in Part III.B.1 (Management Plan for Commercial, Residential, and Federal and District Government Areas) of the final Permit. While EPA recognizes the value of LID in stormwater control, many development issues are beyond the scope of the MS4 Permit and the CWA.

Comment No. 4(noted as II.B)-The draft Permit does not require wetland and/or riparian

buffer restoration. Such restoration requirements are valuable storm water management tools and the Permit should include these requirements as EPA has approved such requirements in other MS4 permits.

EPA Response: The CWA and implementing regulations do not specifically require such restoration as part of the MS4 permit requirements. EPA agrees with the comment that such restoration has positive environmental impacts and often can provide significant reduction in the discharge of pollutants from the MS4. Region III encourages MS4 permittees to consider the use of such tools in the development of their respective SWMPs. For this Permit the Region notes that the Permittee and other District entities have already engaged in significant wetland and riparian buffer restoration. These entities have taken advantage of the on-going activities and funding available through such other programs as the Nonpoint Source Management Program currently well established and in place within the District. EPA believes the restoration techniques being planned and implemented to date throughout the District under the other programs indirectly benefits the District's storm water management program by providing the necessary protection to assist in the reduction of pollutants at the MS4 outfalls. The streams, rivers, and wetlands within the District of Columbia have become the focus of several critical habitat and wetland restoration and enhancement efforts and endeavors in partnership with other State and federal agencies, nonprofits, and community groups resulting in many environmental beneficial uses including those associated with storm water runoff. This effort was manifested through the signing of the Chesapeake Bay Agreements and the Anacostia Watershed Restoration Agreements with much of these efforts being planned and implemented through EPA's Section 319 Non Point Source Program (refer to the District's Non Point Source Management Plan). Presently, District-owned lands in the Anacostia River subwatershed are being protected through a number of wetland and riparian buffer restoration projects designed to address an array of environmental impacts ranging from river dredge material to storm water runoff. Currently, the District's strategy is to extend these efforts to the Federally owned lands which comprise the majority of the subwatershed. Some project examples include the Kenilworth Marsh, Kingman Lake, Watts Branch, the JFK storm water BMP, and the Anacostia Sea Wall modifications. EPA will continue to encourage these kind of beneficial projects. As in the last issue discussed, while EPA recognizes the value of such restoration in stormwater control, many of the development issues are beyond the scope of the MS4 Permit and the CWA

C) Comment Letter Number 3. Commentor: Natural Resources Defense Council: Correspondence dated December 15, 2003, was received from this organization during the public comment period. EPA Region III provides the following responses to the specific issues raised by the Natural Resources Defense Council.

Comment No.1(noted as II.A)-The draft Permit should be modified to enhance accountability for permit compliance by including the District of Columbia Water and Sewer Authority as a co-permittee and by requiring an implementation plan to demonstrate progress towards compliance with the Clean Water Act. This comment was also raised by the DC Appleseed Center and Earthjustice in their letters of December 16, 2003, and December 15,

2003, respectively.

EPA Response: See response as provided above in comment number one to DC Appleseed Center correspondence dated December 16, 2003.

Comment No. 2 (noted as III.A and B)- The District of Columbia Municipal Separate Storm Sewer System Permit needs to set objective performance standards based on Clean Water Act requirements. The Permittee must reduce pollutants to the maximum extent practicable. The Permittee's discharges must also comply with water quality standards, implementing the applicable TMDL's. All discharges of pollutants to the MS4 system that cause or contribute to the exceedance of DC's water quality standards must be prohibited, regardless of the intent of the discharger.

EPA Response: In part as a response to various comments and to better clarify the effluent limits in this Permit, the Region has modified the effluent limits Section I.D. EPA Region believes that the final "Maximum Extent Practicable" (MEP) effluent limit in Part I.D (Effluent Limits) requiring implementation of the Upgraded Storm Water Management Plan (SWMP) provides sufficient objective performance criteria to achieve compliance with water quality standards. The commentor's concern that a range of options for pollutant reduction be consulted and that the one that reduces pollutants to the maximum extent must be employed unless determined not to be practicable undermines EPA's preferred approach for MS4 permits used in establishing the MS4 implementing regulations. See e.g. 64 Fed. Reg. 68754 (12/8/99) (MEP standard as "iterative process") and EPA various guidance documents on establishing MS4 controls including the NPDES Permit Writer's Manual and Wayland and Hanlon memo dated November 22, 2002 "Establishing TMDL WLAs for Storm Water Sources and NPDES permit Requirements Based on those WLAs." EPA finds that the District has consistently followed EPA's recommended approach throughout the development and implementation of the Upgraded SWMP.

The comment concerning the prohibition of discharges into the MS4 system in Part I.C.2 has been addressed by eliminating the word, "intentionally" in the final Permit.

Comment No. 3(noted as IV)-The commentor provides a number of recommendations for improving the District's Storm Water Management Plan (SWMP).

EPA Response: EPA Region III appreciates the Natural Resources Defense Council's recommendations for improving the District's SWMP and their overall Program. We have requested the Permittee by letter to incorporate a response to these comments and include it in their addendum to the Upgraded SWMP.

D) Comment Letter Number 4. Commentor: Earthjustice: Correspondence dated December 15, 2003, was received from this organization during the public comment period. EPA Region III provides the following responses to the specific issues raised by Earthjustice.

Comment No. 1 (Entities and Discharges Covered)- The commentor notes that because of the District of Columbia Water and Sewer Authority's agency status to the District government that they should be named a co-permittee to the Municipal Separate Storm Sewer System (MS4) Permit. In the same comment, Earthjustice notes that the Permittee has not identified some 627 outfalls of the 1,131 major outfalls identified previously by the District. Also, Earthjustice notes that word "intentionally" should be deleted from Part I.C.2 of the draft Permit which states that " [a]ll other discharges of pollutants to the MS4 system that intentionally cause or contribute to the exceedance of the District of Columbia water quality standards are prohibited and not authorized by this Permit."

EPA Response: The comment regarding the co-permittee status was also raised by the DC Appleseed Center and the Natural Resources Defense Council in their letters of December 16, 2003, and December 15, 2003. The commentor is referred to the same response as provided in comment number one to the Appleseed Center correspondence dated December 16, 2003. The District has identified through the use of maps 447 major MS4 outfalls and has identified the location of the 627 "other" outfalls. The field verification of the MS4 infrastructures and outfalls are continuing with the goal of completing 50% of the system by the end of FY 2004 and the remainder during the next permitting cycle. The 447 MS4 outfalls currently covered by this Permit correspond to the MS4 storm drain pipe network operated and maintained by the District. At this time EPA lacks sufficient data to expand the scope of the MS4 beyond that identified in the Annual Report dated April 19, 2003.

The "other" classification in the Table presented in the Upgraded Storm Water Management Plan does not designate "unknown", but rather stormwater outfalls other than those currently identified and authorized by this MS4 permit. Based on current information, EPA believes that these outfalls are from storm water systems other than the District's MS4 including, but not limited to, those owned by private or federal entities. The outfalls do not qualify as Major MS4 Outfalls in accordance with 40 CFR 122.26(b)(5). The District continues to field verify these "other" outfalls to further confirm their initial findings and to ensure no parts of the MS4 infrastructure or outfalls have been overlooked. A similar comment concerning the word, "intentionally" was raised by the Natural Resources Defense Council in their letter and EPA Region III in their response to their comment and to the one raised by Earthjustice has decided to delete it in the final version of the Permit.

Comment No. 2 (Compliance with Water Quality Standards) In this comment, Earthjustice notes that the draft Permit must include effluent limitations adequate to assure compliance with water quality standards stating why the MS4 discharges cause and contribute to violations of the DC water quality standards and why the water quality standards language in the Permit conflicts with the CWA and EPA rules.

EPA Response: As discussed above, EPA has considered this comment and others and have provided modifications to the Part I.D Effluent Limits, to better clarify the nature of the Permittee's obligations. EPA has determined that a combination of the narrative prohibition on

discharges that "cause or contribute to the exceedance of the District's water quality standard in Part I.C.2 of the Permit along with the effluent limitations identified in Part I.D. (primarily through implementation of the Upgraded Storm Water Management Plan) are sufficient to ensure compliance with the those water quality standards and are consistent with the applicable TMDL WLAs. The previous MS4 Permit cycle initiated programs for monitoring three subwatersheds to determine the pollutants of concern and for evaluating the appropriateness of BMPs for use and effectiveness in reducing the identified pollutants of concern to comply with water quality standards. The draft Permit continues these efforts through implementation and revisiting of these subwatersheds to compare with baseline data the effectiveness of the installed BMPs in achieving compliance with water quality standards prior to setting numeric limits if information obtained demonstrates that it is feasible to do so. The draft Permit also requires the Permittee to continue to perform representative monitoring, evaluate the effectiveness of the Upgraded SWMP and develop and submit to EPA implementation plans to identify whether and if further controls are necessary to achieve the applicable TMDL WLAs. EPA will review these implementation plans along with the monitoring results and make a finding in writing. If EPA determines that the Upgraded SWMP is not sufficient to ensure compliance with water quality standards or is does not provide controls consistent with the applicable TMDL WLA, EPA intends to reopen the Permit and propose an amendment to add the additional controls necessary to achieve the applicable water quality standard and/or WLAs. To that end EPA has included a Permit provision authorizing the modification of the Permit for that specific reasons.

The controls instituted by the Permittee initiated during the 2000 Permit in the Hickey Run subwatershed (refer to fact sheet) for addressing the oil and grease TMDL demonstrates that the use of narrative effluent limits and the use of BMPs for achieving compliance with water quality standards can be effective and successful in addressing a majority of storm water related management problems. EPA Region did consider the commentor's suggestion regarding the change in the wording to the sentence in Part IX.3 of the draft Permit and will make those changes in the final version of the document.

Comment 2c on Page 8 (Hickey Run)-The commentor states that the draft Permit illegally deletes the existing Hickey Run effluent limit of 11.9 pounds per day for oil and grease, the Fact Sheet seeks to justify such a rollback by asserting that a limit is no longer needed because no violations of oil and grease limits have been measured in Hickey Run in the last 2 years, and the remand order from the Environmental Appeals Board (EAB) is being compromised.

EPA Response: The Region notes first that numeric effluent limits for the Hickey Run outfalls set forth in the 2000 Permit never became effective during that Permit because of (1) a compliance schedule of one day short of three years; and (2) the 2000 Permit appeals and subsequent remand of several issues regarding that effluent limit. Because that limit never became effective, the Region exercised its discretion to consider whether other permitting controls would be sufficiently protective and appropriate in place of the numeric limits. The Region does not interpret the EAB's remand to exclude the exercise of the Region's judgement consistent with 40 CFR 122.44(k)(2) in determining appropriate BMP effluent limits. The

Region respectfully disagrees with the commenter that the EAB required EPA to establish numeric effluent limits for these outfalls, only that if EPA had effectively imposed those numeric effluent limits then EPA would need to address the additional monitoring requirements identified in the Board's remand.

Based upon monitoring data collected over the last several years in the Hickey Run watershed, the data demonstrates that the TMDL WLA and water quality criteria have been achieved in both dry and wet weather situations. The monitoring results from the April 19, 2002, and 2003, Discharge Monitoring Reports show the water quality standard criteria for oil and grease (10mg/l) are achieved during storm water sampling events at the MS4 representative station for Hickey Run. The Permittee has achieved this success through implementation of the first SWMP requirements for structural and nonstructural controls in the upper part of the Hickey Run subwatershed (including enforcement efforts). The Region has determined based on a review of the data and the BMPs implemented by the Permittee consistent with the 2000 Permit requirements were sufficient to ensure compliance with the oil and grease water quality criteria of 10 mg/l and consistent with the TMDL WLA. Consistent with 40 CFR 122.44(d)(1) and EPA's Technical Support Document for Water Quality-based Toxics Control (EPA 1991), the Region has determined that the BMP controls provided by this 2004 Permit are sufficient to ensure that the discharge from the Hickey Run outfalls do not cause or contribute to an exceedance of applicable water quality criteria for oil and grease, and are consistent with the requirements and assumptions of the applicable TMDL WLAs.

Based on this finding the Region proposed a set of BMP controls as set forth in the Permit applicable to Hickey Run outfalls in the draft 2003 Permit to replace the previously established (but never effective) numeric limits. The Region also notes that an agreement which is part of the final administrative record between the District of Columbia Government and the National Arboretum has been signed to install an additional BMP to further control oil and grease as well as trash as a further measure to ensure compliance with applicable criteria and WLAs on Hickey Run as the stream reestablishes itself to a viable waterway before crossing National Arboretum property prior to entering the Anacostia River. This additional control will add another dimensional BMP within the subwatershed for ensuring further compliance with the TMDL and floatables which are the major concerns within the lower part of the subwatershed. Due to the success which has occurred within the Hickey Run subwatershed regarding the oil and grease TMDL, Section VI in the draft Permit has been shortened, but still requires monitoring, and reassessment of additional BMPs to ensure continued compliance with the water quality requirements. The use of the ambient and the MS4 monitoring stations to assess the successes within this subwatershed and the followup implementation required under the Permit to ensure compliance with the requirements of the TMDL, EPA believes, goes beyond what the EAB decision had envisioned now that the supporting document is available to substantiate EPA claims made to the Board at that time.

Comment No. 3 (Reductions to the Maximum Extent Practicable)-The commentor states that the District has not demonstrated that its Storm Water Management Plan will reduce storm

water pollutant discharges to the maximum extent practicable and the draft Permit does not establish measurable goals to ensure that they will be met.

EPA Response: See Response to Comments B-2, C-2 [Appleseed and NRDC] The Region notes several specific additions for this comment. The Region notes that the Permit and the Upgraded Storm Water Management Plan require that those BMPs such as in the District's Storm Water Management Guidebook which have been evaluated for effectiveness reduce pollutants to the "maximum extent practicable" be implemented and the second round of monitoring be completed to confirm that the MEP standard set is achieving compliance with water quality based limits in the draft Permit. Other examples of BMPs and other MS4 controls include, but are not limited to, the comparison of sand filters and bioretention structures for effectiveness of operation, the use of Ice Ban as a melting agent for use on District highways, implementation of District innovative catch designs, implementation by the District of EPA's Region I Innovative Storm Water technologies, and evaluation of storm water management practices at transportation facilities, construction sites, snow removal operations, the 8th Street pilot project, infiltration basins, trenches, and vegetated biofilters and swales.

Comment No. 4 (Deferral of Complete Program)-The draft Permit allows the District to defer submittal of measures to provide for compliance with already-adopted TMDLs. The Clean Water Act and EPA rules do not allow this deferred approach.

EPA Response: As discussed above the Region has determined specific interim effluent controls I.D.3 to address this issue. The essential component to establishing appropriate NPDES controls consistent with the approved TMDL WLAs is an adequate implementation plan to achieve the necessary reductions. Since no implementation plan was part of the approved TMDL or WLA (nor is such a plan a requisite element of a TMDL), EPA has determined that in addition to the effluent limits it is appropriate that the Permit require the development of an implementation plan to determine whether the controls are sufficient and/or whether additional controls are necessary to further reduce the discharge of particular pollutants. The Permit is written as an action document to require implementation and to minimize delays. Part III.A of the Permit requires submission of these implementation plans as part of the compliance schedule. The Permittee is required to submit implementation plans for all of the applicable TMDL WLAs in the Anacostia River and Rock Creek watersheds. (Hickey Run is addressed in a separate Section VI of the Permit and a previous comment.) The Permit also requires the Permittee to describe the past practices and activities that have been implemented to achieve the reductions, the environmental benchmarks by which performance may be appropriately measured and any additional practices or controls that may be necessary for achieving the necessary reductions identified in the applicable WLA. The Permit requires submission of these plans to EPA and a review and decision to approve or disapprove (and resubmit the plan) by the Region. The Permit includes a specific Permit reopener to formally modify the Permit in the event that EPA determines additional NPDES controls are necessary to be consistent with the WLAs. The Region expects that such additional may be necessary for some parameters but is moving forward to gather that information and make an informed decision.

Comment No. 5 (Pesticides and Fertilizer)-The Storm Water Management Plan (SWMP) does not contain or describe a program to reduce and fertilizer pollution to the maximum extent practicable, as required by EPA rules.

EPA Response: EPA disagrees. The permittee is required through the Permit to implement programs to reduce the discharge of pollutants related to the application and distribution of pesticides, herbicides, and fertilizers in all media where these substances are used and to report annually on the implementation of application procedures, the improvements in the control of these materials for reducing these pollutants to enhance water quality, and how these procedures meet the requirements of the CWA and other pertinent regulations based on a screening characterization to determine the source(s) of the contaminates. The current Program requires the licensing and training of pesticide applicators in the District and enforcement of regulations through issuance of on-site notices of violations. Specific DCMR citations include 20 DCMR 2211.1 which states that: "no person shall dispose, discard, or store any pesticide container, or rinsate, in a manner that may cause injury to humans, vegetation, crops, livestock, wildlife, pollinating insects, or to pollute any waterway supply or waterway. 20 DMCR 2211.3 also goes on to state that no person shall handle, transport store, display, or distribute any pesticide in a manner that endangers man and the environment, or that endangers food, feed, or any other products that may be transported, stored, displayed, or distributed with the products. EPA Region III appreciates Earthjustice's comment on the Upgraded (SWMP) and has requested the Permittee by letter to further elaborate on the specifics of their fertilizer and pesticides programs through addendum to the Plan.

Comment No. 6 (Illicit Connections)-The CWA expressly requires Municipal Separate Storm Sewer System (MS4) permits to "include a requirement to effectively prohibit non-stormwater discharges into the storm sewers". Although the draft Permit requires the District to prepare plans and implement programs to prevent illicit discharges, it does not expressly include this requirement.

EPA Response: EPA disagrees that the Permit does not contain such a narrative prohibition. The commentor is referred to Part I of the draft Permit and specifically, Part I.B (Authorized Discharges) and the fourth paragraph of Part III.B.10 (Management Plan to Detect and Remove Illicit Discharges) concerning the prohibitions on non-storm water discharges into the storm sewers. As part of the District's continuing illicit connection and discharge programs, "unusual flows" which include foam, oil sheen, smells (i.e.,chemical, organic), and/or water flow in areas where ground water is not expected to be encountered during dry weather are reported by catch basin and inspection crews and followed up by field inspection crews to trace the discharge back to its source(s) utilizing specific tracer measures. The Permittee has indicated in their correspondence to EPA dated August 29, 2003 responding to comments on the Upgraded SWMP that additional details would be included in the addendum to the Plan to expand on their dry weather monitoring and inspection programs for identifying and eliminating illicit connections and discharges.

Comment No. 7 (Lack of New Structural Controls)-The Upgraded SWMP and the draft Permit do not appear to require any new structural controls to address storm water pollution which does not comply with mandates of the Clean Water Act.

EPA Response: The Permit (including the implementation of the Upgraded SWMP and other narrative requirements) provide the control measures the EPA has identified as necessary and sufficient to meet the NPDES requirements of the CWA. The District has incorporated structural and non structural controls in its Upgraded SWMP that have proven effective to date in addressing storm water pollution. This does not mean the District has excluded or has stopped considering adding other such controls from the universe of such controls. In addition to the controls being applied through the MS4 program, other ongoing programs (i.e., nonpoint source) within the District apply different types of controls to address other problems which will ultimately benefit the storm water program by reducing erosion and/or by reducing the discharge of pollutants from the MS4. The District has evaluated many of the reports and other documents which have been produced to address the storm water pollution problem to get to this point of implementing effective controls. The commentor is encouraged to continue discussing specific structural and non structural controls measures with the Permittee which may have possibilities for use in the District's Storm Water Management Program in the future.

Comment No. 8 (Endangered Species)-Pursuant to Section 7 of the Endangered Species Act (ESA), EPA must consult with the United States Fish and Wildlife Service (USFWS) regarding the potential impact of the draft Permit on threatened and endangered species within the District.

EPA Response: As noted in the fact sheet, EPA has completed consultation with the Services in accordance with Section 7 of the ESA. Specifically EPA consulted whether this reissuance of this permit would adversely affect the Bald Eagle and the Hay's Spring Amphipod (with the USFWS) and Short Nosed Sturgeon (with the National Marine Fisheries Service, known now as NOAA Fisheries). EPA received concurrence from each Service respectively.

Comment No. 9 (Waivers and Exemptions)-The "waiver and exemption" language in the draft Permit does not correct the Environmental Appeals Board remand and violates the Clean Water Act and other applicable EPA regulations.

EPA Response: Based in part on the comment and to further clarify this issue with respect to the remand of the EAB, EPA has modified the Permit in Part IX.A to specifically prohibit any discharge in that the District could otherwise allow through such a waiver or exemption issued under District laws. Such a discharge would not be authorized by this Permit and as such could constitute a violation of the terms of this Permit. The Region notes that the District is considering its waiver and exemption provisions to amend them in order to avoid conflicts with the Clean Water Act and with existing applicable Federal storm water regulations.

Comment No. 10 (Monitoring)-The commentor notes that the monitoring program must

take into account the volume of effluent discharged from each outfall and the representative monitoring stations are not true indicators of the expected storm water discharges.

EPA Response: The Region finds that the rotating watershed approach of representative monitoring set forth in this Permit maximizes the limited resources available to provide for increased data. This approach is consistent with EPA guidance [i.e., Water-Based National Pollutant Discharge Elimination System (NPDES) Permitting Implementation Guidance] and discussion of the watershed approach (i.e., 1994 NPDES Watershed Strategy) that given the limited resources, any intensive watershed monitoring by watershed rotation gives overall better results than a few points for each. For representative land uses in the monitoring of MS4s, etc., the commentor is referred to Part 122.26(d)(2)(iii) of the NPDES regulations for establishing how the outfalls are designated. In response to this comment on monitoring the volume, EPA agrees that the draft permit was not clear. EPA has modified Part VIII.A and B of this Permit to better account for the volume and nature of the flow from the effluent discharge. The Region has also added clarifying language in Part IV.A.2 on this issue. Based on the above, EPA has determined that the monitoring locations set forth in the Permit are consistent with these requirements.