

**GOVERNMENT OF THE DISTRICT OF COLUMBIA
WASHINGTON, DC**

**Municipal Separate Storm Sewer System
NPDES Permit No. DC0000221**

**2006 ANNUAL REPORT
On Storm Water Pollution Control**

August 19, 2006



Anthony A. Williams
Mayor

Submitted by:

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**2006 ANNUAL REPORT
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LIST OF ACRONYMS AND ABBREVIATIONS

Act	Storm Water Permit Compliance Amendment Act of 2000
ARBC	Anacostia River Business Coalition
AREC	Aquatic Resource Education Center
AWRC	Anacostia Watershed Restoration Committee
AWS	Anacostia Watershed Society
BMP	Best Management Practice
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

CWA	Clean Water Act
CY	Calendar Year
District	District of Columbia
DCMR	District of Columbia Municipal Regulations
DCRA	Department of Consumer and Regulatory Affairs
DDOE	District Department of Environment
DDOT	District Department of Transportation
DMR	Discharge Monitoring Report
DOH	Department of Health
DPW	Department of Public Works
EE-CARS	Environmental Education for the Compliance of Automotive Repair Shops
EMC	Event Mean Concentration
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Right-to-Know Act
FEMA	Federal Emergency Management Agency
Fund	Storm Water Enterprise Compliance Fund
FY	Fiscal Year
GIS	Geographic Information System
GPS	Global Positioning System
GSA	US General Services Administration
HHW	Household Hazardous Waste
HWD	Hazardous Waste Division

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

ICPRB	Interstate Commission on the Potomac River Basin
IDDE	Illicit Discharge Detection and Elimination
IPM	Integrated Pest Management
LID	Low Impact Development
LQG	Large Quantity Generators
MES	Maryland Environmental Services
mg/L	Milligram(s) Per Liter
MOU	Memorandum of Understanding
MPN	Most Probable Number
MS4	Municipal Separate Storm Sewer System
MSGP	Multi Sector General Permit
MWCOG	Metropolitan Washington Council of Governments
NA	National Arboretum
NAVFAC	Naval Facilities Engineering Command
NPDES	National Pollutant Discharge Elimination System
NOI	Notice of Infraction
NOV	Notice of Violation
NRCS	Natural Resources Conservation Service
NRDC	Natural Resources Defense Council
NWF	National Wildlife Federation
PCS	Permit Compliance System
PEPCO	Potomac Electric Power Company

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

Permit	National Pollutant Discharge Elimination System Permit
PLT	Project Learning Tree
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SGC	Schoolyard Greening Consortium
SQG	Small Quantity Generators
SWEEP	Solid Waste Education and Enforcement Program
SWM	Storm Water Management
TMDL	Total Maximum Daily Load
TN	Total Nitrogen
TP	Total Phosphorus
TSS	Total Suspended Solids
USDA ARS	U.S. Department of Agriculture, Agricultural Research Service
USFWS	United States Fish and Wildlife Service
VMS, Inc.	DDOT subcontractor for federal highway maintenance
WASA	District of Columbia Water and Sewer Authority
WLA	Waste Load Allocations
WPCCP	Water Pollution Control Contingency Plan
WPD	Department of Health Watershed Protection Division
WQD	Department of Health Water Quality Division
WRAMC	Walter Reed Army Medical Center

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
Washington, D.C.

*Municipal Separate Storm Sewer System
NPDES Permit No. DC0000221
2006 Annual Report
On Storm Water Pollution Control*

SUMMARY AND FINDINGS

S.1 GENERAL

The Government of the District of Columbia (District) submits this Annual Report on storm water pollution control in compliance with its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Water System Permit No. DC0000221. This Annual Report is submitted together with the Implementation Plan and Discharge Monitoring Report (DMR) in compliance with the reporting requirements as defined in Parts II, III.A, III.B, III.C, III.D, IV.B, V, and VI of the Permit.

The purpose of the District's MS4 program is to reduce pollutant loadings from the MS4 to receiving waters, and contribute towards meeting District water quality standards and the approved Total Maximum Daily Load (TMDL) for those waters. This Annual Report details MS4 permit-related activities conducted by District agencies during fiscal year (FY) 2005 to reduce and control pollutant discharge from the MS4 to the Potomac and Anacostia Rivers and their tributaries.

S.2 BACKGROUND

The Environmental Protection Agency (EPA) issued an MS4 NPDES Permit (Permit) to the District on August 19, 2004 that is effective for a five-year period. The Permit allows discharges from the MS4 to the Potomac and Anacostia Rivers and tributaries in accordance with the conditions of the Permit.

Aspects of the Permit are based on the upgraded Storm Water Management Plan submitted to EPA on October 19, 2002. This plan describes the District's Storm Water Management Program to control pollutant discharge from the MS4 to the Potomac and Anacostia Rivers and their tributaries.

On June 12, 2001 DC Law #13-311 ‘Storm Water Permit Compliance Amendment Act of 2000 was made final by the District of Columbia to amend the powers of the Water and Sewer Authority (WASA) to engage in certain MS4 permit compliance activities. The Act created a Storm Water Administration within WASA and established WASA as its lead agency to coordinate actions among other District agencies in connection with permit compliance activities.

To capitalize the District’s storm water activities, the Act authorized WASA to collect a flat storm water fee from retail water customers within the District. WASA began charging the storm water fee with the billing cycle that started July 1, 2001. The 2004 Permit requires significant new activities, with its emphasis shifting from planning (in the first NPDES permit) to implementation of plans submitted by the District. It is estimated that approximately \$7 million per year will be required from the Enterprise Fund to comply with the new permit. The current revenue from the storm water user fee (approximately \$3.1 million per year) will not sustain these activities starting in FY 2007.

Continued permit compliance through FY 2007 and beyond is dependent of District Council action to increase the storm water fee collected from water and sewer customers. Of particular concern are additional commitments made by the District in the Anacostia River and Rock Creek TMDL Implementation Plans, which have now been incorporated into the permit by EPA.

A Memorandum of Understanding (MOU) with established between the District, the Chief Financial Officer of the District of Columbia, WASA, the Department of Health (DOH), and the Department of Public Works (DPW). Responsibilities of each of the agencies are set forth in an inter-agency Memorandum of Understanding (MOU). In October 2002, the newly formed District Department of Transportation (DDOT) became a party to the MOU and took on some of the responsibilities formerly assigned to DPW. (Note: In February 2006, the District Department of Environment (DDOE) was formed and has taken over the responsibilities of DOH’s Water Quality Division (WQD) and Watershed Protection Division (WPD) within the MOU. However, throughout the period covered by this report, FY2005, DOH was the responsible agency.) The MOU is being updated to reflect the requirements of the August 2004 permit renewal. This report includes information on other Municipal Separate Storm Sewer System (MS4) related activities, such as the District’s administrative and regulatory actions, the capital improvements of storm facilities, and the request for enterprise funds and expenditures for storm water activities by each agency.

S.3 ANNUAL REPORT SUMMARY OF FINDINGS

This Annual Report delineates the significant achievements that were made in FY 2005 addressing the required provisions of the Permit. The following subsections summarize the activities over the past year

- to reduce pollutant loading from MS4 outfalls,
- to explain progress in the development of programs, systems, and the legal framework to manage activities; and,
- to integrate storm water management responsibility into various agencies within the District of Columbia, including the District government, private industry, and citizen activities.

S.3.1 Source Identification

The existing MS4 infrastructure mapping and outfall location data have been combined to develop a database. The District completed verification of 75% of the MS4 outfall locations at the end of FY 2005 and is on target to meet the goal of completing field verification of 100 percent of the system by the end of FY 2006. Outfall coordinates obtained by GPS are being recorded in the MS4 Program outfall database. Concurrent with the outfall verification program, illicit discharge inspections are being conducted and a database of outfalls with dry weather flow created.

S.3.2 Management Plan for Commercial, Residential, and Federal and District Government Areas

The District has developed and continues to implement a program to control storm water discharges from federal and District-government areas. The management plan for storm water pollution control on commercial, residential and federal and District government areas entail a mixture of programs emphasizing structural and non-structural BMPs and educational programs.

- District regulatory requirements, such as the *Soil Erosion and Sediment Control Standards and Specifications* and the *District Storm Water Guidebook*.

- Functional landscaping programs, such as the use of structural BMPs and riparian buffer zones on new roadway construction.
- LID Practices.
- Catch basin cleaning, maintenance of the MS4, street sweeping, and leaf collection.
- Rain leader disconnection.
- Education programs on pet wastes, fertilizers, and landscaping.
- Mapping of storm water impacts
- Strengthening erosion control for new construction
- Continuing to work with federal and District facilities in order to implement and maintain storm water pollution controls on new and re-build construction.

S.3.3 Management Plan for Industrial Facilities

The establishment of a comprehensive database of industrial facilities in the District, and the initiation of the wet weather screening program are primary components of this program. The implementation of the management plan for industrial facilities will control and reduce storm water pollution from industrial facilities in accordance with the requirements of the Clean Water Act.

S.3.4 Management Plan for Construction Sites

DOH has a strong inspection and enforcement program for commercial and residential areas and is working diligently to strengthen its erosion control program for new construction. The management plan for storm water pollution control on construction sites emphasizes the review and approval process, and the inspection and enforcement procedures of the construction permitting program, as well as construction site and plan educational programs, traffic pollution strategies, and air pollution compliance activities.

DOH WPD has refined and updated the District automated database system for tracking storm water management facilities inspected for maintenance to include tracking of construction projects with storm water management BMPs. The number of inspections of construction sites increased in FY 2005 to over 7,300 sites.

S.3.5 Flood Control Projects

The District of Columbia operates and maintains flood control devices including BMPs, pump stations, floodgates, weirs, canals, and storm water collection and conveyance systems. The District has developed procedures for these facilities so that they are operated and maintained to ensure proper functioning. Currently, the District has three flood control devices including a levee and gate system and two other weir dams that are designed to control peak flows during storm events.

S.3.6 Control of Pollution from Municipal Landfills and Other Municipal Waste Facilities

DPW is currently upgrading SWM systems to control pollutants in storm water discharges from its two existing transfer stations. There are no active landfills within the boundaries of the District.

S.3.7 Control of Pollutants from Hazardous Waste Sites

DOH WQD continues to update federal and District facilities information as needed based on the MS4 monitoring effort. DOH WQD has prepared a database that includes facilities in the District that are registered with federal and state regulators because they generate, store, or have released hazardous materials.

DOH HWD continues to conduct inspections of RCRA hazardous waste facilities to determine compliance with hazardous waste regulations. HWD conducted a total of 45 inspections at several Resource Conservation and Recovery Act Small or Large Quantity Generator (RCRA-SQG or LQG) facilities within the District between October 1, 2004 and September 30, 2005.

S.3.8 Pesticides, Herbicides and Fertilizer Application

The DOH “Pesticide Management Program” outlines the mission, goals and implementation of the regulations that affect commercial applications of pesticide and herbicides. The program outlines the requirements for certification and training for the application of pesticides and herbicides in the District. The program also outlines requirements for enforcement actions, and programs for protecting endangered species, workers, and ground water. Control of pesticide, herbicide, and fertilizer applications has also been integrated into the “Public Education Program”.

S.3.9 Deicing Activities

The District has completed a comparison of deicing products, studies of alternative chemicals and deicing techniques. The comparison outlines the results of deicer testing conducted in ten states (including Maryland and Virginia) in comparing the chemical and physical characteristics of deicers, their impacts to soil, water and environment, and a comparison of the cost of sodium chloride salt versus various deicing alternatives. Iceban[®] was recommended as a viable alternative to sodium chloride salt in each of the studies reviewed. Based upon the comparison of deicing products, the District will continue to use Iceban[®] on bridge surfaces to reduce pollutant loading to receiving waters from deicing activities.

Application of deicer materials by DDOT employs a variety of techniques, including plowing, salt application and deicing chemical application on various roads, depending on the amount and type of precipitation expected. DDOT uses IceBan[®] to pretreat highways and bridges in addition to a hydro melt liquid deicer on bridge surfaces to reduce pollutant loadings to receiving waters.

Deicer materials are stored in several facilities throughout the District: (1) Potomac Avenue and R Street, SW and 1246 “W” Street, NE, (2) Fort Drive, NW, just east of the Fort Reno reservoir, (3) 401 Faragut Street, NE. These facilities implement storm water management controls from the site to minimize pollutant runoff to local waterbodies.

S.3.10 Snow Removal

Dumping of snow in areas adjacent to water bodies, wetlands, or drinking water sources is not part of the District’s snow management plan, and will be avoided except as necessitated by extreme emergencies. Currently, there is no alternate snow removal plan envisioned for the District. The existing snow removal plan was reviewed as part of the upgraded Storm Water Management Plan submitted in October 2002.

S.3.11 Management Plan to Detect and Remove Illicit Discharges

DOH and WASA maintain an illicit discharge detection program, issue notices of violation as needed, and monitor corrective actions taken by violators. Illicit connections not corrected are referred to the Plumbing Inspection Branch for enforcement action. Illicit connection detection and enforcement procedures have been developed in conjunction with the dry weather screening, inspection of BMPs, and public education

programs. These procedures are part of the *Draft Water Quality Division Enforcement and Compliance Manual* under review by the District. This draft was discussed in the upgraded Storm Water Management Plan submitted in October 2002.

The District continues to conduct the floatable reduction program utilizing skimmer boats on the Potomac and Anacostia Rivers. Activities to remove floatable debris and trash from the rivers as well as accumulated trash on river banks continue five days a week using skimmer boats and support boats.

S.3.12 Enforcement Plan

DOH WQD enforcement procedures are addressed in the “*Draft Water Quality Division Enforcement and Compliance Manual*”, which was updated in FY 2003. This manual details the written enforcement strategy outlining how enforcement actions, such as violation notices, notices of infraction, and stop work orders, are issued and adjudicated. The strategies outlined in the manual provide the standard operations procedures for inspection and enforcement efforts within the District.

DOH WPD has refined and updated the database system for SWM facilities maintenance inspection to include tracking of construction projects with SWM BMPs. The updated database system contains data for BMPs constructed since the inception of the program in 1988 and has enabled faster and more efficient rescheduling of inspection and retrieval of maintenance records.

DOH WPD and the District Police Environmental Crimes unit work jointly to investigate illicit discharges and enforce the District water quality regulations. As a result of illicit discharge investigations, DOH WQD personnel issued Notices of Violation (NOV) and separate Site Directives for corrective action last year. DOH WQD referred at least one case the Plumbing Inspection Branch of DCRA for corrective action.

S.3.13 Public Education

Public education activities have been integrated into existing and newly-developed storm water management programs and expanded into new areas such as the WASA public web page. Public education efforts in the past year have produced a number of new educational programs targeted towards environmental educators, teachers and students throughout the District. The Storm Water Administration presented cash awards to two students who presented projects on stormwater-related issues at the District-wide

Mathematics, Science and Technology Fair at McKinley Technology High School. Public education programs continue to include an environmental education resource center, public meetings, environmental fairs, conservation education, teacher training workshops, and grants for promoting pollution prevention.

S.3.14 Monitoring of Storm Water Outfalls

The 2006 Discharge Monitoring Report submitted with this Annual Report under separate cover includes data and analysis of the storm event discharge monitoring program, the dry weather monitoring program, and the wet weather screening program.

S.3.16 Storm Water Model

The District maintains and continues to update a storm water model of the District area and the MS4. The model includes GIS information regarding the District land use, runoff characteristics, the MS4 system, outfall inspections, and pollutant estimates.

S.3.17 Hickey Run Total Maximum Daily Load

The District continues to implement a water quality monitoring program of oil and grease for Hickey Run, however no samples were collected in FY 2005 because the permit did not require the District to sample this station.

In July 2005, the District signed a MOU, with the USDA ARS at the NA for the purpose of improving the water quality of Hickey Run. As part of the MOU, ARS agreed to hire contractors to evaluate approaches for removing floatable debris and oil and grease from Hickey Run. These contractors have developed concept designs for removing these pollutants and will install the systems into Hickey Run upon final approval of the designs.

S.3.18 TMDL Waste Load Allocation Implementation Plan

The District has completed implementation plans for the reduction of the MS4 waste load allocation toward meeting the TMDLs specified for two of its major waterways, Anacostia River and Rock Creek. In February 2005 the District submitted the Anacostia River plan to US EPA for approval, and in August 2005, the District submitted the Rock Creek plan for approval. Both plans were approved by US EPA.

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
Washington, D.C.

*Municipal Separate Storm Sewer System
NPDES Permit No. DC0000221
2006 Annual Report
On Storm Water Pollution Control*

1.0 INTRODUCTION AND METHODOLOGY

1.1 GENERAL

The Government of the District of Columbia (District) submits this Annual Report on storm water pollution control for fiscal year 2005 (October 1, 2004 - September 30, 2005) in compliance with its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit No. DC0000221. In previous years, the Annual Report has reflected calendar year activities; however the District has shifted the reporting period to coincide with the District's fiscal year. The annual storm water Implementation Plan (submitted together with this Annual Report), reports on future stormwater pollution control activities planned and the budget allocated for each of these activities. Because projected budget allocations are the basis of the Implementation Plans, they have been reported by fiscal year since the inception of this permit. The District feels that moving the Annual Report period to match the Implementation Plan will provide the reader a better understanding of the programs developed to reduce pollutant discharges from the MS4 and the reported progress of each of those programs.

This Annual Report is submitted together with the Implementation Plan and Discharge Monitoring Report (DMR) in compliance with the reporting requirements as defined in Parts II, III.A, IIIB, III.C, III.D, IV.B. V, and VI of the Permit.

The purposes of the District's MS4 program are to reduce pollutant loading from the MS4 to receiving waters and contribute towards meeting District water quality standards and the approved Total Maximum Daily Load (TMDL) for those waters. This Annual Report details MS4 permit-related activities conducted by District agencies during fiscal year (FY) 2005 to reduce and control pollutant discharge from the MS4 to the Rock

Creek, Potomac River, and Anacostia River watersheds. Additional District agencies, federal, regional, and non-profit organizations conduct activities that impact storm water pollutants entering the MS4. A listing of these organizations is included in Appendix 1-A. While not part of the MS4 program, and in many cases explicitly prohibited from being counted towards compliance with the MS4 permit, the effort by these organizations to control storm water runoff contributes directly and indirectly to the reduction of pollutants in discharges from the MS4, and/or results in improved water quality in receiving waters.

1.2 BACKGROUND

The U.S. Environmental Protection Agency (EPA) issued an MS4 NPDES permit (Permit) to the District on August 19, 2004. The Permit allows discharges from the MS4 to the Potomac and Anacostia Rivers and tributaries in accordance with the conditions of the Permit.

1.2.1 Storm Water Act

On June 12, 2001, DC Law #13-311¹ “Storm Water Permit Compliance Amendment Act of 2000” (Act) was made final by the District of Columbia to amend the powers of the Water and Sewer Authority (WASA) to engage in certain MS4 permit compliance activities. The Act created a Storm Water Administration within WASA and established WASA as its lead agency to coordinate actions among other District agencies, including the Department of Health (DOH) and the Department of Public Works (DPW), in connection with MS4 permit compliance activities. The General Manager of WASA is empowered to designate a person to lead this new Storm Water Administration and to oversee agency activities that support compliance with the existing MS4 Permit.

To fund these implementation activities, the Act established a Storm Water Permit Compliance Enterprise Fund (Fund). Monies from the Fund are to be available to the

¹ Law 13-311, the "Storm Water Permit Compliance Amendment Act of 2000," was introduced in Council and assigned Bill No. 13-813, which was referred to the Committee on Public Works and the Environment. The Bill was adopted on first and second readings on December 5, 2000, and December 19, 2000, respectively. Signed by the Mayor on January 22, 2001, it was assigned Act No. 13-311 and transmitted to both Houses of Congress for its review. D.C. Law 13-311 became effective on June 13, 2001.

participating agencies for costs incurred because of MS4 Permit mandated activities, including administration, operations, and capital projects.

The Act requires DOH and DPW together with WASA to prepare and transmit a Semi-Annual Report every six months following the effective date of the Act to the Mayor and the Council of the District of Columbia. This report describes the activities undertaken in the previous six months and outlines activities planned for the following six months. These semi-annual reports must include descriptions of storm water related activities, including:

- compliance with MS4 Permit requirements;
- administrative, planning, and regulatory actions;
- operation, maintenance, and capital improvements of storm water facilities;
- expenditures from the Fund, and expenditures on related storm water activities from annual appropriations and federal grants.

A copy of the most recent Semi-Annual Report (June 2006), is provided in Appendix 1-B and is available at the Martin Luther King, Jr. Library.

1.2.2 Memorandum of Understanding

The Storm Water Administration executed a Memorandum of Understanding (MOU) on December 14, 2000 that included the Permittee (City Administrator representing the Mayor), the Chief Financial Officer of the District, DOH, DPW and WASA. In October 2002, the newly formed District Department of Transportation (DDOT) became a party to the MOU and took on some of the responsibilities formerly assigned to DPW. (Note: In February 2006, the District Department of Environment (DDOE) was formed and has taken over the responsibilities of DOH's Water Quality Division (WQD) and Watershed Protection Division (WPD) within the MOU. However, throughout the period covered by this report, FY2005, DOH was the responsible agency.) The MOU assigns responsibilities among the foregoing parties for compliance with the Permit. The MOU continues as a coordination mechanism among the signatories in complying with the Permit. A copy of the current MOU is in the appendix of the Agency Compliance Plan; a copy of the Compliance Plan is provided in Appendix 1-C.

The MOU mandates the preparation of an Agency Compliance Plan each year. This plan sets forth each agency's proposed budget plan dedicated for MS4 permit compliance activities and a statement of its sufficiency. The parties to the MOU developed a matrix of activities based on the permit assigning responsibilities among the foregoing parties for compliance with the Permit.

A new matrix of activities based on the 2004 Permit is currently being developed by the Task Force Agencies. The MOU is also being revised to reflect the requirements of the new permit, and changes in the allocation of responsibilities among District agencies. For example, DDOT now has specific responsibilities detailed in the Compliance Matrix and will be a signatory of the revised MOU.

1.2.3 Storm Water Permit Compliance Enterprise Fund

The Act established the Storm Water Permit Compliance Enterprise Fund to finance the Storm Water Administration's MS4 Permit implementation activities. To capitalize the Fund, the Act authorized WASA to collect a storm water fee of \$7.00 per year from single-family water customers, 1.4% of the water rate from multi-family residential water and sewer customers, and 2.0% of the water rate charged to commercial, industrial, federal, and municipal customers.

WASA began charging the storm water fee with the billing cycle that started July 1, 2001. Annual income from the fee is approximately \$3.1 million per year. Income from the Fund is available to any District agency for costs incurred to comply with the terms of the Permit, including administration, operations and capital projects over and above the costs incurred in April 2000. WASA has established a system to approve and reimburse eligible expenditures from the Fund.

The 2004 Permit requires significant new activities, with its emphasis shifting from planning (in the first NPDES permit) to implementation of plans submitted by the District. The Storm Water Task Force has reviewed the 2004 Permit requirements and is developing a cost estimate for compliance activities (as part of the Activities Matrix mentioned before). It is estimated that approximately \$7 million per year will be required from the Enterprise Fund (above and beyond the existing storm water management activities funded by WASA and District agencies through their general obligation budgets) to comply with the new permit. In particular, the Permit requires the District to

commit to activities included in the Anacostia River and Rock Creek TMDL Implementation Plans and demonstrate measurable progress towards compliance with the Total Maximum Daily Load assigned to the MS4 for these watersheds.

The Enterprise Fund budget for FY 2006 is \$6.7 million, of which approximately \$2.8 million is allocated for direct Permit compliance costs including reporting, sampling and analysis, outfall inspection and system mapping, illicit discharge screening, etc. The balance of the FY 2006 budget is for direct pollutant reduction activities such as construction of Best Management Practices (BMPs), increased inspection and enforcement, public outreach, and other citywide activities to reduce pollutant discharges from the MS4 as a whole. The current revenue from the storm water user fee (approximately \$3.1 million per year) will not sustain these activities beyond FY 2007.

Continued permit compliance through FY 2007 and beyond is dependent on District Council action to increase the storm water fee collected from water and sewer customers.

1.2.4 Annual Reporting

The District submitted the 2005 Annual Report, Implementation Plan, and Discharge Monitoring Report to the EPA on August 19, 2005. The Annual Report described MS4 permit-related activities conducted by District agencies during calendar year (CY) 2004, while the Implementation Plan projected activities scheduled for FY 2006 through FY 2009. The Discharge Monitoring Report included the analytical laboratory results of discharge samples collected during CY 2005. EPA accepted the 2005 Annual Report and the 2005 Implementation Plan on April 26, 2006. A copy of the letter accepting these deliverables is included in Appendix 1-D. The August 2004 permit established August 19th as the due date for all annual reporting requirements.

1.2.5 Permit Administration

As the lead agency designated by the Storm Water Act, WASA is currently administrating the MS4 Permit. WASA contracted with EA Engineering, Science, and Technology, Inc. to provide engineering consulting and administrative support for the MS4 Permit activities until September 30, 2005. (Note: WASA has extended this contract until January 2007 to cover the transition period related to the transfer of the MS4 Administration to the District Department of Environment.)

1.3 STORM WATER ADMINISTRATION INFRASTRUCTURE

1.3.1 Creation of the District Department of Environment

During the second half of FY 2005, the District Council began discussing the creation of the District Department of Environment (DDOE). On December 2, 2005, the Mayor signed legislation creating DDOE to manage regulatory and environmental issues within the District. The legislation states, The Director will... “Have conducted an analysis of the feasibility and benefit of restructuring the Storm Water Management Administration” within 180 days. The effective date of this legislation was February 15, 2006. The legislation also states that the Storm Water Administration duties will be transferred out of WASA within one year (February 15, 2007).

1.3.2 Analysis of Restructuring the Storm Water Administration

A final report of the analysis for restructuring the storm water administration is due to the District Council detailing the following items:

- Operations, accomplishments, and challenges of the MS4 task force
- Assessing storm water pollution control in other urban jurisdictions
- Storm water pollution control needs in the District
- Storm water pollution control management
- Innovative Storm Water Pollution Controls

1.4 COST BENEFIT ANALYSIS, BUDGET FOR THE FOLLOWING YEAR, AND A SUMMARY OF COMMITMENTS FOR THE FOLLOWING YEAR

A cost benefit analysis of current and planned MS4 permit activities is included in the 2006 Implementation Plan submitted together with this report. The Implementation Plan explains the activities and anticipated budgets planned for the next three fiscal years. Implementation of the budgeted activities outlined in the 2006 Implementation Plan will substantively fulfill the requirements of the current Permit. The plan will continue current activities to manage storm water pollution and encourage improved storm water management techniques, while providing the organization, legal framework, technical evaluation, and specific data necessary to ensure progress and track improvement in storm water quality discharged from the MS4.

1.5 METHODOLOGY TO ASSESS THE EFFECTS OF THE STORM WATER MANAGEMENT PLAN IN REDUCING POLLUTION AND ACHIEVING THE REQUIREMENTS OF THE CLEAN WATER ACT

Assessing the effects of the Storm Water Management (SWM) program in reducing pollution and achieving the requirements of the Clean Water Act (CWA) involves a variety of measurement metrics and processes. According to the EPA Guidance Manual entitled “*Guidance Manual for the Preparation for Part 2 of the NPDES Permit Applications from Municipal Separate Storm Sewer Systems,*” there are two ways to assess the SWM program. They are:

1. *Direct Measurement, which includes the number of Best Management Practices (BMPs) installed, removal efficiencies, storm water volume reduction, event mean concentration reduction, and estimated pollutant loading reduction, and*
2. *Indirect Measurement, which includes but is not limited to, the amount of household hazardous waste collected, number of public hearings and attendance at these hearings, number of spill cleanups, number of sewer inlet stencils, number of educational brochures distributed, and number of erosion and sediment control permits issued.*

In order to help provide direct assessment of the SWM program impact on water quality, the District is continuing its long-term monitoring program. The program rotates storm water sampling from the Potomac watershed to the Anacostia watershed to the Rock Creek watershed on an annual rotation. By focusing monitoring in one watershed during a given year, a more complete measure of pollutant loading from that watershed is obtained.

Within each watershed, DOH has selected outfalls that are representative of the MS4 for inclusion in the discharge monitoring program. By monitoring representative outfalls, an economy of time, effort, and resources can be made in assessing the impacts of the SWM program on pollutant discharge from the MS4 as a whole. Programs such as removing illicit connections, improved erosion and sediment controls for construction sites, and refurbishment of municipal waste transfer and salt storage areas will result in immediate and predictable reductions to pollutant loading to storm water runoff in a known

sewershed. Such measures require monitoring data, and runoff modeling to quantify results.

Monitoring provides measurement of the pollutant levels in a watershed so as to evaluate the removal of pollutants by structural BMPs. These BMPs may include Low Impact Development (LID) techniques, catch basin filters and/or inserts, oil and grease traps and flow reduction devices incorporated by new construction and redevelopment throughout the District. These structures are placed on individual sites by residents, businesses, and federal facilities and are designed to control the water flow and pollutants from the land area of that specific site. A reduction of pollutants at a monitoring site cannot be expected until after a significant amount of the monitored watershed area is controlled by BMPs.

The pollutant reduction from a BMP is typically expressed as a percentage reduction (of a particular pollutant). In order to evaluate the effect of a BMP, knowledge of the pollutant level (in the water flowing from the site) prior to BMP construction is required. After construction, monitoring data should provide a new measure of the level of the pollutant so that a percentage reduction can be estimated. Examples of this may be a 70% reduction of oil and grease in a BMP installed near an automotive repair shop, or 80% reduction of floatable trash (Total Suspended Solids) in a BMP near a public park area.

Progress of the SWM program under the SWM plan can also be assessed indirectly utilizing statistics regarding storm water management activities reported by District agencies. While these measures are qualitative and not quantitative, the level of effort, equipment and manpower for each SWM activity under the SWM plan help to provide indirect measurement of pollution reduction achieved. Programs such as public education, and, contractor and equipment operator training produce effects that are dispersed over time and location. Impacts to the pollutant levels of the MS4 are usually indirectly measured by tracking the number of persons trained or through testing of comprehension.

Some SWM plan measures, such as long-term traffic and transit planning, and programs implemented by consumers like rain leader disconnection or other small-scale residential BMP installations, require significant time in planning and implementation. Thus, effects of today's work may not be measurable within the term of the current permit, or even the

following one. Such measures, while quantifiable, require extended time intervals of measurement, or estimates of future implementation rates and efficiencies.

Methodologies for assessing the effects of the SWM program in reducing pollution and achieving the requirements of the Clean Water Act will continue to be developed and refined to provide a consistent measure of progress and success in the MS4 program.

1.6 ORGANIZATION OF THE ANNUAL REPORT

The report's outline follows the organization of the Permit, and includes the following sections:

- S.0 Summary and Findings
- 1.0 Introduction and Methodology
- 2.0 Storm Water Pollution Control: Source Identification
- 3.0 Storm Water Pollution Control: Management Plan for Commercial, Residential, and Federal and District Government Areas
- 4.0 Storm Water Pollution Control: Management Plan for Industrial Facilities
- 5.0 Storm Water Pollution Control: Management Plan for Construction Sites
- 6.0 Storm Water Pollution Control: Flood Control Projects
- 7.0 Storm Water Pollution Control: Municipal Landfills and Other Municipal Waste Facilities Management
- 8.0 Monitor and Control of Storm Water Pollutants From Hazardous Waste Sites
- 9.0 Storm Water Pollutant Control: Pesticides, Herbicides, and Fertilizer Application Management
- 10.0 Storm Water Pollution Control: Deicing Activities Management
- 11.0 Storm Water Pollution Control: Snow Removal Management
- 12.0 Storm Water Pollution Control: Management Plan to Detect and Remove Illicit Discharges
- 13.0 Storm Water Pollution Control: Enforcement Plan
- 14.0 Storm Water Pollution Control: Public Education
- 15.0 Storm Water Pollution Control: Monitoring and Reporting Requirements
- 16.0 Storm Water Pollution Control: Storm Water Model Using a Geographical Information System

17.0 Hickey Run Storm Water Pollution Control Using The Total Maximum Daily Load

18.0 Total Maximum Daily Load Waste Load Allocation Implementation Plans

Each section begins with a brief summary of the Permit requirements followed by a more in-depth discussion of permit compliance activities conducted in FY 2005. Supporting details and complete discussion of activities related to the section subject are provided, and specific details are presented in order of their listing in the Permit to facilitate review and comparison.

2.0 STORM WATER POLLUTION CONTROL: SOURCE IDENTIFICATION

2.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

2.1.1 Permit Requirements

Part II of the Permit describes the requirements for Source Identification.

2.1.2 Compliance Summary

The source identification program emphasizes the collection of data regarding the population, land use activities and storm water runoff potential in the District. A summary of these compliance activities is as follows.

- Land use activities
- Population estimates
- Runoff characteristics
- Major structural controls
- Landfills
- Publicly owned lands
- Industries

Section 2.2 of this report provides details of significant changes for these activities.

2.2 SIGNIFICANT CHANGES

Significant changes are defined as, “changes considered to have the potential to be of an important nature that revise, enhance, or otherwise modify the physical, legal, institutional, or administrative condition of land use activities, population estimates, runoff characteristics, major structural controls, landfills, publicly owned lands, and

industries.”¹ This definition was incorporated into Part II of the Permit issued on August 19, 2004.

2.2.1 Land Use Activities

The District is highly urbanized, with little available land for further development. All new development and development of existing areas is subject to the District’s storm water regulations with a review by DOH. The land use and impervious area must be indicated on all plans submitted to DOH Watershed Protection Division (WPD) for review and inspection. No single development plan reviewed to date has sufficient land area to make a significant impact to the MS4 system. The cumulative impacts of the proposed and new developments reviewed over the past year have not resulted in a significant change for the existing land use activities in the portion of the District served by the MS4.

2.2.2 Population Estimates

The Bureau of the Census reported in the 2000 Census of Washington, DC that there were 572,059 people residing within the District². A projected population estimate for 2005 indicated that the 2000 census number could decline by 3.8% to 550,521. While these population declines over the past five years are not considered significant with respect to sources of pollution in storm water, a continued trend in population reduction could result in future change. Additional details of the 2000 U.S. Census for the District can be found at <http://www.census.gov/>.

2.2.3 Runoff Characteristics

As noted in Section 2.2.1, no significant changes in land use activities were identified during the past year. Therefore, no significant changes in the runoff characteristics were identified in the MS4 drainage area as a result of land use activities.

¹ The *2001 Annual Review*, dated April 19, 2001 defined this term.

² <http://quickfacts.census.gov/qfd/states/11000.html>

2.2.4 Major Structural Controls

Ongoing maintenance of the MS4 infrastructure including structural controls is conducted to ensure consistent performance of MS4 components. There have been no major structural controls added or removed from the MS4 system during the past year.

A sample of the minor structural controls being added by the District to the MS4 area include:

- Human Rights Campaign 2000 sq. ft. greenroof;
- Casey Trees foundation green roof, 1500 sq. ft.;
- National Park Service HQ raingarden in SE Anacostia;
- Architect of the Capitol raingarden NE;
- Benning Road Bridge, raingarden, SE;
- PEPCO Power Generation Facility raingarden #2 on Benning Road SE;
- Elevation 314 green roof and raingardens (privately funded);
- Peabody Elementary school, NE, pavers (grass and brick paver systems).

2.2.5 Landfills

There are no active landfills within the District.

2.2.6 Publicly Owned Lands

The National Park Service is the primary public entity holding land within the MS4 area of the District. According to the fiscal year 2001 listing of acreage by Park, the National Park Service owns 4,327 acres within the District. According to the 1997 listing of acreage, there were 4,328 acres under the control of the National Park Service.

The US Department of Agriculture Agricultural Research Service (USDA ARS) runs the National Arboretum. The Arboretum is 446 acres in size and has not increased or

decreased in size in the past five years. The DC Department of Parks and Recreation also controls acreage in the District. According to Parks and Recreation personnel, there are approximately 870 acres of land under its control. The amount of publicly owned lands in the District has been stable over the last year with no significant changes in public land ownership.

2.2.7 Industries

No significant changes in industrial activity were identified over the past year. The Industrial Facilities Database has been updated and is discussed in detail in Section 4 of this report. The database will continue to be used to track changes in industrial activity in the District.

3.0 STORM WATER POLLUTION: MANAGEMENT PLAN FOR COMMERCIAL, RESIDENTIAL, AND FEDERAL AND DISTRICT GOVERNMENT AREAS

3.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

3.1.1 Permit Requirements

Part III.B.1 of the Permit requires the District to implement the October 19, 2002 SWM Plan, to reduce the discharge of pollutants from commercial, federal and District government owned/operated facilities, and residential areas into the District MS4.

3.1.2 Compliance Summary

The District has developed and continues to implement a program to control storm water discharges from federal and District-government areas. The District does not have jurisdiction over federal lands to require the installation of structural retrofits to control storm water pollutants from federal lands. However, District of Columbia Municipal Regulations (DCMR) require federal agencies to comply with the District's erosion and sediment control regulations with respect to new construction and re-construction on federal properties in the District. In addition, DOH signed agreements with DDOT and the General Services Administration (GSA), which require federal contractors working on buildings or highway improvements to comply with the District's erosion and sediment control regulations. DOH reviews construction plans submitted by DPW, DDOT and WASA with respect to these requirements.

The management plan for storm water pollution control on commercial, residential and federal and District government areas entail a mixture of programs emphasizing structural and non-structural BMPs and educational programs. A summary of these compliance activities is as follows.

- District regulatory requirements, such as the *Soil Erosion and Sediment Control Standards and Specifications* and the *District Storm Water Guidebook*.

- Functional landscaping programs, such as the use of structural BMPs and riparian buffer zones on new roadway construction.
- LID Practices.
- Catch basin cleaning, maintenance of the MS4, street sweeping, and leaf collection.
- Rain leader disconnection.
- Education programs on pet wastes, fertilizers, and landscaping.
- Mapping of storm water impacts
- Strengthening erosion control for new construction
- Continuing to work with federal and District facilities in order to implement and maintain storm water pollution controls on new and re-build construction.

Section 3.2 below provides details of these activities.

3.2 MANAGEMENT PLAN FOR COMMERCIAL, RESIDENTIAL, AND FEDERAL AND DISTRICT GOVERNMENT AREAS ACTIVITIES

The general requirements of the Permit entail a mix of programs to comply with the Clean Water Act. A coordinated program of activities is included in the management plan for commercial, residential, and federal and District government areas. The following sections detail progress for each activity over the past year.

3.2.1 DC Storm Water Manual

Performance Standard: The District requires engineering standards and specification to be followed by all District builders.

The *District of Columbia Soil Erosion and Sediment Control Standards and Specifications*, and the District's *Storm Water Guidebook* are followed by all District builders, whether private, commercial, federal or District, for all new and rebuild

construction sites. These manuals are available to the public at the DOH WPD offices and encourage builders to use storm water BMPs for new and rebuild construction through the plan review process.

- During FY 2005, approximately 220 builders were encouraged to use storm water BMPs in their construction plans; and approximately 60% of the construction projects were located in the MS4 area.
- During FY 2005, 28 copies of the Storm Water Management Guidebooks, 44 Sediment Control Standards and Specifications Manuals, and 32 CDs were distributed to the public.
- During FY 2006, there are plans to revise the Storm Water Management Guidebook to incorporate new and innovative BMPs, including LID practices.

A six page document entitled “General Information and Guidelines for the Submission of Project Plans” was developed in FY 2005. The document is used to educate the public on the process involved in the review and approval of erosion and sediment control and storm water management plans, and the acquisition of a DC Building Permit.

3.2.2 Functional Landscaping

Performance Standard: The District encourages developers through training sessions, to incorporate functional landscaping techniques in their site development plans.

- During FY 2005 no formal training sessions were held.
- In FY 2005 DOH WPD made recommendations to approximately 220 developers, professional engineers, architects, homeowners, and government officials regarding BMP effectiveness. The recommendations were made to those who were proposing projects in the District. Approximately 60% of these recommendations were given to those that were proposing work in the MS4 area.
- In FY 2005, DOH WPD promoted the use of riparian buffer zones along waterways. Approximately 15 acres of riparian buffer zone was created along a portion of Kingman Lake. Kingman Lake is located in Ward 7 within the MS4

area. The project was coordinated by the WPD and implemented by three local non-profit organizations: Anacostia Watershed Society, Casey Trees, and Chesapeake Bay. The project was implemented over a period of five days.

- Howard University completed its recommendations to DDOT on the use of BMPs in road construction and reconstruction projects. The report titled, *Design Standards for Best Management Practices for Reduction of Transportation-Related Storm Water Pollution in the District of Columbia*, was completed on December 31, 2005.

3.2.3 Low Impact Development Practices

Performance Standard: The District promotes the use of LID techniques throughout the District through plan review and educational activities.

The District's LID review and inspection activities in FY 2005 included the following projects.

- There were 70 plan reviews conducted, which promoted or encouraged the use of LIDs across the District. These inspection reviews were given to design engineers, architects, and developers throughout the District.

During FY 2005, one LID pilot project was begun. The project included the design and development of an environmental catch basin for treating roadway runoff. The project currently is in the final design phase. The date and location for prototype implementation is at the moment undetermined.

District LID work with DC schools led to the following projects:

- Bancroft Elementary School, 1755 Newton St., NW, rain garden; the school is located inside the Rock Creek sewershed;
- Peabody Elementary, 425 C St., NE, LIDs, the school is located inside the Anacostia sewershed.

District LID work focused on specific regions and watersheds of the District include:

- Watts Branch watershed: The DOH WPD has issued a grant to the non-profit group Parks and People for the construction of four bioretention LID retrofits in the sub-watersheds of Watts Branch. DOH WPD has provided a list of appropriate retrofits sites and is working with the grantee to select the final sites. WPD expected Parks and People to construct these four sites in FY 2005.
- Fort Dupont watershed: The DOH WPD has issued a grant to the non-profit group Sustainable Community Initiatives for the construction of several LID retrofits in the watershed of Ft. Dupont. These retrofits will treat the runoff from 2 large parking lots and the runoff from approximately 400 yards of roadway in the upper watershed. Sustainable Communities Initiatives and DOH WPD will work with the National Park Service to install these retrofits on National Park Service parking areas, with DDOT to install the retrofits on District public roadways.
- Pope Branch watershed: The goal of the Pope Branch LID project is to install LID technologies within the Pope Branch watershed to further protect and enhance the Pope Branch tributary and the Anacostia. Four sites have been identified by the DOH WPD for LID retrofits. These sites have been selected for their ease in constructing bioretention cells or installing permeable pavers and for their potential impact upon Pope Branch. The grant for this project was awarded to DC Greenworks who is working in partnership with Ecosite. The organizations are currently working on designs for the selected sites.
- DDOT is currently testing effectiveness of the following: Sandfilter, BaySaver, Rain Garden and water quality catch basins. The anticipated completion date is the end of FY 2007, and at the conclusion of the test period DDOE, DDOT, and WASA will analyze the test result data. The outcome from the analysis will determine which structure(s) will remain in the DDOT Design Standard for citywide roadway and bridge design and construction implementation. In the interim, DDOT continued using the SNOUT™ water seal device in all of its roadway catch basin design and construction.

- DDOT has installed 340 SNOUT™ catch basins throughout the District. The drainage area for each SNOUT™ catch basin location is approximately 0.30 acres of the MS4.
- DDOT constructed two water quality bio-retention structures in FY 2005. The locations are F Street S.E., between Minnesota Avenue and 33rd Street and at the west approach on the Benning Road bridge over the Anacostia, and the drainage area for each of the structures is approximately 1.4 acres of the MS4. DDOT is continuing to upgrade the Design Standards to include tested and approved water quality storm water BMP structures for the design and construction of the City roadways and bridges.
- DDOT in FY 2005 set up a 2-year or 15-rain event storm water monitoring program that will measure the effectiveness of these LIDs to remove metals, nutrients, hydrocarbon compounds, and sediments from street runoff. The Howard University Engineering School was retained to monitor the bio-retention structures, BaySaver structures and Sand Filters. United Design Engineers, an area engineering company, was retained to monitor a SNOUT™ catch basin and other four separate water quality catch basin structures for the DDOT roadway program.
 - The monitoring for bio-retention is completed and results indicated that the structure removed 86% of TSS, 91% of TDS, 60% of TP
 - Results from the SNOUT™ catch basins monitoring indicated that the test data removed 62% of TP and 33% of TSS, the test data collected are skewed as a direct result of the small discharge area and rain event variation.
 - The monitoring of the Sand Filter and BaySaver structures are on going for FY 2006.

The District is actively investigating other areas of the District for future pilot projects.

DOH continues to play a key role in the DC Schoolyard Greening Consortium (SGC) founded in May 2003. The SGC's mission is "to increase and improve schoolyard green

spaces to promote ecological literacy and environmental stewardship among students, teachers, school staff, parents, and the surrounding community.”

- In April 2005, a logo and format was designed for the DC SGC web site and the SGC web site become operational. The address is www.dcschoolyardgreening.org. The site has been effective as a tool of communication and means to involve teachers and greening organizations with SGC. It lists organizations that provide technical expertise for schools, opportunities for teacher training, showcases local DC schools with greening projects and lists schoolyard greening sites.
- The first eight hour teacher training “Schoolyard Greening 101” workshop was held October 7 and 9, 2004 at Seaton Elementary School for teachers considering creating outdoor hands-on learning sites at their schools. Presentations were made on the following: different types of outdoor learning projects that can be implemented in a schoolyard, how to plan an outdoor learning project in your schoolyard, how to conduct a site assessment at your school, how to develop an outdoor teaching team, basic techniques for teaching outdoors, how to link outdoor activities to DC Public Schools teaching and learning standards, how to use a soil test kit, how to prepare soil for a variety of gardens and tree plantings, services and goals of the DC SGC. A total of 15 teachers were in attendance, from elementary through high school grades, from schools across the city. They participated in hands-on, get your hands in the soil activities as well as received soil test kits, relevant educational materials and local resources and funding opportunities.
- The first Schoolyard Greening Tour was held October 16, 2005 with 40 people in attendance. Teachers, community leaders and foundation representatives were in attendance. There were 5 DC Public schools participating in the tour: Birdie Backus Middle School, Roosevelt High School, Sharpe Health Special Needs School, and Horace Mann and Cardoza High School. The tour provided teachers with butterfly, herb, and vegetable gardens, theme beds for English as a Second Language students, and a rain garden. The tour also provided information on the challenges and opportunities in creating the sites.

- The second workshop, “Schoolyard Greening 101” held May 2005 was attended by 15 teachers representing 10 DC public schools from elementary to high school teachers. Some were special education, English, math and science teachers.
- The SGC received a grant in the amount of \$10,000 from the Spring Creek Foundation to hire a student intern to help design the web-site and research information to be posted on the site, help coordinate the tour and teacher training workshop. The intern was hired January 2005.

In FY 2005 DOH WPD awarded a grant to LID Center, a local non-profit organization to produce an educational brochure. The educational brochure will be completed in September 2006.

The District is also active in promoting LID use through participation in regional seminars. In FY 2005, DOH WPD staff participated in the following training and/or seminars whose target audience was erosion and sediment control and storm water professionals working in private industry, government agencies and non-profit organizations:

- The First National Conference on Ecosystem Restoration sponsored by US Army Corp of Engineers, University of Florida, and US Geological Survey, December 6-10, 2004, in Lake Buena Vista, Florida.
 - Mr. Peter Hill and Dr. Hamid Karimi attended the conference and made a presentation on the District’s wetland restoration program.
- The International Erosion Control Association Annual Conference and Expo, February 20-23, 2005, in Dallas, Texas.
- The International Erosion Control Association, Mid-Atlantic Chapter Environmental Conference, Workshop & Trade Show, October 31-November 2, 2005 in Ocean City, Maryland.
- The Third Annual Greening Rooftops for Sustainable Communities Conference, Awards, & Trade Show, May 4-6, 2005, in Washington, DC. The conference was

sponsored by the District and the non-profit Green Roofs for Health Cities. The conference brought together over 500 green roof design professionals, manufactures, researchers, and policy makers.

- Finding Solutions to Urban Land Development and Storm Water Management Summit sponsored by the Chesapeake Bay, May 11-12, 2005, in Leesburg, Virginia.
- The EPA Regional States Meeting, May 16-18, 2005, in Rehoboth Beach, Delaware.
 - Walter Caldwell made a presentation entitled “Maintenance of Storm Water BMP in an Ultra Urban Setting – The District of Columbia Program”.
- The StormCon-The North American Surface Water Quality Conference, July 19-21, 2005, in Orlando, Florida.

3.2.4 Catch Basin Cleaning and Street Sweeping Activities

Performance Standard: The District conducts routine catch basin cleaning and street sweeping activities.

3.2.4.1 Coordination of Catch Basin Cleaning and Street Sweeping Activities

DPW is currently responsible for street sweeping activities in the District, while WASA conducts catch basin cleaning as part of its maintenance of the MS4 conveyance infrastructure. DDOT maintains the federal roadways through a contractor. This contract includes street sweeping and catch basin cleaning of federal roadways in the District.

WASA and DPW coordinate street sweeping and the cleaning of catch basins through discussions with the foremen responsible for these activities. Catch basin cleaning and sweeping are coordinated to the extent practicable to minimize floatable discharges into receiving waters. WASA and DPW both operate their routine cleaning activities on schedules that maximize the use of the District’s equipment and manpower.

In FY 2005, WASA and DPW cooperated in no joint clean-up activities in the District's wards. A clean-up activity typically consists of a week of concentrated effort by WASA and DPW capped off by a day with volunteers working alongside WASA and DPW staff.

3.2.4.2 Street Sweeping Activities

During FY 2005, street sweeping of federal highways in the District was provided by DDOT, while the local streets and roads were swept by DPW.

DDOT contracted with VMS, Inc., to maintain approximately 75 miles of the District's interstate and federal roadway system, of which 30 miles are in the MS4. This five-year maintenance contract required that the contractor:

- Inspect and maintain the following elements of the infrastructure: pavement surfaces, shoulders, drainage structures, catch basins, drains, inlets, curbs, gutters, sidewalks, medians, grass, trees, shrubs, and on bridges, oil/ grit separators. An oil/grit separator device is inserted inside the catch basin (SNOUT™/water seal) for new constructions.
- Sweep each interstate and federal highway mechanically a minimum of once every four to six weeks, or more frequently, as need dictates.

Federal funding for the VMS contract expired in FY 2005, and beginning in October 2005, DPW took over VMS, Inc. responsibilities regarding the cleaning and green space maintenance of the federal highways in the District.

DPW provides street sweeping services for the remaining streets and roads in the District. Three basic methods are used to clean and sweep streets: mechanical street sweeping, truck crews, and litter vacuum personnel. In FY 2005:

- A total of 91,649 miles of streets, freeways, and highways were cleaned mechanically. Of these miles, approximately 36% or 33,000 miles of the swept roadway were in the MS4.

- A total of 20,897 miles of streets and roadways were cleaned manually. Of these miles approximately 15% or 3,135 miles of the manually cleaned roadways were in the MS4.
- Street sweeping, litter receptacles, and alley cleaning work yielded 19,962 tons of collected debris.
- As part of Street Sweeping Activities, DPW purchased 300 litter cans using Storm Water Enterprise Fund monies in FY 2005. These can were placed in Wards 4, 5, 6, 7, and 8 of the MS4.
- A total of 7,755 tons of trash was collected from litter receptacles.

The following table shows the five-year trend of the street sweeping activities. The number of alley and street miles doubled in 2002 with the purchase of new equipment, including litter vacuum carts for the manual collection of litter. Street miles increased again in FY 2003 and FY 2004. The tonnages collected are influenced by the number of warm days permitting outside activities and the response of the public to both anti littering in the streets and alleys and the continued use of trash cans.

Fiscal Year	Street Miles	Alley Miles	Litter Receptacles	
			Number	Tonnage
2001	34,000	8,751	4,000	3,400
2002	74,490	16,400	4,000	8,920
2003	102,181	41,238	4,050	9,516
2004	103,163	13,354	4,050	9,346
2005	91,649	20,897	4,500	7,755

3.2.4.3 Catch Basin Cleaning Activities

WASA currently conducts the operation and maintenance of pipes and conduits carrying storm water flow. There are approximately 25,000 catch basins located within the public right-of-way in the District of Columbia. Approximately two-thirds of these catch basins are in the MS4 area, with the remainder in the combined sewer system area. WASA's cleaning program does not differentiate between the two systems and works to keep all

catch basins clean. Catch basins located on the District's federal interstate roadway system are cleaned and maintained by DDOT's contractor, VMS, Inc.

The District is divided into eight wards. Crews operate on a predetermined schedule, cleaning catch basins by ward.

- Each working day, six two-man crews clean approximately 22 catch basins each.
- In FY 2005, WASA crews cleaned 28,536 basins for an average cleaning frequency of once every 12 months. Of these catch basins approximately 9,312 are in the MS4.
- In FY 2005 WASA crews repaired 421 basins as part of the basin repair program. Repair tasks vary from resetting the tops of the catch basins to redesigning the catch basin to avoid damage, to rebuilding the entire structure

The following table shows the three-year trends for the cleaning and repair of the District catch basins. The number of catch basins cleaned has remained relatively constant since FY 2003, but the number of repaired has generally increased.

	Catch Basins	
Fiscal Year	No. Cleaned	No. Repaired
2003	28,433	366
2004	25,950	299
2005	28,536	421

3.2.5 Coordination of Leaf Collection

Performance Standard: The District conducts a curbside collection of leaves from District residences.

DPW conducts curbside vacuum collection of leaves from the residences in the District. Residents may rake leaves into piles, which are vacuumed by one of the District's leaf vacuum trucks, place leaves into a pile in a tree box space in the front of their property, or bag leaves and place them in the tree box.

- District residents are mailed a flyer prior to leaf collections, which can be found on the web at <http://www.dpw.dc.gov/dpw/cwp/>.
- The City's eight wards are divided into districts, and twice during the collection season leaves are collected from each district on specified days.
- Leaf collection activities for the past year were conducted from November 1, 2005 through January 8, 2006.
- The Clean City Initiative report prepared by DPW indicates that 9,569 tons of leaves were collected through the end of the 2005 leaf collection season. These tonnages represent leaves collected by the vacuum trucks, and do not include bagged leaves, which are collected separately. In addition, DPW composted 50% of the leaves that were collected during the 2005 leaf season.

The following table shows the five-year trend of leaf collection activities in the District. Leaf tonnage has generally increased throughout the last four fiscal years, but has noticeably increased in FY 2004.

Fiscal Year	Tons Leaves Collected
2002	7,413
2003	7,553
2004	11,412
2005	9,569

3.2.6 Preventive Maintenance Inspections for Storm Water Management Facilities

Performance Standard: The District conducts inspections and maintenance of District SWM facilities.

WASA Department of Sewer Services continues to conduct inspections of SWM facilities as part of their routine maintenance program. These maintenance inspections include greasing of bearings, draining condensate, exercising equipment, checking oil levels, visual inspections, and housekeeping.

WASA also performs maintenance on the storm sewer system. These maintenance activities include responding to reports on blockages or defects, the clearing of lateral channels, and ensuring that the outlet structures of the MS4 remain clear.

DCMR §534.2 states that “the owner of the property on which a storm water management facility has been constructed shall maintain the facility in good condition, and promptly repair and restore whenever necessary all grade surfaces, walls, drains, structures, vegetation, erosion and sediment control measures, and other protective devices.” A maintenance schedule for storm water management facilities is to be developed and submitted as part of the facility’s storm water management plan. The District inspects the preventive maintenance of all infiltration systems, swales, retention, or detention structures. Inspections occur three times per year during the first five years of operation and at least once every two years thereafter. During FY 2005, DOH WPD inspected.

- 245 SWM facilities for maintenance services or maintenance enforcement during this reporting period. The SWM facilities inspected for maintenance are located within all four quadrants of the District.
- Approximately 147 or 60% of the SWM facilities inspected for maintenance are within the MS4 area.
- Additionally, 1,599 inspections were conducted during the construction of new SWM facilities. However, the number of new SWM facilities is not currently tracked.
- WPD maintains a SWM facility database system for tracking BMPs. The database enables more efficient scheduling and retrieval of maintenance records. In 2005, there were 91 new entries in the SWM facilities database. All 91 facilities were inspected for the first time for proper operation and maintenance.

DOH WPD requires the submittal of a Declaration of Covenant for SWM for residential and business property owners as part of the approval process for new construction activities. These covenants state that the owner must provide a schedule of maintenance activities, the storm water management devices will be inspected periodically, and the

owner will be responsible for correcting any deficiencies noted, at the owner's expense. During FY 2005, DOH WPD:

- Received 173 new Declarations of Covenant for SWM facilities. The owners or persons responsible for maintenance were notified to record a maintenance covenant at the Recorder of Deeds, Office of Tax and Revenue.
- The SWM facilities, where Covenants were enforced, are located in all four quadrants of the District. It is estimated that approximately 57-60% of the facilities inspected for Covenants are within the MS4.

3.2.7 Rain Leader Disconnect Program

Performance Standard: The District will allow disconnection of rain leaders in new construction and existing buildings so that runoff can be channeled to localized infiltration areas.

According to the District of Columbia Construction Codes Supplement, all roof drainage must flow into the separate storm sewer or combined sewer. In new construction activities, this regulation is currently enforced during the plan review prior to construction, and during the site inspection process. For existing buildings these regulations are enforceable as a result of the discovery of illegal connections to the sanitary sewer system in the separate sewer system area.

Changes were made to Section 1101.2 of the District Plumbing Code in order to eliminate perceived obstacles to programs such as rain leader disconnection for new developments, through which all runoff would be channeled to grassed areas for infiltration instead of direct conveyance to the sewer system. The new changes to the Plumbing Code are found under Sections P-1101.2.1 and P-1101.2.2 of the District of Columbia Building Code Supplement of 2003.

Changes to the Plumbing Section of Chapter 7 of the International Existing Building Code were proposed to allow the disconnection of downspouts in existing buildings that are undergoing alterations and repairs, provided the estimated cost of such repairs equals or exceeds the assessed value of the property before the start of the alterations and repairs, and provided the existing downspouts are connected to a sanitary or a combined

sewer system. In FY 2005, discussions were held on the topic with DC Department of Consumer and Regulatory Affairs (DCRA) plumbing officials and WASA, but no code change was considered. Rain leaders can be disconnected, but permits are needed.

- During FY 2005, rain leaders were disconnected from two projects: one managed by Bancroft, the other by Shaw Ecovillage and DC Greenworks, which also entailed installation of 50 rain barrels.
- The projects were located in the Shaw neighborhood of NE DC. The Bancroft project was located within the MS4 area.

The District is planning to work with the DCRA to track rain leader disconnections in the future.

3.2.8 Education of Public on Pet Wastes, Fertilizing, and Landscaping

Performance Standard: The District maintains a program to develop and distribute public education materials regarding the control of pet wastes, the use of fertilizers and the promotion of landscaping practices.

These programs are discussed under Section 14: Public Education, sub-section 14.2.4.

3.2.9 Mapping and Computer Modeling of Storm Water Impacts

Performance Standard: The District maintains a database of the MS4 system and upgrades the database as pertinent data is developed.

Existing mapping of the separate storm sewer conveyance system has been digitized and combined with the data regarding storm sewersheds and outfall locations to create a database of the MS4 infrastructure. Figure 3-1 illustrates the MS4 infrastructure and outfall locations.

The conveyance system is currently being field verified using the GPS equipment to provide GIS input to the District's infrastructure database. Field work includes verification of the outfall location, size, and status, in conjunction with dry- weather flow, and illicit discharge inspections.

- In FY 2004, 50% of the outfalls were field verified. This work covered the majority of the Anacostia watershed.
- In FY 2005, 75% of the outfalls were field verified. This work covered the majority of the Rock Creek watershed and portions of the Potomac watershed.

Additional information (such as the industrial facility database, location of structural improvements, etc.) will be added to the database providing an integrated planning and management tool for the MS4.

DOH WPD has refined and updated the DC automated database system for tracking storm water management facilities inspected for maintenance to include tracking of construction projects with storm water management BMPs. The database system now contains data for BMPs developed since the inception of the program in 1988 and has enabled faster and more efficient rescheduling of inspection and retrieval of maintenance records.

3.2.10 Methods of Measuring the Performance of Activities

The District has taken steps to develop a formalized system to measure the performance of storm water management activities to reduce pollution loading to receiving waters. The demonstration of water quality improvements requires a thorough understanding of the existing water quality throughout the MS4. Significant progress has been made in this area including:

- the development of measurement tools such as the discharge monitoring program,
- the verification of the MS4 database system,
- estimating pollutant loading using the Simple Method equation for constituent seasonal and annual load levels
- enhancing regulatory and promotional programs with respect to the use of BMPs

- developing a financial tracking system to better define storm water related expenses

Refining these tools will provide the necessary performance metrics for establishing a simple method to measure the performance of MS4 activities.

3.2.11 Strengthening Erosion Control Programs for New Construction

Performance Standard: The District maintains a plan review erosion control program for new construction coupled with a field inspection program to ensure compliance with the District erosion control regulations.

This program is discussed under Section 5.0 Management Plan for Construction Sites, Sub-section 5.2.1.

3.2.12 Federal Facilities Program

Performance Standard: The District maintains consent agreements between District and federal agencies to comply with the District sediment and erosion control requirements.

The DCMR specifies that all builders, including federal contractors, must follow the sediment and erosion controls detailed in Chapter 5 of the DCMR. This includes sediment and erosion controls on new and re-build construction sites. The US General Services Administration (GSA) and DOH signed a consent agreement in FY 2000 that requires work under contracts through the GSA to comply with the same sediment and erosion control requirements as commercial, residential, and industrial operations in the District. This consent agreement assists the District in ensuring that federal facilities comply with the Soil Erosion and Sediment Control Act. DOH and GSA continue to work under this agreement, and a number of federal facilities with NPDES permits for storm water discharges were inspected during FY 2005. In FY 2005, DOH WPD:

- Reviewed 9 storm water BMP plans for proposed projects on federal facilities. These projects included wetlands, oil and grease separators, sand filters, brick pavers, infiltration trenches, bioretention systems and more efficient inlets.

- These proposed projects are located in all District quadrants (NE, NW, SE, and SW); however, four of the projects were located specifically in the MS4 area. Approximately eight acres in the MS4 were impacted by these proposed projects.

3.2.13 District Facilities Program

Information specific to DDOT is provided in Section 5.2.5.

3.2.14 Continuance of Current Programs

Information about agency-specific programs is provided in Sections 3-18.

3.2.15 Maintenance of Legal Authority to Control Discharges

Performance Standard: The District maintains the legal authority to control MS4 discharges through the application of the regulations provided in the DCMR.

Through Chapter 5 of the DCMR, and the D.C. Law #13-311 “*Storm Water Permit Compliance Amendment Act of 2000*,” the District of Columbia has maintained the legal authority to control all discharges into waters of the District.

D.C. Law # 2-23, “*The Soil Erosion and Sedimentation Control Act of 1977*,” requires the establishment and subsequent revision of a soil erosion and sedimentation control standard and specifications.

The revised and updated *District of Columbia Soil Erosion and Sediment Control Standards and Specifications* and *Storm Water Guidebook* are finalized and being distributed.

3.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

The District is involved in a number of activities which promote storm water control and quality in commercial, residential, federal and District Government areas. These activities include the following.

- Legal and regulatory activities which encourage citizens to use storm water BMPs on their properties,
- Routine cleaning and maintenance activities related to the property, streets, storm water catch basins, MS4 piping system within the District. Focus is on maintaining a beautiful city that is both clean and capable of controlling inputs that might contribute to storm water pollution.
- Promotion of BMPs such as functional landscaping, LIDs, and rain leader disconnects which property owners can use to further impact their storm water runoff.

Together these activities seek to control potential pollutants before they enter the MS4 system (through sweeping and catch basin maintenance) and by promoting BMPs that reduce storm water runoff at the point of entrance to the MS4 system.

4.0 STORM WATER POLLUTION CONTROL: MANAGEMENT PLAN FOR INDUSTRIAL FACILITIES

4.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

4.1.1 Permit Requirements

Part III.B.2 of the Permit requires the District to implement a program to monitor and control pollutants in storm water discharged to the District's MS4 from Industrial Facilities, and continue to maintain and update the industrial facilities database.

4.1.2 Compliance Summary

The management plan of storm water pollution control from industrial facilities emphasizes the tracking of facilities through a database system, the monitoring and inspection of industrial facilities, and the District's spill prevention and response program. Compliance activities are provided in the following areas.

- Industrial facilities database
- Private solid waste transfer stations
- Hazardous waste treatment, disposal and/or recovery plants
- Industrial facilities subject to the Superfund Amendments and Reauthorization Act (SARA) Title III, or the Emergency Planning and Right-to-Know Act (EPCRA)
- Industrial facilities with NPDES permits
- Industrial facilities with a discharge to the MS4
- Monitoring and inspections
- Wet-weather screening program
- Spill prevention, containment and response program

Section 4.2 below provides details regarding these activities.

4.2 MANAGEMENT PLAN FOR INDUSTRIAL FACILITIES ACTIVITIES

The following sections detail how the District has met each of the permit requirements for industrial facilities management over the past year. These activities control and reduce storm water pollution from industrial facilities in accordance with the Clean Water Act.

4.2.1 Industrial Facilities Database

Performance Standard: The District maintains a database of industrial facilities with standard discharge and storm water NPDES permits for the purpose of establishing baseline facility information and supporting MS4 related monitoring efforts. The database includes a listing of facilities in the District (whether on private, federal or District properties) that are registered with federal and state regulators and generate, store, or have released hazardous materials.

Based on data the DOH Hazardous Waste Division (HWD) submitted to EPA:

- There were 1,090 such facilities in the District at year-end 2003. This list remained in effect for FY 2005.
- Of the identified facilities, 15 facilities have individual or site specific storm water NPDES permits. This list is provided in Appendix 4-A, Table 4.A-2.
- A sixteenth permitted facility is located in Virginia but is included in the District's permit universe because pipes from the facility extend into the District's tidal zone
- Five of the permitted sites are located in the MS4 service area (not counting the District permit for the MS4 itself).
- DOH did not administer targeted surveys to any business sectors during the reporting period. Surveys associated with the Environmental Education for the Compliance of Automotive Repair Shops (EE-CARS) Program, which targeted the automotive repair industry in Ward 5, were concluded during the summer of 2004 and the final report was made in September 2004. No specific plans to

administer a similar survey to other District wards or business sectors have been made at this time.

4.2.1.1 Private Solid Waste Transfer Stations

The District's government does not operate any solid waste disposal sites within the District. Instead, municipal solid waste collected by DPW is deposited at one of two municipal waste transfer stations and then transferred out of the District for disposal at licensed facilities. Private companies also operate two transfer stations in the District. The locations of these facilities are:

- Municipal transfer stations: 4900 Bates Road, NE or 3200 Benning Road, NE.
- Private solid waste transfer facilities:
 - "Brentwood" - 1220 W Street NE, operated by Browning Ferris
 - "Queens Chapel" - 2160 Queens Chapel Road NE, operated by Waste Management
- All four of these facilities service the MS4 area.

Pollution from storm water runoff at the Municipal Transfer facilities is being managed under the Solid Waste Facility Permit Act. DCRA, DOH, and DPW enforce these regulations as part of their responsibility to manage pollution from storm water runoff at municipal waste facilities within the District.

4.2.1.2 Hazardous Waste Treatment, Disposal, and/or Recovery Plants

Presently, the U.S. Navy's Naval Research Laboratory in Southwest D.C. is the District's only active regulated Resource Conservation and Recovery Act (RCRA) Treatment Storage and Disposal Facility. There are 32 RCRA Large Quantity Generators (LQGs), and 60 RCRA Small Quantity Generators (SQGs) (not including 484 conditionally exempt generators). RCRA regulations outline handling, storage, and spill control requirements at those facilities.

The facility addresses were used to determine whether the facilities are part of the MS4 watershed.

- The one Treatment Storage and Disposal Facility in DC that appeared in EPA's RCRA Info database is not located in the MS4 service area.
- There were 60 SQGs in the RCRA Info database. Based on facility addresses provided, there are 24 facilities in the MS4 service area and 36 outside the MS4 service area.
- Of the reported 32 LQGs in the District, there are 11 in the MS4 service area and 20 outside the MS4 service area. (The facility address information available was insufficient to determine the location of one LQG facility. Field verification is needed.)

In FY 2005, four spills were reported to DOH:

- On November 24, 2004, DOH responded to an oil spill from a CSX train onto the tracks of west of 33rd and D Streets, SE. CSX had begun removing contaminated topsoil and vacuuming the tracks before DOH arrived at the scene. It is estimated that the cleanup resulted in the recovery of 75 gallons of the about 100 gallons spilled. No enforcement action was taken.
- On May 4, 2005, DOH and other District and federal agencies responded to a spill of hydraulic fluid at the U.S. Bureau of Engraving and Printing, which discharged to the Tidal Basin via the MS4. The DC Fire Department issued a Notice of Violation to the facility. EPA identified the Bureau of Engraving and Printing as an LQG.
- DOH was alerted to a third spill of approximately 10 gallons of diesel fuel that occurred on May 14, 2005 at the Walter Reed Army Medical Center (WRAMC). A boom was installed to contain the fuel; however it was presumed that some of the spill discharged to the MS4 prior to placement of the boom. The medical center is identified as an LQG and it is also regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (but it is not currently a National Priority List Superfund site).

- In September 2005, DOH responded to a spill of approximately 800 gallons of oil at the PEPCO Buzzard Point Generating Facility at 1st Street and V Street, SW. PEPCO contractors vacuumed the oil and removed contaminated soils. No oil had flowed to the MS4 catch basin. DOH directed PEPCO to remove other oily sediment deposits from channels elsewhere on the property. PEPCO complied and installed an absorbent sock at the MS4 catch basin. DOH made a follow-up visit to the site to ensure compliance. The investigation was closed.
- Three of the spills occurred at LQGs that are included in EPA’s RCRA Info database.
- According to the facility addresses, WRAMC is not located in the MS4 service area, but the U.S. Bureau of Engraving and Printing and PEPCO Buzzard Point are in the MS4. [Note: The location of the CSX spill site relative to the MS4 is still being determined.]
- Inspection and monitoring of hazardous waste facilities is the responsibility of DOH HWD, which has procedures in place to investigate sites and spills. These procedures include notification and coordination with DOH WQD of any incidents that impact the city’s water resources. According to recent EPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) data, there are 32 facilities CERCLA facilities in the District. See Appendix 4-A, Table 4.A-1. Basic facility information for each of them was incorporated into the District’s facility database.
- Based on the facility addresses, there are 17 facilities or more within the MS4 area. Location information was inadequate to map four of the 32 facilities. The exact locations will need to be verified in the field.

4.2.1.3 Industrial Facilities Subject to Superfund Amendments and Reauthorization Act Title III

In accordance with the Permit, the District tracks industrial facilities within the District that are subject to regulation under CERCLA. Six years after CERCLA was enacted, SARA amended it. SARA Title III, also known as EPCRA, requires facilities to report on the storage, use or release of certain chemicals and provides for information about

potentially dangerous chemicals being made available to the public. One of the means EPA uses to make information available is through the CERCLA information system database.

- There are currently 32 of these sites registered with federal and state regulators within the District. The list includes private and federally owned sites. The list of sites is given in Appendix 4-A, Table 4.A-1.
- Of the 32 sites, only the Washington Navy Yard is on the final National Priorities List.

4.2.2 Industrial Facilities with a Discharge to the MS4

DOH WQD staff reviewed a list of industrial facilities in the District in preparation for an intensive field study to verify NPDES permit holders.

- Only five facilities out of the 16 industrial facilities with individual or site-specific storm water permits have addresses in the MS4 service area.
- Another nine facilities (not counting the MS4 or the facility located in Virginia) are in the combined sewer system service area.
- DOH performed numerous site visits to industrial facilities found in the EPA Permit Compliance System (PCS) database to confirm permit status. The results of the first efforts undertaken in 2004 were inconclusive for many facilities. For example, some facilities could not produce proof of permit coverage on the day of the site visit or representatives interviewed were not sure whether they were covered. Later efforts to continue the work were hampered by a decrease in WQD enforcement and compliance staff during the reporting period covered by this report.
- Staff identified at least 22 other facilities that have coverage under the multi-sector general permit whose managers or operators were able to produce documentation at the time of the site visit.

- Field verification results were inconclusive, but basic facility information found in PCS suggests that approximately 90 facilities with District addresses have coverage under the Multi Sector General Permit (MSGP).

4.2.3 Monitoring and Inspections

In FY 2005, DOH WQD inspected industrial facilities for compliance with storm water regulations. As a result of the compliance inspections, DOH WQD issued

- One Notice of Violation (NOV) was issued during the reporting period.
- Four separate Notice of Inspection (NOI) and Site Directives were issued to facilities deemed responsible for illicit discharges to the MS4.

4.2.4 Wet-Weather Screening Program

The Wet Weather Screening Program as defined in Section IV.C of the Permit is being implemented as part of the Wet Weather Outfall Monitoring Program, and in conjunction with the illicit discharge detection program. Screening procedures were developed and included in the Quality Assurance Project Plan (QAPP) discussed in Section 15 of this report, and presented in detail in the 2006 Discharge Monitoring Report submitted together with this Annual Report.

4.2.5 Spill Prevention, Containment and Response Program

The District continues to implement the *Water Pollution Control Contingency Plan* (WPCCP), which outlines procedures for notifying the incident commander and the trustees of the natural resources in the event of a spill and procedures for oil and hazardous substances emergency response. DDOE continues to perform compliance and enforcement activities in accordance with EPA regulations under the CWA and District regulations under the District of Columbia Water Pollution Control Act that address illegal discharge of potentially hazardous materials. In FY 2005, the District continued to operate under the Water Pollution Control Contingency Plan (WPCCP) established in 1999.

4.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

The District management program for controlling storm water pollution from industrial facilities seeks to encourage DC industries to control pollutants in their waste. Through routine inspections of industries with individual NPDES storm water permits and monitoring and inspections throughout the District, the District enforces effluent restrictions to the MS4 so as to meet CWA requirements.

5.0 STORM WATER POLLUTION CONTROL: MANAGEMENT PLAN FOR CONSTRUCTION SITES

5.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

5.1.1 Permit Requirements

Part III.B.3 of the Permit is titled Management Plan for Construction Sites and details the permit requirements for control of storm water pollutants from construction sites in the District.

5.1.2 Compliance Summary

The management plan for storm water pollution control on construction sites emphasizes the review and approval process, and the inspection and enforcement procedures of the construction permitting program, as well as construction site and plan educational programs, traffic pollution strategies, and air pollution compliance activities. A summary of these compliance activities includes:

- The review and approval process
- Inspection and enforcement procedures
- Site inspections and loading estimates
- Educational measures
- Public roads and traffic pollution strategies

Section 5.2 below provides details regarding these activities.

5.2 MANAGEMENT OF CONSTRUCTION SITE ACTIVITIES

5.2.1 Review and Approval Process

Performance Standard: The District reviews and approves construction plans through its “One-Stop Permitting Center”. Plan review and site inspections are coordinated with DOH WPD enforcement staff and the DCRA to ensure that deficiencies in the permit process are corrected when they are encountered.

District agencies continue to provide a “One-Stop Permitting and Business Center” for the approval of construction plans and to provide quality control of reviewed plans. Minor projects are reviewed at the permit center and are either approved or rejected. Plans for major or more complex projects are reviewed and approved at the DOH WPD main office. During 2005, DOH WPD staff

- Reviewed 2,110 construction plans. Of these, 1,900 plans were minor projects and 211 plans were major projects. 2,043 plans were approved for compliance with erosion and sediment control and SWM regulations.
- The following table shows the five-year trend of projects reviewed and approved through the “One Stop Permitting and Business Center”. The approved projects indicate the number of projects that have been reviewed under the most recent storm water regulations, which require both storm water volume and water quality control. There has been a consistent increase in the number of projects reviewed and approved by the District through this program.

Fiscal Year	Construction Projects in the Entire District	
	Reviewed	Approved
2001	1,393	1,196
2002	1,691	1,359
2003	2,026	1,740
2004	2,067	1,953
2005	2,110	2,043

Each year technical review staff members are given a refresher training to improve their efficiency in plan review and the provision of technical assistance to developers and contractors. During FY 2005:

- Seven staff members of the Technical Review Branch attended a training course in floodplain management sponsored by the American Society of Civil Engineers.
- Two staff members of the Inspection and Enforcement Branch attended a training course offered during the international meeting of the International Erosion and Sediment Control Association.

5.2.2 Inspection and Enforcement Procedures

Performance Standard: The District conducts inspections of construction sites and their SWM BMPs. Established BMPs are inspected as per their maintenance activities and records.

Inspection procedures are outlined in the DCMR Water Quality and Pollution Regulations and the Nonpoint Source Management Plan for the District. The legal basis for conducting inspections related to storm water management is outlined in Chapter 5 of the DCMR. Procedures for conducting an inspection are detailed in the *Standard Operating Procedures for Soil Erosion and Sedimentation Control* and *Storm Water Management Inspection*, and the *Standard Operating Procedures for the Enforcement of Soil Erosion and Sedimentation Control and Storm Water Management Regulations*.

DOH WPD has refined and updated the District automated database system for tracking storm water management facilities inspected for maintenance to include tracking of construction projects with storm water management BMPs. The updated database system contains data for BMPs constructed since the inception of the program in 1988 and has enabled faster and more efficient rescheduling of inspections and retrieval of maintenance records.

Refinements made to the automatic database system in FY 2005 include the use of an Excel Database to track “Final Inspection” completion and “Final Inspection Notification Letters” to SWM applicants, as well as monitoring receipt of “As-Built Plans” of completed storm water projects.

5.2.3 Site Inspections and Loading Estimates

Performance Standard: The District conducts inspections for the installation and maintenance of SWM and erosion control devices at commercial, residential, and road construction projects.

DOH WPD conducts site inspections and calculates loading estimates from construction sites within the District. In FY 2005:

- DOH WPD conducted 7,368 inspections at construction sites, and
- Issued 402 enforcement actions, including

- 335 Notice of Infractions (NOIs), and
 - 67 Notice of Violations (NOVs).
- The following table shows the five-year trend of the construction inspection program. The number of inspections over the last five years has increased 39% (compared to FY 2001) in order to keep pace with the booming District construction sector. The numbers of enforcement actions and notices of infraction have remained relatively stable until FY 2005. The reason for the sudden increase may be due to greater awareness by District agencies to inspect construction sites, as well as awareness by the public to call the District hotline for violations.

Fiscal Year	Construction Sites			
	Inspected	Enforcement Actions Taken	Notice of Infraction Given	Notice of Violation Given
2001	5,298	224	Not Reported	Not Reported
2002	5,837	138	Not Reported	Not Reported
2003	6,036	212	131	81
2004	7,015	198	132	66
2005	7,360	402	335	67

DOH WPD also inspected storm water management facilities within the District. In FY 2005, 82 SWM facilities were inspected to ensure proper maintenance of the facilities.

The following table shows the four-year trend in the number of SWM facilities inspected each year. Since FY 2002, the number of these facilities has remained relatively constant.

Fiscal Year	SWM Facilities Inspected
2002	201
2003	201
2004	141
2005	245

Loading estimates are prepared as part of the plan review process as detailed in the *Storm Water Management Guidebook*. Plan review, site inspection and loading estimates are required for commercial, residential, and road development land uses.

5.2.4 Educational Measures

Performance Standard: The District provides educational materials and training for construction site operators.

Educational training for construction site operators is conducted during the site inspection process. This training includes distribution of the District's *Storm Water Management Guidebook*, and the *Erosion & Sediment Control Handbook*, and addresses particular needs and questions of the operators. These books outline the regulatory requirements of the District for construction activity.

In addition to these handbooks:

- In FY 2005, DOH WPD provided one on-site training session, conducted in coordination with the DDOT Public Space Administration.
- Training was provided to public utility companies doing excavation work in the public right-of-way as well as DDOT staff and managers.
- Distributed 10 copies of a video that illustrates the proper maintenance of the Sand Filter Water Quality Structure, which is a commonly used BMP on construction sites in the District. The videos were distributed to property management companies, SWM facility maintenance service providers, and individual building engineers and property managers.
- Maintained a list of 16 qualified storm water management facilities maintenance contractors registered to do business in the District. The list is made available to all persons responsible for the maintenance of individually owned private storm water management facilities;

Future planned educational materials include the following:

- The DOH WPD has a subgrant with the LID Center to produce new educational materials on LIDs. DDOW WPD staff is working with the Center to design the material. A finished product is expected by September 2006.
- New guidelines: New recommendations have been implemented for maintenance to full restoration of DC water quality sand filters

- Further updates to the DOH WPD's *Storm Water Guidebook*.

5.2.5 Public Roads and Traffic Pollution Strategies

Performance Standard: The District operates and maintains the local roadways to reduce the discharge of pollutants from its SWM systems.

DDOT has assigned two Transportation Project Engineers to focus on the development of new storm water pollution control design standards, review sediment and erosion control plans, coordinate with DDOE and develop standard drawings for DDOT planned projects and repair operations. During FY 2005, DDOT SWM Engineers:

- Worked on storm water features for three planned projects located in Wards 7 and 8, and
- Reviewed all city and bridge design and construction drawings for a water quality device structure.

5.3 HOW THIS PROGRAM MEETS THE REQUIREMENTS OF THE CLEAN WATER ACT

The District seeks to control the land use within its boundaries through the review of construction plans and the inspection of construction sites.

In the review process the District is able to work with designers, to promote storm water BMPs, encourage the use of storm water quality controls on new and rebuild construction sites. In the long term the accumulative effect of maintained or decreased levels of impervious land use and installation of storm water BMPs on a large number of sites will help to decrease the peak runoff rates and pollutant levels to the District's waterways. In the short term, the use of erosion and sedimentation controls on construction sites will decrease the levels of soils exiting a construction site. Through inspections the District is able to enforce the use of erosion and sedimentation controls so as to better ensure the water quality of runoff from construction sites.

6.0 STORM WATER POLLUTION CONTROL: FLOOD CONTROL PROJECTS

6.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

6.1.1 Permit Requirements

Part III.B.4 of the Permit is titled Flood Control Projects and details the permit requirements for documenting and evaluating flood control projects in the District.

6.1.2 Compliance Summary

The management plan for storm water pollution control through flood control management emphasizes the following:

- Water quality impact and beneficial use assessment
- Existing flood control devices retrofit assessment
- Flood plain mapping
- Flood plain development procedures and reviews
- Impervious surfaces evaluation

Section 6.2 below provides details of these activities.

6.2 FLOOD CONTROL ACTIVITIES

Performance Standard: The District operates and maintains flood control devices including: BMPs, pump stations, floodgates, weirs, canals and storm water collection and conveyance systems. The District of Columbia operates and maintains District flood control devices and storm water collection and conveyance systems under the governing regulations for structural storm and flood mitigation.

6.2.1 Water Quality Impact and Beneficial Use Assessment

The maintenance of the flood control and mitigation measures is aimed at controlling the impact of flooding on water quality in the receiving water bodies. A Discharge

Monitoring Program has been developed to monitor the discharge from the MS4 in compliance with the MS4 Permit. Construction plans for proposed development projects in the floodplain are reviewed and assessed for their water quality impacts by DOH WPD.

6.2.2 Existing Flood Control Devices Retrofit Assessment

The District of Columbia operates and maintains flood control devices including BMPs, pump stations, floodgates, weirs, canals, and storm water collection and conveyance systems. The District has developed procedures for these facilities so that they are operated and maintained to ensure proper functioning.

The District has three primary flood control devices that help to control flooding on the waters of the District. The first device is a levee and gate system located on Washington Harbor, at the Georgetown Waterfront Development. The gate is raised under high water conditions in the Potomac River to control flooding in the harbor area.

The second and third devices are two weir dams located on Watts Branch (a tributary to the Anacostia River). The weir dams were originally designed to control both the peak flows and sediment movement in Watts Branch so that downstream properties were not subjected to repetitive flooding.

- The levee on Washington Harbor, at the Georgetown Waterfront Development and the two weirs on Watts branch were inspected in March and July of 2005 and found to be in excellent condition.
- No retrofitting of the levee or weirs is envisioned.

6.2.3 Flood Plain Mapping

Performance Standard: The District will continue to coordinate with FEMA in identifying District areas prone to flooding.

Flood hazard mitigation and floodwater pollutant removal requires identification of at-risk areas through flood plain mapping. Through the nation's flood insurance policy, the Federal Emergency Management Agency (FEMA) has developed flood plain maps for all areas of the United States. Supplemented by DPW, the 1985 FEMA Flood

Insurance Study 100-year and 500-year flood plain maps of the District of Columbia comprehensively fulfill the MS4 Permit flood plain mapping requirement.

- The District requested FEMA to consider further study of four sub-watersheds to determine whether floodplain modifications were needed.
- The areas for consideration are located in the NE and NW section of the District.

6.2.4 Flood Plain Development Procedures and Reviews

Performance Standard: The District reviews and assesses the impact of flood control projects.

The MS4 Permit requirements for flood plain development procedures and review are met through the promulgation of Title 20 (Chapter 31- Flood Hazard Rules) of the DCMR, and the Department of Health Nonpoint Source Management Plan II. These regulations describe in detail how projects proposed in flood plains will be reviewed to ensure proper consideration of pollutant reduction in flood-prone areas. Together, these rules regulate, restrict, or prohibit certain uses, activities, and development, which alone or in combination with current or future uses will cause unacceptable increases in flood heights, velocities, and frequencies.

- No projects were reviewed for this reporting period.

6.2.5 Impervious Surfaces Evaluation

Performance Standard: The District reviews and assesses the impervious area on lots undergoing construction or re-construction.

The permit requires the collection of data on the percentage of impervious area located in flood plain boundaries for all existing and proposed development. Since the effective date of the Permit, this has been done for proposed developments through the construction plan information submitted with construction permit applications under DCMR, Title 20. DOH WPD has initiated a program to collect data to evaluate impervious surfaces for both proposed and existing development in floodplains.

- In FY 2005, DOH WPD initiated discussions with the District Office of the Chief Technology Officer to assist DOH WPD to track impervious surface data as

reported on approved construction plans. The tracking system will use Geographic Information System (GIS) techniques to track the amount and location of increases or decreases of impervious area due to construction.

6.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

The District flood control program acts to maintain existing flood controls on its waterways: Watts Branch and in the Potomac River Tidal Basin, as well as ongoing flood impact programs with FEMA. These activities seek to minimize the flooding impacts due to large storm events.

7.0 STORM WATER POLLUTION CONTROL: MUNICIPAL LANDFILLS AND OTHER MUNICIPAL WASTE FACILITIES MANAGEMENT

7.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

7.1.1 Permit Requirements

Part III.B.5 of the Permit pertains to the Control of Pollution from Municipal Landfills and Other Municipal Waste Facilities.

7.1.2 Compliance Summary

The management plan for storm water pollution control with respect to municipal landfills and municipal waste facilities emphasizes:

- Municipal waste reduction, and
- The prioritization of municipal waste reduction controls

Section 7.2 below provides details of these activities.

7.2 MUNICIPAL LANDFILLS AND OTHER MUNICIPAL WASTE FACILITIES POLLUTION CONTROL ACTIVITIES

Performance Standard: The District maintains and updates its municipal solid waste transfer stations in order to minimize its stations storm water impacts and to keep up with increasing waste and recyclable loads in the District.

7.2.1 Municipal Waste Reduction Program

Regulatory programs directly supporting the District's nonpoint source storm water protection and waste reduction efforts include the DOH's Nonpoint Source Management Plan II, which cites the Solid Waste Management and Multi-Material Recycling Act of 1988. This Recycling Act requires the recycling of certain wastes, thereby materially reducing the activities at waste handling facilities, further reducing resulting storm water pollution. The District provides recycling service to residential and multi-family

residences of three (3) or fewer dwelling units and requires commercial businesses and government offices to have a private recycling contractor.

- In FY 2005, The DPW collected an estimated
 - 126,268 tons of solid waste, plus
 - 26,597 tons of recyclables from the residential population.

The following table shows the five-year trend in increasing recyclable collection tonnage collected by the District. There have been steady increases in tonnages of recyclables collected since FY 2001. Reasons for this trend can be attributed to increased staffing and a refurbished waste transfer station.

Fiscal Year	Recyclables Collected/Diverted (Tons)
2001	20,000
2002	20,400
2003	21,633
2004	21,835
2005	26,597

The District does not operate any solid waste disposal sites within the District. Instead, municipal solid waste collected by DPW is deposited at either the I-95 Energy Resource Recovery Facility, or private sector landfills in Virginia.

The District has refurbished the municipal solid waste transfer station at Benning Road, including improvements in the paving and drainage systems. Fort Totten has had necessary repairs to the structure, but it is awaiting a complete renovation. The land use within the District waste handling facilities is predominantly paved and/or highly developed. The management program for the municipal facilities targets the non-point source runoff from the facility, with particular focus on the control of pollutants that build up on the paved and/or developed portions of the facility site.

- In FY 2005, the District waste handling facilities were swept with mechanical sweepers several times per week.

DPW's evening street cleaning and other night operations are managed through a single facility at New Jersey and "K" Streets, SE.

The District has established a solid waste facility permitting process for private solid waste transfer stations, which includes performance standards for operators of transfer stations. This process is under review to incorporate best practices from cities across the country. DPW is continuing to develop a program to provide water quality control for the District's municipal waste facilities including waste transfer stations and equipment storage and maintenance facilities.

7.2.2 Prioritization of Municipal Waste Reduction Controls

The Permit requires the District to develop priorities and procedures for implementing control measures for pollutant reduction at sites within the District's MS4. The initial phase of the program included procedures to evaluate, inspect, and monitor regulated sites. Based on the evaluation of the results of this monitoring, the District's solid waste management now includes waste reduction, recycling, and disposal.

7.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

There are no municipal landfills within the District, while the District municipal waste transfer facilities are managed so as to minimize storm water impacts and keep up with increasing waste and recyclable loads. By removing the waste materials handled by the facilities, the amount of storm water runoff pollutants potentially originating from these materials is reduced. In addition, storm water BMPs (improved paving and drainage systems) installed in the transfer stations seek to minimize pollutants in the runoff from the transfer facilities.

8.0 MONITOR AND CONTROL OF STORM WATER POLLUTANTS FROM HAZARDOUS WASTE SITES

8.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

8.1.1 Permit Requirements

Part III.B.6 of the Permit pertains to the Monitoring and Control of Pollutants from Hazardous Waste Sites.

8.1.2 Compliance Summary

The management program for storm water pollution control from hazardous waste sites emphasizes:

- Identification and mapping of facilities, and
- The monitoring of storm water discharge

Section 8.2 below describes these activities.

8.2 MONITORING AND CONTROL OF POLLUTANTS FROM HAZARDOUS WASTE SITES ACTIVITIES

8.2.1 Monitoring of Pollutants from Hazardous Waste Sites

Performance Standard: The District is active in identifying and monitoring hazardous waste from the industries and businesses within the District.

The formal procedures DOH HWD uses to control the impact and extent of hazardous waste on the MS4 are discussed in three documents: *Hazardous Waste Management, Strategic Plan for Enhancement of Environmental Health Administration Hazardous Waste Division*, and *Standard Operating Procedures*. Based on these established procedures, DOH WQD developed inspection protocols to govern field investigations, including the investigation of facilities that generate or store hazardous waste.

Illicit discharge detection is another component of the program to identify facilities that are contributing a substantial pollutant loading to the MS4. Identifying and sampling discharge from connections provides information that may identify hazardous waste facilities with illicit connections. There were 21 illicit discharge investigations in FY

2005, and of those, three incidents relate to facilities listed in the RCRA or CERCLA database for hazardous materials: two incidents at Walter Reed Army Medical Center (Ward 4) and one incident at PEPCO Buzzard Point (Ward 6).

DOH HWD conducts inspections of RCRA hazardous waste facilities to determine compliance with hazardous waste regulations. HWD conducted a total of 45 inspections at several Resource Conservation and Recovery Act Small or Large Quantity Generator (RCRA-SQG or LQG) facilities within the District between October 1, 2004 and September 30, 2005. While HWD inspections do not directly address water quality, inspectors reported spills that could pose a water quality threat to DOH or WASA for further water quality investigation.

8.2.2 Industrial Facilities Database

Performance Standard: The District maintains an industrial facilities database as part of its inspection and enforcement program.

DOH WQD has prepared a database that includes facilities in the District that are registered with federal and state regulators because they generate, store, or have released hazardous materials. DOH WQD will continue to update federal and District facilities information as needed based on the MS4 monitoring effort.

8.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

Full implementation of this program is critical with respect to the Clean Water Act. The primary method by which the Act imposes limitations on pollutant discharges is the nationwide permit program established under Section 402 and the NPDES program. Under the NPDES program, any person responsible for the discharge of a pollutant or pollutants into any waters of the United States from any point source must apply for and obtain a permit.

9.0 STORM WATER POLLUTION CONTROL: PESTICIDES, HERBICIDES, AND FERTILIZER APPLICATION MANAGEMENT

9.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

9.1.1 Permit Requirements

Part III.B.7 of the Permit outlines the requirements for pesticide, herbicide, and fertilizer applications.

9.1.2 Compliance Summary

The management plan for storm water pollution control of pesticides, herbicides and fertilizers entails a mixture of programs emphasizing efforts to control pesticide, herbicide, and fertilizer applications. A summary of these activities is provided in Section 9.2, and includes control programs for pesticide, herbicide and fertilizer application on District and private property as well as public education programs specifically targeting these environmental pollutants.

9.2 PESTICIDE, HERBICIDE, AND FERTILIZER APPLICATION ACTIVITIES

Performance Standard: The District's Pesticide Program is active in educating and training the public, and enforcing misapplications of pesticides and herbicides.

9.2.1 Control Program on District Property

DOH continues to implement the District's Pesticide Program. The Pesticide Program's goal is to train and certify pesticide applicators in the safe use and handling of pesticides and to promote the incorporation of integrated pest management principles with a reduction in pesticide use.

There were no integrated pest management (IPM) enforcement actions taken in FY 2005 as part of the Pesticide Program, because the District does not have IPM regulations established. However, product compliance with Federal Worker Protection Standards (WPS) requirements will be monitored through marketplace inspections for high-risk pesticides. Part of this monitoring may involve documentary and physical sampling for verification of labeling compliance. The District will coordinate with EPA on Phase I and Phase II of the WPS initiative.

9.2.2 Control Program on Private Property

DOH also provides educational programs to private property owners through pamphlets distributed to residents. The pamphlets address lawn care service, the District Nutrient Management Program, and IPM. The purpose of the programs is to better inform the public on the proper use and disposal of pesticides, herbicides, and fertilizers, and safer alternative methods. The programs provide education and outreach activities designed to educate citizens about environmentally sound practices with regard to the use of pesticides in the yard or garden and the introduction of “good” pests into the garden.

- In FY 2005 DOH WPD distributed its IPM video and 517 brochures to the community.

The following table shows the four-year trend of distribution of IPM information. DOH has consistently distributed more than 200 brochures at teacher training workshops, providing relevant information to those training our future citizens.

	Brochures Distributed	
Fiscal Year	Teacher Training Workshops	Environmental Education Resource Center
2002	365	0
2003	200	0
2004	402	437
2005	0	1,997

- DOH WPD also distributed 280 brochures through its Environmental Education Resource Center, and provided school teachers nutrient management information regarding the proper use of fertilizer as part of its “Trees for Kids” project.
- DOH WPD distributed approximately 1,200 brochures on its Pooper Scooper program.
- DOH WPD also held an education and outreach activity designed to educate citizens about detoxifying materials from residents’ homes.

9.3 SOURCE CHARACTERIZATION SCREENING

Performance Standard: The District waters are tested regularly for the presence of pesticides, herbicides and fertilizers.

Pesticides are monitored as part of the overall wet- and dry-weather outfall monitoring program. Pesticides have been detected in some of the samples collected from the outfalls.

- In FY 2005, pesticides were detected at 5 monitoring sites within the Potomac River and Rock Creek watersheds.
- Site locations were
 - Dieldrin was detected in July 2005 at Normanstone Creek (0.005 ug/L) and Hazen Park (0.003 ug/L).
 - On the same date 4,4'-DDT was detected at Broad Branch (0.009 ug/L) and Soapstone Creek (0.005 ug/L).
 - In June 2005, 4,4'-DDT was detected at the Battery Kemble site (0.18 ug/L). The parameters detected were chlordane, dieldrin, and heptachlor epoxide, chlordane, 4,4'-DDT, and endrin.
- DOH WQD has not identified a single source for any of these parameters, but is using available information on land use and chemical use data to support targeted inspections of industries and other potential sources in the impacted sewersheds.

Additional details of sample set activities are included in Section 15 of this report. Analytical results for pesticides can be found in the 2006 DMR submitted together with this Annual Report.

9.4 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

The District's SWM program emphasizes control of specific pollutants found typically in herbicides, pesticides and fertilizers. The most effect program activity is proper application of the materials, which is taught through the IPM program. When properly applied the materials, the levels of pollutant constituents in the storm water runoff are reduced.

10.0 STORM WATER POLLUTION CONTROL: DEICING ACTIVITIES MANAGEMENT

10.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

10.1.1 Permit Requirements

Section III.B.8 of the Permit is titled Deicing Activities, details the permit requirements to minimize the impact of deicing materials on water quality.

10.1.2 Compliance Summary

The management plan for storm water pollution control in deicing activities emphasizes:

- Evaluation of deicer materials
- Application of deicer materials, and
- Storage of deicer materials
- Section 10.2 below provides details regarding these activities.

10.2 DEICER ACTIVITIES

10.2.1 Deicer Evaluation

Performance Standard: The District actively seeks to use the most effective and environmentally safe products available while keeping the streets and highways of the District ice free.

The District has completed a comparison of deicing products, studies of alternative chemicals and deicing techniques. The comparison outlines the results of deicer testing conducted in ten states (including Maryland and Virginia) in comparing the chemical and physical characteristics of deicers, their impacts to soil, water and environment, and a comparison of the cost of sodium chloride salt versus various deicing alternatives. Iceban[®] was recommended as a viable alternative to sodium chloride salt in each of the studies reviewed. Based upon the comparison of deicing products, the District will continue to use Iceban[®] on bridge surfaces to reduce pollutant loading to receiving waters from deicing activities.

10.2.2 Application of Deicer Materials

Performance Standard: The District is active in keeping the streets and highways of the District ice free.

DDOT's primary obligation in snow management and deicing activities is to provide for the safe movement of emergency vehicles and other vehicular traffic as quickly as possible following winter storms. DDOT employs a variety of techniques, including plowing, salt application and deicing chemical application on various roads, depending on the amount and type of precipitation expected. DDOT uses the corn-based snow and ice-melting product IceBan[®] as a pre-treatment on selected highways and bridges. The District also uses a hydro melt liquid deicer on bridge surfaces to reduce pollutant loadings to receiving waters.

In the 2005-2006 season, DDOT did not use IceBan in the District Deicer activities because there was not enough snow accumulation to warrant its use in the District.

DDOT is developing a facility to produce brine for use as a pre-treatment for snow and ice. The brine solution is a 23 percent sodium concentration and 77 percent water. The use of the brine pre-treatment provides a 77 percent reduction in the amount of salt used during winter months for control of snow and ice. The design for the Brine manufacture and Salt Truck wash Facility design will be completed in the fourth quarter of FY 2006, and the estimated construction time is six months.

10.2.3 Deicer Materials Storage Facilities

Performance Standard: The District utilizes storm water management facilities at its salt storage sites to control runoff and water quality from the sites.

The District operates a salt storage site at Potomac Avenue and R Street, SW and 1246 "W" Street, NE. A salt storage facility at Fort Drive, NW, just east of the Fort Reno reservoir, and an additional facility at 401 Farragut Street, NE include storm water management facilities to control runoff from the site and minimize pollutants in runoff.

Prior to the 2004-2005 deicing season, DDOT inspected the storm water management facility at the salt storage facility, as per its SWM maintenance plan, to ensure that the inlets features were in satisfactory condition to provide the maximum runoff control

protection. All DDOT salt dome storage facilities are constructed with storm water BMP structures for load discharge reductions.

10.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

In implementing its deicer program, the District is reducing the amount of salts that is applied to the roadways in order to provide a safe passage for its citizens. These activities directly impact the amount of salts in melted storm water runoff entering into the MS4 and thereby help to meet the storm water quality requirements of the CWA.

11.0 STORM WATER POLLUTION CONTROL: SNOW REMOVAL MANAGEMENT

11.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

11.1.1 Permit Requirements

Part III.B.9 requires the Permittee to establish a program and operating plan to ensure excessive quantities of snow and ice control materials do not enter the District's water bodies.

11.1.2 Compliance Summary

The management plan for storm water pollution control through snow removal emphasizes the snow and deicer control program.

Section 11.2 below provides details regarding these activities.

11.2 SNOW CONTROL PROGRAM

Performance Standard: The District implements its snow removal and deicing program operating plan so as to ensure safe passage of its roadways using deicing materials that provide the minimum impact practicable to the storm water runoff from snow and ice that enter the MS4.

The District snow removal program is discussed at length on the DDOT web site at the following link: <http://ddot.dc.gov/ddot/cwp/view.a.1256.q.564154.asp>.

DDOT regularly prepares a Performance Measures Report that includes targets and achievements for a number of performance measures, including snow removal.

- In the FY 2005 snow-season, DDOT met its goal to have 85 percent of the main roads passable within 12 hours of a 4 to 8-inch snow storm.
- This goal was exceeded when the main roadways were passable within the 12-hour timeframe for a total of 11 snow events over the season duration.

11.3 ALTERNATIVE SNOW STOCKPILE AREAS

Performance Standard: Currently no plans to develop an alternate snow removal plan exist.

The District's current snow removal and deicing program is designed to avoid snow deposits in areas adjacent to water bodies, wetlands, and areas near public or private water wells except during a declared snow emergency. The plan is routinely reviewed for its applicability and there is no need to revise the plan at this time.

11.4 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

In implementing its snow removal program, the District provides a safe passage for its citizens while using deicing materials that provide the minimum impact practicable to the melted storm water runoff that enters the MS4. These activities directly impact the pollutant constituents in storm water runoff entering into the MS4 and thereby help to meet the storm water quality requirements of the CWA.

12.0 STORM WATER POLLUTION CONTROL: MANAGEMENT PLAN TO DETECT AND REMOVE ILLICIT DISCHARGES

12.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

12.1.1 Permit Requirements

Part III.B.10 of the Permit pertains to the Management Plan to Detect and Remove Illicit Discharges.

12.1.2 Compliance Summary

The storm water pollution control management plan for detection and removal of illicit discharges entails a mixture of program activities that include the following:

- Illicit discharge detection and elimination (IDDE)
- Illicit discharge prevention
- Floatable reduction
- Waste collection
- Inspection and enforcement, and
- Spill response

Section 12.2 below provides details regarding these activities.

12.2 MANAGEMENT PLAN TO DETECT AND REMOVE ILLICIT DISCHARGES ACTIVITIES

12.2.1 Illicit Discharge Prevention Program

Performance Standard: The District maintains an illicit discharge program designed to detect and eliminate illicit discharges within the District.

The DPW Solid Waste Education and Enforcement Program (SWEEP) seeks to maintain clean private and public space by investigating illegal dumping complaints, overgrown lots, poor trash containerization and other sanitation violations. Generally, SWEEP staff will try to work with property owners to bring the property into compliance with the District code. If SWEEP staff cannot obtain voluntary compliance from a property owner, the Department may clean the property and charge the property owner twice the

cost of the clean-up effort. This cost will be added to the property owner's next property tax bill. The SWEEP program is authorized for a staff of 32 field investigators.

- In FY 2005, DPW SWEEP made 10,831 actions for illegal dumping complaints, overgrown lots, poor trash containerization and sanitation violations.
- The sites investigated were located throughout the entire District, with approximately 6,018 sites located in the MS4 area.

DOH WQD has implemented an ongoing program to detect illicit discharges as described in the upgraded SWM Plan and the Permit, and to prevent improper disposal into the storm sewer system as required by federal regulations. DOH WQD personnel continued to investigate potential illicit discharges in response to reports by citizens or government personnel. Generally, a citizen might be prompted to make a call to the District of Columbia Office of Emergency Management upon noticing a suspicious color or odor to streams or upon witnessing illegal waste dumping. Office of Emergency Management directs calls about these types of complaints to DOH. DOH WQD personnel collect information about the location and physical characteristics of the discharge in preparation for a site visit. Often DOH WQD is able to respond immediately by sending their personnel into the field. Depending on the characteristics of the discharge described, DOH WQD might alternatively refer the case to another appropriate District agency (e.g., in the case of water main breaks or other sewer infrastructure problems WASA is contacted to resolve the problem). Depending on the extent and site of the discharge, federal entities such as U.S. EPA, U.S. Coast Guard, or National Park Service may be called upon for assistance with sample analysis, investigation, or containment.

- DOH MS4 staff conducted 21 illicit discharge investigations in FY 2005. Investigations were conducted to discover the nature and sources of potential discharges to numerous waterbodies including Anacostia River, Pinehurst Branch, Mill Creek, Nash Run, Northwest Branch, Rock Creek, Soapstone Creek, and Washington Ship Channel.
- The majority of the investigations were initiated based on complaints or reports from citizens, other District departments, or District contractors engaged in MS4-related field activities (Table 12-1).

**Table 12-1 Complaint-Driven Illicit Discharge Investigations and Corrective Actions
Taken in FY 2005.**

SITE	PROBLEM	CORRECTIVE ACTION
16 th Street and Fort Stevens Drive, NW Rock Creek	Discharge of discolored water from MS4 outfalls in the Fort Stevens area to Rock Creek following a torrential rainfall. [Oct 2004]	The luminous blue discharge discovered by Maryland Environmental Services (MES) contractors was similar in color to the sanitizer seen in portable restrooms. MES confirmed the presence of fecal matter and other sanitary waste through visual inspection and sent photographs of the discharge to DOH Water Quality Division. DOH conducted dye tests at the apartment buildings within the sewershed and the results were negative. Suspected an incident of illegal dumping, but the source was not identified.
700 Water Street, SW Washington Ship Channel	Discharge of floor stripping liquid from Zanzibar restaurant on the waterfront marina to Washington Ship Channel via the MS4. [Oct 2004 – Dec 2004]	DC Hazardous Materials Inspector Steve Smith gave Metropolitan Police Department Environmental Crimes Unit Investigator Carl Ruleman a report of an opaque, white discharge into Washington Ship Channel. It was discovered that a clogged industrial sink at the restaurant was allowed to drain Mop 'N Strip® fluid in the vestibule that houses the storm catchment. Mr. Ruleman confirmed the drainage to the Washington Ship Channel by dye testing. DOH issued the restaurant a Notice of Inspection and Site Directive setting an immediate compliance date for December 6 to clean storm grating in the loading dock and to restore the sink clean-out tap cover. The facility had not complied by that date, but had complied by the time DOH MS4 staff returned on December 10. Investigation closed.
Kenilworth Avenue, NE between Nash Street and Ord Street, NE Nash Run	Discolored discharge from a primarily residential neighborhood. [Nov 2004]	In response to a complaint from Discovery Creek staff of a milky, opaque discoloration of the creek, DOH MS4 inspectors identified a construction site and a school that could be contributing. In both cases, DOH provided education to stop the discharge of sediment laden standing water from the uncontained construction site during dewatering and the dumping of cleaning wastewater on the school lawn. Investigation closed.
Luzon Branch Rock Creek	Elevated surface water temperatures. [Jan 2005]	DOH, with an environmental engineer from Walter Reed Medical Center, discovered steam and above normal surface water temperatures at the stream. DOH notified WASA about the discharge from the Hospital Center, and the center took corrective action. Investigation closed.

SITE	PROBLEM	CORRECTIVE ACTION
Gallatin Watershed Northwest Branch	Investigation of floatables in Northwest Branch. [Jan 2005 – October 2005]	As part of ongoing effort to determine source of reported floatables in Northwest Branch, DOH field verified the locations of businesses in the Gallatin watershed. DOH also verified the locations of all municipal trashcans in the watershed. DOH and WASA contractors met with DPW to confirm current street sweeping schedule and plan future sweeping efforts. DOH discovered a catch basin downstream of Fort Totten Trash Transfer Station laden with floatables and sediment. DOH suggests placement of a BMP at this location for inlet protection.
Mill Creek	Complaint report of suds at outfall. [Feb 2005]	DOH received complaint from a homeowner association member of suds at the twin outfall where the stream daylight. DOH conducted a visual inspection of a local car wash and detailing center. Finding a wastewater management system with no visible discharge to public space, DOH determined the site an unlikely source of the reported suds. Finding no evidence of suds at the stream, DOH speculated that oxygenated surface water coming from the energy dissipaters at the outfall might have appeared sudsy.
Connecticut Avenue and Yuma Street, NW Rock Creek	Intermittent discharges of soapy water from outfall #849. [Apr 2005 – July 2005]	Contractors measured chlorine at 0.4 mg/L on April 1. DOH MS4 inspector confirmed presence of chlorine and intermittent discharge on later visits. Dye tested several facilities. Discovered a business with a sump that discharged rooftop leader surface water and parking lot wastewater to the MS4. On June 16, DOH issued a Notice of Inspection and Site Directive to the business directing owner/operator to correct sump pump discharge within 30 days. The business complied. On July 15, a Notice of Inspection and Site Directives were issued to a second business, requiring proper storage of used cooking oil and replacement lid of waste oil drum. The business complied. In July, WASA also repaired a breach at Alton Pl. and 38 th St., NW that was contributing sediment to the stream. Investigation closed.
Normanstone Lane and Normanstone Drive, NW Rock Creek	“Soupy” discharge with sewer odor from outfall #748. [Apr 2005 – ongoing]	Contractor noted discharge on March MS4 outfall verification field data sheet. DOH did not find flow or odor during early April site visit.
M. Bridge and Potomac, NW Rock Creek	Strong sewer odor from outfall #1019. [Apr 2005 - ongoing]	Contractor noted discharge on March MS4 outfall verification field data sheet. DOH confirmed heavy flow and sewage odor during early April site visit.
27 th Street and Broad Branch Road, NW Rock Creek	Sewage odor from outfall #872. [Apr 2005 – ongoing]	Contractor noted discharge on March MS4 outfall verification field data sheet. DOH confirmed heavy flow and sewage odor during early April site visit and lighter flows during a May follow-up visit.

SITE	PROBLEM	CORRECTIVE ACTION
Belt Road and Davenport Street, NW Mill Creek	Intermittent discharge of chlorinated water from reservoir. [Apr 2005 – ongoing]	DOH administered multiple tests for chlorine in storm water sampled from a Fort Reno manhole. Occasionally, DOH found positive results (though chlorine amounts were low). DOH plans to continue monitoring at the manhole.
North Capitol Street and M Street, NE Anacostia River	Discharge from manhole. [May 2005]	DOH observed that flow from the manhole at this intersection persisted several days and was reaching Pierce Street and 1 st Street, NW. DOH confirmed that WASA was informed of the incident.
6900 Georgia Ave., NW Fort Stevens	Leakage of <10 gallons diesel fuel from a generator at Walter Reed Hospital. [May 2005] Small deposits of transmission fluid from commercial sport utility vehicle. [Sept 2005]	Fire department installed boom. Some diesel fuel observed on pavement. Presumed that a small amount of diesel fuel entered MS4 catch basin during wet weather event prior to boom installation. In a separate incident, the facility reported that a vehicle leaking transmission fluid briefly passed over a storm sewer manhole. At the best estimate of the facility environmental engineer, less than one pint might have entered the sewer. Nearby surface were covered with sorbent material to remove the remaining deposits. DOH visited the outfall and did not observe oil sheen at the time. No further investigation was done based on report of the onsite engineer.
Barnaby Street and Aberfoyle Place, NW Pinehurst Branch	Report/complaint of dye [June 2005]	DOH did not observe dye at Pinehurst headwater as reported to Bill Yeaman (National Park Service) and informed him of the finding.
RFK Stadium Parking Lot #4 Anacostia River	Asphalt illegally dumped into MS4 catch basin. [Aug 2005]	DOH and WASA visited site to conduct interviews and remove section of pipe affected by solidified asphalt, respectively. Contractors began repairing sewer line. Investigation closed
800 Kenilworth Avenue, NE Watts Branch	Sediment discharge to Watts Branch. [Aug 2005]	DOH located building company that caused discharge and issued NOV for failure to use adequate erosion control measures. DOH WPD issued an NOV, and the company complied. Investigation closed.
4441B Wisconsin Avenue, NW Soapstone Creek	Air conditioner condensation discharged to sidewalk, and used oil containment. [Aug 2005 – Sept 2005]	Complaint led inspectors to two area restaurants. DOH issued NOI directing one restaurant to route condensation to the sanitary sewer system within 30 days. [The owner later complied by the September deadline.] DOH verbally warned the second restaurant to minimize spills while transferring used oil to drum and to completely cover and lot the drum lid. Investigation closed.
Sewage odor at outfall and stream headwater. [Aug 2005 – Sept 2005]	Sewage odor at outfall and stream headwater. [Aug 2005 – Sept 2005]	DOH twice reported the problem to WASA following site visits in August and September. DOH continues to regularly monitor the site, although no further sewage odors have been observed and no other complaints made.
2208 15 th Street, NE Hickey Run	Standing water in street. [Aug 2005 or Sept 2005 – ongoing]	DOH encouraged resident to seek WASA assistance. DOH and WASA investigating to determine if standing water is runoff of sanitary wastewater from residence or

SITE	PROBLEM	CORRECTIVE ACTION
		groundwater. Ongoing.
16 th and W Streets, NE Hickey Run	Discharge from fire hydrant. [Aug 2005]	DOH made a report to WASA and the leak from the hydrant was stopped.
54 th Street and Eads Street, NE Watts Branch	Complaint of discolored (whitish) MS4 outfall discharge. [Sept 2005]	During the same-day site visit, DOH did not observe whitish discharge from the outfall near HD Woodson High School described in the complaint. DOH regularly visits the site, but has not observed an illicit discharge or received another complaint.

DOH WQD also visually inspected MS4 outfalls, and the waters to which discharge, in efforts to detect and eliminate illicit discharges in selected sewersheds. Several investigations in FY 2005 were prompted by the unreported flows DOH WQD personnel observed while conducting outfall inspections and other MS4-related field activities. WASA personnel also performed visual inspections while maintaining catch basins and the MS4 infrastructure.

The District was limited in its efforts to prevent and eliminate suspected illicit discharges to the MS4 through compliance inspections of individual facilities. Due to limited staffing, illicit discharge inspections were limited to complaint-driven inspections as listed in Table 12-1.

The District continued its efforts to verify the locations of MS4 outfalls and record latitude and longitude coordinates using GPS. If MS4 flow was observed during the investigation, investigators conducted tests for free and total chlorine when possible/accessible.

- During FY 2005, the field investigators verified approximately 190 MS4 outfall locations for a total of 330 outfalls since outfall verification efforts began. This comprises 75% of the entire MS4 system.

12.2.2 Floatable Reduction Program

Performance Standard: The District operates a river pollution control program that seeks to reduce the floating debris found in the District’s rivers.

The Anacostia River Floatable Debris Removal Program was initiated in August 1992 to remove floating debris from the Anacostia and Potomac Rivers on a routine basis. The program is operated by the WASA Department of Sewer Services, Inspection and Maintenance Division. The floating debris removal program utilizes a 12,000-lb capacity

skimmer boat, a 6,000-lb capacity skimmer boat, and support boats to remove floatable debris from the rivers as well as trash which accumulates on the river banks and in mud flats at low tide. The boats pick up debris five days per week. The boat docking area and roll-off containers are located on the west bank of the Anacostia River in the vicinity of M and 14th Streets, SE. The District will continue to conduct the floatable reduction program utilizing skimmer boats on the Potomac and Anacostia Rivers.

- The skimmer boats removed 372 tons of debris in FY 2005.
- The materials collected came primarily from the Anacostia River.
- This represents a significant reduction in floatable tons present in comparison to FY 2004 when 684 tons of debris were collected.

The following table shows the six-year trend of floatable tonnage removed from the District’s rivers. The number of tons removed in FY 2003 had more than doubled from past fiscal years due to the use of skimmer boats that control floatables while repair work on the CSO was taking place.

Fiscal Year	Floatables Removed (Tons)
2000	600
2001	650
2002	500
2003	1,145
2004	684
2005	372

DOH WPD has inspected the trash rack at the River Terrace neighborhoods. However, the trash rack appeared not to be properly maintained. One of the two trash racks is missing, presumably washed out, and the other collects some trash.

12.2.3 Wastes Collection Program

Performance Standard: The District provides household hazardous waste collection and seasonal leaf collection each fall.

The Permit prohibits the discharge of used motor vehicle fluids, household hazardous wastes, grass clipping, leaf litter, and animal waste into separate storm sewers. The existing program for the collection of motor vehicle fluids and household hazardous waste has been expanded. Accepted materials include paint, batteries, pesticides, solvents, motor oil, furniture polish, nail polish and remover, and other possibly toxic items.

- During FY 2005, two hazardous waste collection days, where residents may bring hazardous wastes for proper disposal, were conducted by DPW. Collection days were held on October 23rd, 2004 and May 14th, 2005.
- During the October and May waste collection events, at Carter Barron Amphitheater, one hundred eighty four (184) and one hundred ninety one (191) 55-gallon drums, respectively, of waste flammables, paints, oxidizer, pesticides, acids, bases, motor oil, and antifreeze were collected. Also collected were boxes of fluorescent bulbs, mercury thermometers, and dry cell car batteries. Care Environmental Corp. was contracted to perform collection and packing of the waste for the District.
- Collection events for electronics recycling were also held on April 23 and September 27-28, 2005. Thirty-three (33) and thirty eight (38) tons of old consumer electronics were collected at these respective events.

The following table shows the four-year trend of household hazardous waste reduction in the District. Increases in the number of participants, the volume of household hazardous wastes, and the tonnage of electronics has steadily increased by 75% since FY 2002. Within a single fiscal year, there was more than 50% increase in these numbers from FY 2002 to 2003. Of particular note in the increase in number of participants dropping off waste materials (reported as number of cars), which has increased more than fourfold and the reason for this increase is the public awareness of this program.

Fiscal Year	Collection Events	Participants (# of Cars)	HHW (55 gallon drums)	Electronics (tons)
2002	2	1,500	148	4
2003	5	3,178	261	63
2004	6	4,490	249	117.5
2005	6	6,261	375	142

Bagged grass clippings and leaves are collected throughout the year with regular garbage collection. Leaf litter is collected during November, December, and January by the DPW utilizing vacuum trucks. A discussion of leaf collection activities is provided in Section 3 .2.5 of this report.

12.2.4 Inspection Plan

Performance Standard: The District maintains an inspection program for illicit discharges.

The Permit states that the Permittee will use a mix of strategies for the detection and elimination of illicit discharges. Facility inspections and visual inspections of the sewer system are integral parts of the plan to detect illicit discharges. Regarding facility inspections, DOH WQD has drafted a targeted enforcement protocol during the past year based on the analysis of the results of previous monitoring activities. This protocol targets facility inspections areas that show high frequencies of detections and quantities of pollutants. It describes a stepped process by which inspectors will prioritize the District's water bodies according to level of impairment, correlate the pollutants to broad categories of potential sources, locate individual business that fall under the identified sources, plan compliance inspections for these facilities, and resolve compliance issues.

Inspectors use outfall monitoring data to identify the problem pollutants and where they are appearing in the sewer system. Literature and professional experience can then be used to determine what kinds of sources or activities are associated with the problem pollutant. Concurrently, inspectors can use their knowledge of the sewer system, maps and other resources to begin tracing back to the geographic origin of the pollutants. The industrial facilities database (discussed in Section 4.2.1) and GIS tools under development will be a powerful resource for completing this task. As portions of the MS4 infrastructure are verified and more facility information (on location and wastes generated) are collected through routine compliance inspections, the District will increase its capacity to quickly identify potential sources of illicit discharges in the geographic

area of interest through the data integrated in the GIS. These tools would not only be used in response to illicit discharges that have already occurred, but to direct or focus the routine inspections in a manner that would also facilitate proactive interactions with businesses and prevent illicit discharges.

If a facility is found to be a contributor or potential contributor of the detected pollutants as a result of an inspection, DOH WQD will attempt to bring it into compliance with storm water regulations, which might entail education and/or recommendation for fines or other enforcement actions against the facility. New NOI forms were developed and printed for enforcement purposes.

12.2.5 Enforcement Plan

Performance Standard: The District maintains an enforcement program for illicit discharges.

DOH WQD revised the “*Draft Water Quality Division Enforcement and Compliance Manual*” that describes inspection and enforcement efforts. A copy of the “*Draft Water Quality Division Enforcement and Compliance Manual*” is included in the 2004 Annual Report. The manual is separate from, and broader than, the enforcement protocol described in Section 13.2. The manual establishes the guidelines for compliance inspections conducted by DOH WQD staff.

Enforcement of illicit connections is via an initial corrective action notice from DOH, and then referral to the Plumbing Inspection Branch of the Department of Consumer and Regulatory Affairs for legal enforcement action. The Plumbing Inspection Branch of the Department of Consumer and Regulatory Affairs is responsible for enforcement of illicit connections as violations of the plumbing codes. A discussion of enforcement activities is provided in Section 13.0 of this report.

As a general requirement, the Permit states that the discharge or disposal of used motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, and animal waste into separate storm sewers shall be prohibited. The District already has legislation that prohibits the discharge or disposal of used motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, and animal waste into separate storm sewers. The Water Pollution Control Act of 1984, D.C. Official Code 8-103 *et al*, provides that no person shall discharge a pollutant to the waters of the District. The Water Pollution Control Act defines “pollutant” as any substance which may alter or interfere with the

restoration or maintenance of the chemical, physical, radiological, and biological integrity of the waters of the District; or any dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemicals, chemical wastes, hazardous wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, oil, gasoline and related petroleum products, and industrial, municipal, and agricultural wastes. Implementing regulations at 21 DCMR § 529 control storm water runoff for oil, grease, organic animal wastes and other discharges that violate the water quality standards of receiving waters in the District.

12.2.6 Spill Response Program

Performance Standard: The District has developed and implements the procedures specified in the *Water Pollution Control Contingency Plan* (WPCCP) for spills and chemical releases. The District also provides pollution prevention outreach to managers of facilities, and in-house spill training among the District agencies.

The Permit discusses implementing procedures to prevent, contain, and respond to spills that may discharge into the MS4, including the training of personnel in spill prevention and response procedures.

The WPCCP provides guidance on timely and effective response to hazardous substance releases that threaten to impact the natural resources of the District. The plan also addresses the pollution and resource assessment, mitigation, clean-up and follow-up actions resulting from non-permitted discharges. The procedures outlined in the contingency plan are followed for reports of illicit discharges.

Four spills were reported to DOH during this period.

- On November 24, 2004, DOH responded to an oil spill from a CSX train onto the tracks of west of 33rd and D Streets, SE. CSX had begun removing contaminated topsoil and vacuuming the tracks before DOH arrived at the scene. It is estimated that during cleanup resulted in recovery of 75 gallons of the about 100 gallons spilled. No enforcement action was taken.
- On May 4, 2005, DOH and other District and federal agencies responded to a spill of hydraulic fluid at the U.S. Bureau of Engraving and Printing, which discharged to the Tidal Basin via the MS4. The DC Fire Department issued a Notice of Violation the facility. EPA identified the Bureau of Engraving and Printing as a Large Quantity Generator.

- DOH was alerted to a third spill of approximately 10 gallons of diesel fuel that occurred on May 14, 2005 at the Walter Reed Army Medical Center (WRAMC). A boom was installed to contain the fuel, however it was presumed that some of the spill discharged to the MS4 prior to placement of the boom. The medical center is identified as an LQG and it is also CERCLA regulated (but it is not currently a National Priority List Superfund site).
- In September 2005, DOH responded to a spill of approximately 800 gallons of oil at the PEPCO Buzzard Point Generating Facility at 1st Street and V Street, SW. PEPCO contractors vacuumed the oil and removed contaminated soils. No oil had flowed to the MS4 catch basin. DOH directed PEPCO to remove other oily sediment deposits from channels elsewhere on the property. PEPCO complied and installed an absorbent sock at the MS4 catch basin. DOH made a follow-up visit to the site to ensure compliance. The investigation was closed.

To facilitate response to chemical or hazardous waste spills, DOH WQD has been collecting and consolidating information, such as facility and operator contact information, from various sources. This effort included the development of a spill control material list and spill assessment chart with physical and chemical properties of select contaminants clearly outlined and tailored for the spill response needs of the District.

As outlined by the District's WPCCP, DOH WQD emergency response staff will be taught to select effective BMPs for emergency situations based on site-specific considerations such as facility size, climate, rainfall index, geographic location, hydrology, soil type, environmental setting, volume and type of discharge generated, and the number of outfalls. Personnel should be able to differentiate between passive and active BMPs and implement them as a result of training.

Protocols are being developed to assay the various components of data collection and analysis for monitoring storm water pollution.

As mentioned in Section 4.2.5 of this report, the WPCCP is being updated with current emergency reporting information and notification procedures. The revision also adds new information on response to oil spills and biological terrorism.

DPW has incorporated spill response actions into employee training as part of best housekeeping practices for equipment storage and maintenance facilities.

Good housekeeping involves using practical, cost-effective methods to identify ways to maintain a clean and orderly facility and keep contaminants out of the separate storm sewer. It includes establishing protocols to reduce the possibility of mishandling chemicals or equipment and training employees in good housekeeping techniques. These protocols must be described in the facility SWM Program and communicated to appropriate facility personnel.

A spill or release episode includes any spillage or leakage of fuel from fuel storage tanks, piping, dispensing equipment, or vehicles. If the spill totals less than 25 gallons, the Fuel Services Supervisor is immediately notified. The Fuel Services Supervisor will then follow established DPW procedures to clean up the spill. If the spill totals more than 25 gallons, notification is given the District Underground Storage Tank Division, the DC Fire Prevention Division, and the Fleet Services Administration. Response procedures may include tank gauging, vapor monitoring, groundwater monitoring, and secondary containment. The response procedure will also include sample collection of soil and other material that will be analyzed for known and unknown contaminants. A spill assessment chart will be developed with physical and chemical properties clearly outlined in the response plan. Spill response plans will also include lists of materials containing the following: acid neutralizing agents, oil absorbents, biohazard absorbents, approved absorbents rolls, absorbents containers and fuel tank breathers.

12.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

The District storm water pollution control management program for the detection and removal of illicit discharges acts to eliminate illicit discharges of storm water pollutants. The reduction of storm water pollutants to the District's waterways helps to meet the water quality standards of the CWA.

13.0 STORM WATER POLLUTION CONTROL: ENFORCEMENT PLAN

13.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

13.1.1 Permit Requirements

The Permit in Part III.B.11 requires that the Permittee develop and implement an enforcement plan for carrying out the objectives of the SWM Plan.

13.1.2 Compliance Summary

The storm water pollution control enforcement plan emphasizes:

- Legal authority
- Enforcement activities and resources
- Documentation of violations, and
- Assessment of enforcement effectiveness

Section 13.2 below provides details regarding these activities.

13.2 ENFORCEMENT ACTIVITIES

13.2.1 Legal Authority

Performance Standard: The District has developed and maintains the legal authority to enforce erosion and sediment control provisions and control storm water pollution with the MS4.

Chapter 5 – Water Quality and Pollution of the DCMR and the Soil Erosion and Sediment Control Amendment Act of 1994, respectively, provide the legal authority to enforce the erosion and sediment control provisions of the SWM Plan. Removal of illicit connections to the MS4 is enforced through the Plumbing Inspection Branch of the DCRA. Enforcement authority prohibiting the dumping of used motor vehicle fluids is provided in D.C. Laws 5-188 and 10-177.

- In FY 2005, there were no additional laws added to the legal authority to the District regarding SWM. The current laws are deemed adequate to provide compliance with the Permit.

13.2.2 Enforcement Activities and Resources

Performance Standard: The District uses a database system for SWM facilities maintenance inspection to track the use and maintenance of construction projects with SWM BMPs. The draft *Enforcement and Compliance Manual* details the written enforcement strategy concerning enforcement actions.

DOH WPD has refined and updated the database system for SWM facilities maintenance inspection to include tracking of construction projects with SWM BMPs. The updated database system contains data for BMPs constructed since the inception of the program in 1988 and has enabled faster and more efficient rescheduling of inspection and retrieval of maintenance records.

DOH WQD enforcement procedures are addressed in the *Draft Water Quality Division Enforcement and Compliance Manual*, which was updated in FY 2003. This manual details the written enforcement strategy outlining how enforcement actions, such as violation notices, notices of infraction, and stop work orders, are issued and adjudicated. The strategies outlined in the manual provide the standard operations procedures for inspection and enforcement efforts within the District.

DOH WPD and the District Police Environmental Crimes unit work jointly to investigate illicit discharges and enforce the District water quality regulations. As a result of illicit discharge investigations, DOH WQD personnel issued Notices of Violation (NOV) and separate Site Directives for corrective actions last year. DOH WQD referred at least one case to the Plumbing Inspection Branch of DCRA for corrective action.

Furthermore, DOH WPD has allocated three environmental engineers and two environmental specialists in support of these activities. These staff members are fully dedicated to storm water management issues related to implementation of the SWM Plan and the Permit.

13.2.3 List of Violations

Performance Standard: The District maintains a list of violators of the District of Columbia Municipal Regulations pertaining to storm water and soil erosion. This listing

is reviewed by DOH staff for needed enforcement actions. The listing of violations and enforcement actions is used as a measure of the effectiveness of the Enforcement Program.

- A list of all violations and enforcement actions is included in the Office of Adjudication and Hearings Docket and Case-Tracking Sheet. The Office of Adjudication and Hearings Docket is provided as Appendix 13-A of this report.

13.2.4 Assessment of Effectiveness

Performance Standard: The District maintains tracking and effectiveness metrics of its inspection and enforcement actions.

Inspection procedures are outlined in the DCMR Water Quality and Pollution Regulations and the Nonpoint Source Management Plan for the District. The legal basis for conducting inspections related to storm water management is outlined in Chapter 5 of the DCMR. Procedures for conducting an inspection are detailed in the *Standard Operating Procedures for Soil Erosion and Sedimentation Control* and *Storm Water Management Inspection*, and the *Standard Operating Procedures for the Enforcement of Soil Erosion and Sedimentation Control* and *Storm Water Management Regulations*.

DOH WPD has refined and updated the District automated database system for tracking storm water management facilities inspected for maintenance to include tracking of construction projects with storm water management BMPs. The updated database system contains data for BMPs constructed since the inception of the program in 1988 and has enabled faster and more efficient rescheduling of inspection and retrieval of maintenance records.

Refinements made to the automatic database system in 2005 include the use of an Excel Database to track “Final Inspection” completion and “Final Inspection Notification Letters” to SWM applicants, as well as monitoring receipt of “As-Built Plans” for completed storm water projects.

13.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

The District storm water pollution control management program for the detection and removal of illicit discharges acts to eliminate illicit discharges of storm water pollutants.

The reduction of storm water pollutants to the District's waterways helps to meet the water quality standards of the CWA.

14.0 STORM WATER POLLUTION CONTROL: PUBLIC EDUCATION

14.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

14.1.1 Permit Requirements

The Permit in Part III.B.12 requires that the District “develop a public education program” to reduce pollutant loading from the MS4 to receiving waters.

14.1.2 Compliance Summary

The storm water pollution control public education program entails a mixture of programs emphasizing the MS4 web site, education and outreach activities, household hazardous waste collection events, the pesticide, fertilizer and pet waste programs, industrial and construction site operators programs and cooperative programs with other agencies. A summary of these compliance activities includes:

- Public web site development and update
- Education and outreach
- Household hazardous waste collection and disposal
- Pesticides, fertilizer and pet wastes program
- Industrial facility program
- Construction site operators program
- Agency cooperation program
- District science fair: Storm Water Awareness Award

Section 14.2 below provides details regarding these activities.

14.2 PUBLIC EDUCATION ACTIVITIES

Public education activities conducted during the past year are described in detail in this section.

14.2.1 Public Web Site Development

Performance Standard: The District maintains a public web site which seeks to discuss all pertinent aspects of the MS4.

In 2004, WASA expanded its public web site which includes a description of storm water activities and an opportunity to view final reports that have been submitted to the EPA and the Mayor's office. An additional eight pages were included in FY 2005 to the previous four in order to provide more detail and information to the public:

- **Overview: What is a Separate Storm Sewer?** – Get a general overview of the Municipal Separate Storm Sewer System (MS4) and how it works.
- **Municipal Separate Storm Sewer System (MS4) Permit** – Learn about current regulations governing MS4s and how WASA is responding to District and federal laws.
- **What Can I Do?** – Learn what you can do to help local water quality.
- **Agency Reporting** – Access current reports including the Annual Report, Semi-Annual Report, Discharge Monitoring Report, Storm Water Management Implementation Plan, and Agency Compliance Plan. This page also links to five separate pages so the public can access old reports (2001-2004) that were submitted to and approved by EPA and the Mayor's office.
- **Agency Storm Water Activities** – Learn about the activities that each agency (WASA, DOH, DPW, DDOT) is implementing for their part of the MS4 Permit requirements.
- **Outfall Verification** – This particular activity conducted by WASA is ongoing and is critical to managing and reducing pollutants from storm water that enters the District's watersheds.

- **Illicit Discharge Inspection** - Inspection of non-sanitary illicit discharges are identified during the outfall verification program and water quality monitoring during dry weather. Any discharges that are considered illegal are reported to DOH for further inspection and possible enforcement actions. All illicit discharges are disconnected from the MS4 once identified.
- **Contact Information** – Find contact information and additional resources for combined sewer services and MS4-related issues.

The home page for the MS4 pages can be found on the WASA website at:

<http://www.dcwasa.com/education/ms4/default.cfm>

Since its launch, the MS4 web page has been updated regularly to include current information on MS4 and related storm water activities. The pages will continue to be updated with additional public education material on topics such as hazardous waste disposal, recognizing and reporting illicit discharges, public participation, and other topics related to the MS4.

14.2.2 Education and Outreach

Performance Standard: The District provides environment and storm water awareness outreach programs targeted to teachers, environmental educators and students throughout the District.

DOH WPD has developed several outreach programs targeted to teachers, environmental educators and students throughout the District. These programs are:

- **Environmental Education Resource Center** – This center provides resources and materials that teachers and other environmental educators may use to enhance the classroom curriculum and implement conservation projects.
- **Conservation Education (Project Learning, Project WET, Project WILD)** – These internationally recognized programs are utilized to train educators in innovative techniques for exploring a wide range of environmental concepts with students and teaching critical thinking skills that lead to environmental stewardship (grades K-12). In FY 2005, DOH WPD coordinated 5 Water Education for Teachers in the City workshops (WET in the City) with 49 participants.

- **Teacher Training Workshops** – These workshops assist teachers in fulfilling their teaching and learning standards while helping students develop environmental ethics and responsible stewardship.
- **Pollution Prevention** – DOH has issued several grants to promote Pollution Prevention activities impacting the quality of storm water runoff. Under one grant, an environmental organization will conduct a pollution minimization assessment. Students at three high schools will be taught how to conduct the assessment, report and discuss findings, and implement practices to reduce the amount of pollution identified in their schools. Under another grant, an environmental organization will develop and distribute outreach materials on Integrated Pest Management targeting city community gardeners. Lastly, funding will be provided to continue a newly established Green Marinas Program in the District.
- **Schoolyard Habitats Program** – DOH has established a schoolyard habitats program that integrates on-the-ground nonpoint source pollution control activities with the construction of outdoor learning areas. To date, DOH has enrolled 16 schools that are at various stages of constructing schoolyard habitats.

The following table shows the development of educational programs over the last three-year period. The number of programs has doubled with increased numbers of educational programs with the District schools and community groups.

Educational Programs	FY 2003	FY 2004	FY 2005
Environmental Education Resources Center	x	x	x
Conservation Education			
• Project Learning	x	x	x
• Project WET	x	x	x
• Project WILD	x	x	x
Teacher Training Workshops	x	x	x
Pollution Prevention (P2) Program			
• Pollution Minimization Assessment		x	x
• IPM materials for community gardeners		x	x
• Green Marinas		x	x
School Yard Habitats			x
Science Fair - Storm Water Awareness Award			x
Storm Water Trade Show		x	
Total Number of Programs	5	9	10

In FY 2005 DOH WPD coordinated the following events:

- Anacostia Fair - approximately 400 students and 30 teachers and several walk-through activities.
- Youth Summit – 173 students and 10 teachers
- Spring Environmental Education Camp 35 participants
- Bancroft Elementary School Environmental Activity Day – 44 students
- Classroom Presentations:
 - Jordan Public Charter School – 40 students
 - HD Cook Elementary School – 19 students
 - Janney Elementary School – 63 students
 - Malcolm X – 60 students
 - Ann Beers – 29 students
- Hard Bargain Farms Meaningful Bay Watershed Field Experience
 - Malcolm X – 19 students
 - Ludlow Taylor – 17 students
 - Ann Beers – 15 students
 - Draper 19 students
- Coordinated two Project Learning Tree (PLT) workshops with 86 participants and one Trees for Kids workshop with 7 participants.
- Partnered with other organizations to coordinate and conduct the Annual Anacostia River Cleanup
- Career Days and Science Fairs
 - Thurgood Marshall -90 students
 - Tubman Elementary School
 - John Burroughs 500 entries DOH WPD spoke with 100 students
- United Planning Organization’s Back to School Festival – 300 participants (DOH WPD booth)

- DC Fish and Wildlife’s Anacostia Resource Center Open House. DC Fish and Wildlife’s efforts to move shad and herring so they could spawn in their historic breeding areas.
- Casey Trees Citizen’s Forestry Program
- International Project Learning Tree Coordinators Conference

Throughout FY 2005, the DOH WQD has been involved in several educational and public out reach efforts, including:

- Anacostia Watershed Citizen Advisory Council Meetings (AWCAC) - a bi-monthly meeting with various Friends of the Anacostia sub-watershed citizen groups, from the District of Columbia and both Prince George’s and Montgomery Counties in Maryland, that are focused on improving the quality and functionality of the Anacostia River.
- Town Hall Meetings - a series of meetings in various neighborhoods throughout the city to inform DC residents of all the services available through the Department of Health. Several of the meetings also included health screenings, informational lectures and handouts on things that residents can do to improve personal and environmental health.
- Anacostia River Environmental Fair - an annual environmental fair that engages nearly 300 youth from DC public schools (4th - 8th graders) in hands-on environmental activities on land and water craft on the Anacostia River. The environmental fair is designed to foster stewardship and an appreciation for the natural environment. DOH WQD again participated in this event in April 2005.
- Public Hearings - to keep DC residents abreast of the various activities around the city that the DOH WQD is a part to improve the environment. Public hearings are also the platform for DC residents to express concerns surrounding new activities.
- Outreach Materials - DOH WQD has developed several handouts that are being reviewed by the DOH Office of Communications, they include: tips on how to clean automotive spills, how to improve storm water quality, how to discharge residential swimming pools, and tips on how to conserve water. DOH WDQ also has a ruler that has its motto, “Measure success by the pollution prevented from entering DC waters”, to disseminate at public events. So far, 300 rulers have been distributed.

- Camp Riverview - a week long environmental camp where DOH WQD partnering with other members of the Environmental Health Administration serve approximately 100 youth from the District of Columbia. The youth are engaged in several different activities that included, water quality monitoring, species richness and macroinvertebrate identification.
- Aquatic Resource Education Center (AREC) Re-Opening - DOH WQD provided 400 handouts about the waters of the District of Columbia to visitors, including teachers, students, and the general public. These handouts included storm water-related content. DOH WQD also gave out 300 rulers printed with a brief environmental water quality message.

14.2.3 Household Hazardous Waste Collection and Disposal

Performance Standard: The District maintains a household hazardous waste collection and disposal program.

The District promotes the collection and disposal of household hazardous waste through collection days. During the past year, two hazardous waste collection days, where residents may bring hazardous wastes for proper disposal, were conducted by DPW. Collection days were held on October 23, 2004 and May 14, 2005 at the Carter Barron Amphitheater and at DPW station on Benning Road. These activities are promoted through the use of a public education pamphlet and press releases discussing solid and household hazardous waste. A copy of the pamphlet is provided in Appendix 14-A. Section 12.2.3 provides details of the events and materials collected.

DOH WPD also provides educational opportunities for residents of the District to increase awareness of the proper disposal methods for household hazardous wastes.

In FY 2005, *De-Tox Your Home* materials were distributed during environmental education workshops and other community events. Hazardous waste information and Radon information was also distributed.

- In FY 2005, DOH WPD's Nonpoint Source video *River Connections* was shown at 3 workshops.

14.2.4 Pesticides, Fertilizer, and Pet Wastes Program

Performance Standard: The District continues to provide educational materials as part of its Integrated Pest Management/Nutrient Management Program.

Pesticides

DOH WPD has developed an education and outreach program entitled “*Integrated Pest Management/Nutrient Management.*” The purpose of the program is to better inform the public on the proper use, proper disposal, and safer alternatives to pesticides. The programs provide education and outreach activities designed to educate citizens about environmentally sound practices with regard to the use of pesticides in the yard or garden and the introduction of “good” pests into the garden.

- In FY 2005 DOH WPD distributed 517 brochures at teacher workshops and other related educational and outreach activities. The Division has an IPM video that it distributes along with supporting brochures.

District residents are educated on the proper application of pesticides through the IPM. This program gives residents guidance on how to choose an appropriate pesticide, how to choose a pest control company, and what regulatory requirements there are regarding commercial companies applying pesticides. This pamphlet also informs residents that there is a water quality impact associated with the application of too much pesticide.

Fertilizer

Through DOH WPD’s nutrient management program, the public is educated about the proper amount of fertilizer to use on a lawn. In addition to fertilizer use, this program addresses the proper way to mow, the use of mulches and the effects of applying too much mulch.

- In FY 2005 DOH WPD distributed 984 pieces of educational materials concerning fertilizers, such as Nonpoint Source brochures and videos.
- These materials were distributed to students and teachers during community events such as Green Day at Watkins Elementary School, Girl Scout events, Stoddard Environmental Education Day, Youth summits, and Environmental Education workshops.

- There were approximately 280 brochures provided to teachers who participated in the various workshops conducted under the Trees for Kids project.

Pet Wastes

DOH WPD has developed an education and outreach program entitled “Scoop Your Pet’s Poop.” This program is designed to inform citizens of their legal obligation to manage their pet’s waste and to explain the reasons why it is important to do so.

- In FY 2005, DOH WPD distributed 1,110 brochures and educational materials concerning pet wastes at conferences, youth summits, classroom presentations and educator workshops.
- 300 Pooper Scooper brochures were distributed during the Anacostia River Cleanup, 430 during the Anacostia Fair, 300 at the United Planning Organization Back to School Festival, 70 at the AREC open house and another 100 at the career days.

Currently there are laws in the District requiring pet owners to remove animal wastes. A brochure outlining the requirements of the law is available to registered pet owners to inform them that runoff from animal waste is a source of nutrient pollution in the waters of the District.

14.2.5 Industrial Facility Program

Performance Standard: The District provides industrial facilities educational materials, seminars and conferences regarding the proper handling and storage of chemicals.

DOH WPD performs outreach to industrial facilities through seminars and conferences for managers of industrial facilities. DOH WPD personnel use inspections to promote awareness of the proper methods of storage of chemicals for managers of industrial facilities. Based on what they observe on-site, the inspectors can make facility-specific recommendations to improve the facility’s compliance with storm water regulations. As the materials are available the inspectors may also use these opportunities to distribute prepared public outreach materials that still appropriately address the facility operations.

14.2.6 Construction Site Operators’ Program

Performance Standard: The District provides educational materials to construction site operators regarding sand filters and other structural BMPs.

DOH continues to distribute a video demonstrating the proper maintenance of the sand filter water quality structure, which is a commonly used BMP on construction sites in the District.

- In FY 2005, DOH WPD distributed 10 videos on the maintenance of sand filters.

DOH maintains a list of qualified storm water management facilities maintenance contractors registered to do business in the District. The list is made available to all persons responsible for the maintenance of individually owned private storm water management facilities. To ensure proper maintenance of storm water management facilities, DOH has established inspection procedure guidelines as required by District of Columbia Municipal Regulations, Title 21, Section 534.1. DOH policy requires the submission and approval of a work plan before restorative maintenance activity of the filter bed of any District sand filter facility can proceed.

14.2.7 Agency Cooperation Program

Performance Standard: District agencies work with local, regional, and federal government agencies, non-governmental agencies, and universities to prepare, promote, and distribute public educational materials.

The District continues to maintain partnership arrangements with regional and local organizations. A thorough discussion of partnerships and cooperative efforts, including public education, between the DOH and other federal, regional, and local agencies and organizations appears in the Nonpoint Source Management Plan II. These partnerships help promote storm water pollution control issues.

Regional Organizations

District agencies are currently working with the Interstate Commission on the Potomac River Basin (ICPRB), the Metropolitan Washington Council of Governments (MWCOC), and the Anacostia Watershed Restoration Committee (AWRC).

District agencies and the ICPRB have identified and developed information on toxics problems, and they have made plans with other agencies that have jurisdiction over upstream waters to work together on reducing the levels of toxics in the rivers.

Together with the AWRC, District agencies have improved water quality, wetlands, forest cover, and ecological integrity of fish habitat in the Anacostia Watershed, and trash removal.

Local and Federal Government Agencies

EPA is providing technical and program support to the Nonpoint Source programs of the District.

Through the DC Urban Initiative, the US Department of Agriculture Natural Resources Conservation Service (NRCS) began a soil erosion assessment for DC Parks and Recreation property throughout the District. NRCS has provided public outreach at various environmental fairs and training courses on stormwater management, and runoff from commercial and residential activities.

Watts Branch Stream Restoration: In FY 2005, DOH WPD worked with US Fish and Wildlife Service to finalize the stream assessment of this largest District tributary to the Anacostia River. This tributary is a priority watershed for the DOH WPD restoration program. The tributary currently fails to meet its designated uses for water quality and has a TMDL for sediments. DOH worked not only with the U.S. Fish and Wildlife Service (USFWS), but also with DDOT and local non-profit organizations such as Parks and People and the Anacostia Watershed Society in community outreach.

- In FY 2005, USFWS completed the 35% stage of the conceptual designs and DOH and USFWS began the iterative process of reviewing the plans with all stakeholders and moving forward with the designs. DOH will move towards construction once designs are completed.

Pope Branch stream Restoration: Due to the loss of Army Corps of Engineers funding, the DOH WPD worked with WASA and DC Parks and Recreation to ensure that the restoration project continues to move forward. The proposed project will restore both the eroded stream banks of Pope Branch as well as replace a compromised sewer line that runs through the Pope Branch stream valley and crosses the stream in several places.

- In FY 2005, an MOU that details the commitments of the various agencies was signed and funding was budgeted for the project. In 2006, WASA will hire a contractor to complete the stream restoration and sewer replacement/repair plans. It is expected that these designs will be complete and permitted by April of 2007.

US Department of Agriculture Natural Resources Conservation Service (USDA NRCS) LID Cooperative Agreement: The cooperative agreement between the USDA NRCS and DOH was signed by all parties in early 2005. Once the transfer of funds is complete to NRCS, DOH will begin to pick projects for technical review and then NRCS

will begin awarding contracts to subcontractors for implementation, until all funds are exhausted.

- In FY 2005, approximately 25 proposals were submitted for DOH technical review.

DOH and NRCS have drafted a MOU to complete the revision and updating of the District Soil Survey. The primary items agreed upon that are required and updated are:

1. Digital soil data that meets established USDA's standards:
2. Augment soil information in areas previously mapped as various phases of Udorthents, specifically in regard to: correlating Udorthents to soil series; inventorying soil properties in order to develop hydrologic soil groups in runoff curves and in the District storm water management program; and linear extensibility data for the Christiana soil map unit.

The National Park Service maintains federal land holdings that border District waterways. The National Park Service began restoration activities at the Kingman Lake Wetland, Kenilworth Marsh, Anacostia Fringe Wetlands, and Lower Anacostia Park, and continues to work on the Fort DuPont BMP Construction site and the installation of BMPs at the parking lot for the Anacostia Park.

The US Army Corps of Engineers was involved in the restoration activities at the Kingman Lake Wetland, Kenilworth Marsh, Anacostia Fringe Wetlands, lower Anacostia Park Habitat Restoration, and debris removal from the Anacostia River.

The US Geological Survey maintained gauging stations along Rock Creek and Watts Branch that provide data for the discharge monitoring program described in Section 15.0 of this report.

Universities

Universities in the District provided research and support services to the MS4 programs of the District government. These services included assessment of petroleum and hydrocarbons in groundwater, groundwater hydrology and wetlands, toxic organic compounds, educational videos and projects on nonpoint sources and pollution prevention. In addition, they provided interns for public educational and biological monitoring programs.

Howard University's Department of Engineering completed a study of best management practices for DDOT in October 2002. The Howard University recommendations of BMPs for inclusion in the District design standards is expected in early FY 2006.

Nonprofit/Environmental Group Partnerships

Rain Barrels in Anacostia Watershed: Using federal grant funds, DOH WPD worked with Community Resources/DC Greenworks to distribute rain barrels to households, non-profit organizations, and public buildings. The majority of these buildings were in the Anacostia watershed.

- In FY 2005, 67 rain barrels were distributed under this program.

Rain barrels were constructed and/or distributed at rain barrel workshops.

- In FY 2005, DC Greenworks in conjunction with Shaw EcoVillage held 11 workshops that were neighborhood based and had a few extra events that reached a much larger number of people such as Camp Riverview, the DC Green Festival, the Shaw Bike Fest, and a few youth presentations. In total over 450 adults and over 400 youth were educated on storm water run-off issues which include LID education and downspout disconnection information.

Schoolyard Conservation Sites: In partnership with the National Wildlife Federation (NWF), DOH WPD, using federal funds, began installing schoolyard conservation sites at schools throughout the District. Teachers at each school were trained in watershed education, low impact development, conservation landscaping, and procedures for effectively implementing environmental curricula. DOH WPD worked with NWF to install conservation sites at six schools, and plans to install the remaining five in 2005.

- In FY 2005, teachers were trained at the following schools in watershed education, low impact development, conservation landscaping, and procedures for effectively implementing environmental curricula. The teachers received 6 days of training and two 3 hour evening sessions. Teachers received curricula on nonpoint source pollution and its effects on the Chesapeake Bay and information on how to design and install garden habitats and utilize them for teaching purposes.
 - 15 teachers were trained at a Schoolyard Greening workshop at Seaton Elementary.

- 15 teachers were trained as a part of the DOH WPD Greener School, Cleaner Water Program.
- In FY 2005, 5 schools in the District had installed conservation sites.
 - Backus Middle School Bio-retention cells placed on parking lot to reduce and filter runoff. Outdoor lab to include raised beds, a butterfly garden and colorful native plants
 - Barnard Elementary Planters were installed along with a rain garden in an area that experienced significant erosion due to runoff from the street and sidewalk. Compacted soil was excavated and replaced with a special soil mixture to help improve the site's drainage.
 - Stoddert Elementary Created a habitat garden in an area with bare soil attracting birds and butterflies. They also setup a composting site and incorporated composting into the curriculum
 - Tubman Elementary Removed brick pavers and created a butterfly and raised bed garden. They also created an aquatic habitat with fish and wetland plants
 - Roosevelt High School Converted an old fountain into a pond for water quality and aquatic habitats. Installed a rain garden at the front of the school to collect runoff from the schools rooftop.

LID Outreach in Anacostia Gateway Neighborhood: DOH WPD worked with the Anacostia Watershed Society (AWS) to provide extensive public outreach on low impact development and Anacostia River water quality in the Anacostia Gateway neighborhood.

- In FY 2005, DOH WPD awarded a grant to AWS to educate the community about LIDs and install one rain garden.
- AWS and DOH WPD also worked with the National Park Service, WASA, and DDOT to design a rain garden at the entrance to Anacostia Park. DDOT will install the garden after completion of the plans.

- In FY 2005, AWS attended 16 meetings that included ANC Ward 8 meetings, Anacostia Garden Club, AWC, and Operation Hope.
- AWS participated in an interview with the radio station WPFW.
- Approximately 2,000 flyers were distributed in the Old Town area of Anacostia.

DPW worked closely with Keep Washington Beautiful, Inc. to place and maintain 40 learning terminals at select DC Public Schools sites. The terminals were utilized by the teachers and students to engage in research and instructional delivery in the area of environmental education. A listing of the terminal sites was provided in the 2004 Annual Report.

- In FY 2005, Keep Washington Beautiful continued to establish learning terminals in DC Public Schools.

DPW also worked with neighborhood groups to provide tools, trash bags and graffiti paint out kits for neighborhood cleanups under the Helping Hand Program.

- In FY 2005, 318 cleanups were provided through the Helping Hand Program.
- Similarly, DPW worked with neighborhood groups to provide block party cleanups per month.

The AWS Citizen Advisory Committee worked to improve water quality in the Anacostia. Previously, this group and DOH WPD organized a public workshop on low impact development.

- In FY 2005 AWS held two LID public workshops at St. Phillips Church.

An interagency and community task force, the Watts Branch Task Force, addressed impairments to Watts Branch. They coordinated restoration and clean-up efforts on Watts Branch, developed public outreach and education, improved communication between residents, and developed collaborative efforts.

The Pope Branch Citizens Group worked to improve water quality along Pope Branch by controlling erosion through various tree, shrub, and flower planting, and improvements to ground cover. This group was also directed on how to report illegal dumping activities

and arrange for bulk trash pickup, and received support from the Anacostia River Business Coalition (ARBC).

The Mayor's Environmental Council consists of public and private sector members who help guide the administration on specific environmental issues such as sustainable economic development, smart growth, transportation, environmental health and children, and reclamation, preservation, and protection of the Anacostia River.

A discussion of the roles of non-governmental Agencies is included in the Nonpoint Source Plan, which is in the 2004 Annual Report.

14.2.8 District-Wide Science Fair: Storm Water Awareness Award

As part of an ongoing effort to educate citizens about storm water issues facing the District, the Storm Water Administration and the MS4 Task Force gave the first Storm Water Awareness Award at the 2005 District-wide science fair. The intent of the award was to stimulate interest among students and teachers in storm water issues. Issues included the importance of reducing floatable trash, pesticides, pet wastes, fertilizers, sediments, and other pollutants in District watersheds such as, the Anacostia River, Potomac River, and Rock Creek. These reductions are critical to improving water quality and reducing toxins in the long term for the protection of aquatic life and drinkable water.

The 2005 Mathematics, Science, and Technology Fair was held at McKinley Technology High School on Saturday and Sunday, March 19-20th. Members of the MS4 Task Force participated in judging student projects and presenting the awards to two students whose projects best exemplified the scope of storm water-related issues in the District:

For the senior level division: The student whose project was entitled "Pesticides and Ghost Shrimp: A Lethal Combination" won the "Storm Water Awareness Award". Project activities included testing the biological responses through time of a small aquatic invertebrate to various concentrations of permethrin, a popular insecticide readily available to residents of the District for controlling pests in yards and homes. The student quickly learned that seemingly small concentrations of the chemical could cause irreparable harm to the shrimp. During our interview with her, the student stated that there is a need for public awareness of proper disposal of pesticides among residents who may be either unaware of the existing program to dispose of old pesticides or are apathetic to the idea. She also noted that residents might not be able to directly see the impacts their choices have on the aquatic environment. She

understood that runoff from lawns during storm events and dumping pesticides into sewer systems can be harmful to the aquatic environment. She also had a good understanding of the broader application of pesticides and their potential environmental impact if not applied correctly. The Alice Deal High School student received a cash award of \$200 and a certificate of achievement from the Storm Water Administration and MS4 Task Force.

For the junior level division: The student whose project was entitled “Water Testing” was the recipient of the “Storm Water Awareness Award”. This student tested water quality of the Potomac River mainstem during dry weather at eight sites from the upper Potomac River in West Virginia to the lower Potomac River in the District of Columbia (below Great Falls). The water quality parameters she measured included bacteria, lead, nitrates, nitrites, pH, hardness, and chlorine. She also observed the amount of litter floating in the river at all sites. She had speculated that pollution would increase as she tested water quality closer to urban areas. The student had a good understanding of the environmental pressures that affect water quality including urbanization and agricultural practices. She stated in her interview that both increases in impervious surfaces and an increase in the number of people in a certain area could have a great impact on water quality. She was aware of how pollutants are generally transported downstream through the watershed. This Hardy Middle School student received a cash award of \$100 and a certificate of achievement from the Storm Water Administration and MS4 Task Force.

14.2.9 Library Submittals

Performance Standard: The District places all Permit records and documents on file with the public library for use by the general public.

The Permittee has established a system to ensure that Permit records and documents are available for public review in a single location at the Martin Luther King, Jr. Public Library.

- In FY 2005, submittals included
 - All annual and semi-annual reports.
 - Annual Implementation Plans and the specific TMDL Implementation Plan for the Anacostia and Rock Creek Watersheds.

- Annual Discharge Monitoring Report
- In addition, DOH WPD has placed a copy of all IPM and Nutrient Management Information on file at the Martin Luther King, Jr. Library.

14.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

In urban areas, water pollution occurs when water, moving over land, picks up pollutants such as sediment, bacteria, nutrients, and toxicants and carries them to nearby waters. A cost-effective way to reduce water pollution from this storm water runoff is by preventing the pollution at the onset. Pollution prevention is more cost effective than remediation. DOH WPD accepts the premise that most citizens would protect their environment given the correct information. DOH WPD considers effective environmental education a natural complement to its regulatory functions. Realizing that habits formed early in life are more enduring, the outreach program has a major youth component.

DOH has raised awareness of point and nonpoint pollution sources in the community, and, prevention methods through its outreach to educational and community groups. These educational efforts begin with teacher training days, community outreach, and various fairs and festivals in the District. This methodology exposes children, at an early age, to their impacts on storm water surface runoff and discharges to the MS4 and District waterways. This effort seeks to develop a pollution prevention mindset and is more cost effective than developing ways of mitigating runoff.

15.0 STORM WATER POLLUTION CONTROL: MONITORING AND REPORTING REQUIREMENTS

This chapter summarizes the results of the DMR Report which covers the period from July 2005 to August 19, 2006. The complete discussion of the monitoring report are in the DMR submitted with this Annual Report.

To support the NPDES MS4 – Permit No. DC 0000221, sampling was completed within three subwatersheds: the Anacostia River, Potomac River, and Rock Creek. Nine sites were sampled within the Anacostia River subwatershed, seven sites were sampled in the Potomac River subwatershed and ten sites were sampled within the Potomac subwatershed. According to the permit, each site is to be monitored for at least three wet weather events per year. At sites with dry weather flows, dry weather screening samples are collected twice a year as part of the District's dry weather screening program. Sampling at these locations is ongoing.

Field measurements of temperature, pH, dissolved oxygen, and residual chlorine were taken at each sample location for each sampling event. Samples were brought back for laboratory analysis of additional parameters, which are listed in Table 4-1 of the 2006 DMR. The analyses of the water samples were used to calculate the annual pollutant loads for each sewershed sampled for both wet and dry weather events. These results are presented in Tables 15-1 to 15-3.

Each of the subwatersheds will be sampled on a four-year rotational basis, as required by the NPDES permit. This data will be used to generate water quality trends analyses for each subwatershed and for each sample station. Only the Anacostia River subwatershed has had more than one sample rotation. The DMR contains a discussion of water quality trends within the Anacostia River subwatershed.

**TABLE 15-1: LOAD ESTIMATES OF 12 POLLUTANTS FOR THE ANACOSTIA RIVER MONITORING STATIONS
(2005-2006)**

Parameters (lbs/year)												
Station	TSS	BOD	COD	TDS	TN	TKN	TP	DP	Cd ^a	Cu ^a	Pb ^a	Zn ^a
Stickfoot	548,000	312,000	814,000	1,270,000	17,600	11,300	2,800	1,670	ND	377	116	708
O Street	18,700	13,300	19,600	20,300	375	311	54.8	26.8	0.059	5.68	4.11	19.4
Anacostia High	129,000	84,800	160,000	286,000	6,780	5,170	663	315	ND	268	71.5	201
Gallatin	796,000	404,000	954,000	1,220,000	13,200	10,500	2,230	1,250	1.98	148	152	910
Varnum	947,000	1,830,000	4,020,000	1,400,000	59,600	48,600	8,850	1,880	ND	393	160	1,190
Nash Run	8,250	16,200	45,700	10,900	403	271	110	55.4	ND	6.49	1.51	22.7
East Capitol	23,200	48,800	194,000	85,100	3,080	1,950	482	231	ND	16	13.1	101
Ft. Lincoln	7,350	2,390	4,930	6,740	46.6	69.4	14.8	11.1	0.034	2.3	1.11	10.6
Hickey Run	98,700	46,200	174,000	71,700	3,010	2,120	170	99.5	ND	40.7	26.2	257

^aTotal recoverable metals

ND: non detectable

**TABLE 15-2. LOAD ESTIMATES OF 12 POLLUTANTS FOR THE POTOMAC RIVER MONITORING STATIONS
(2005-2006)**

Parameters (lbs/year)												
Station	TSS	BOD	COD	TDS	TN	TKN	TP	DP	Cd ^a	Cu ^a	Pb ^a	Zn ^a
Battery Kemble	12,700	4,320	19,100	33,100	311	285	105	73.4	0.035	5.93	0.58	17.3
Foundary Branch	1,510	4,030	9,150	12,400	643	220	154	53.9	0.045	3.06	0.57	4.63
Dalecarlia	103	289	998	2,570	34.3	28	5.41	4.94	ND	0.25	0.02	0.02
Oxon Run	6,800	14,200	21,200	41,100	758	317	76.9	44	ND	9.23	2.23	35.6
Tidal Basin	20,400	32,800	66,900	36,800	566	462	149	73.3	ND	16.5	3.28	24.4
Ship Channel	5,100	5,060	8,470	21,300	220	180	33.2	23.6	0.059	32.0	37.0	42.4
C&O Canal	1,320	4,700	8,660	43,300	277	203	34.4	28.5	ND	5.28	1.0	7.94

^aTotal recoverable metals

ND: non-detectable

**TABLE 15-3. LOAD ESTIMATES OF 12 POLLUTANTS FOR THE ROCK CREEK MONITORING STATIONS
(2003-2005)**

^a Total recoverable metals												
Parameters (lbs/year)												
Station	TSS	BOD	COD	TDS	TN	TKN	TP	DP	Cd ^a	Cu ^a	Pb ^a	Zn ^a
Ft. Stevens	4,050	6,990	10,400	14,500	402	216	37.3	24	ND	4.68	1.25	12.2
Military Rd.	8,340	3,200	14,400	14,200	328	185	28.2	19.3	0.042	4.19	1.52	11.8
Soapstone	25,400	16,900	61,200	269,000	4,810	1,810	331	278	0.523	58.2	17.3	161
Melvin Hazen	30,300	8,510	50,100	65,900	1,100	584	183	129	0.202	24.1	8.4	47.7
Klinge Valley	11,300	4,090	12,100	18,600	390	156	54.7	50.3	ND	16.2	25.2	11.6
Normanstone	1,970	410	2,300	7,420	111	59.7	12	7.92	0.022	3.32	0.58	3.71
Portal & 16th ^b	1,670	1,050	2,040	4,730	73.6	31.6	6.53	4.86	ND	0.81	0.25	3.48
Broad Branch ^b	109,000	64,300	127,000	632,000	8,100	3,350	674	704	1.07	132	36.5	177
Oregon and Pinehurst ^b	11,800	16,200	31,100	37,500	1,190	676	98.7	83.5	ND	8.35	1.74	14.2
Archbold ^b	20,400	3,520	32,700	58,200	1,030	465	94.2	41.3	0.094	23.5	11.1	32.4

^bnon-permitted sampling stations

16.0 STORM WATER POLLUTION CONTROL: STORM WATER MODEL USING A GEOGRAPHICAL INFORMATION SYSTEM

16.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

16.1.1 Permit Requirements

Part V of the Permit describes reporting requirements for the development of a Geographical Information System, GIS, storm water model.

16.1.2 Compliance Summary

The storm water pollution control storm water model uses a Geographical Information System to compile information concerning the District. Data compiled to date include: street maps, waterway maps, land use and zoning maps, the District's MS4 piping system, individual MS4 outfalls and accompanying sewersheds, field survey information concerning specific outfalls, and potential BMP location maps. Work continues on using the model to estimate pollutant loadings for the District's watersheds.

16.2 PROGRESS MADE IN DEVELOPING A STORM WATER MODEL AND GEOGRAPHICAL INFORMATION SYSTEM

Performance Standard: The District maintains a stormwater model of the District. The model has been developed using GIS information of the District. Specific GIS information regarding the MS4 system, outfall inspection, pollutant estimates have been added to the model. Each progress in expanding and improving the model is made in order to better model storm water pollution control in the District.

The District maintains a stormwater model of the District. The model has been developed using the Arc View platform with GIS information provided by District and federal government agencies. Basic geographic information compiled to date include:

- District boundaries and individual parcel information (based on the District's tax maps)
- Street maps and names, including, schools, parks, bus and train stations, federal buildings, and other features found in commonly available maps.

- Waterway and waterbody information
- Zoning information

GIS information specifically regarding the MS4 system has also been included.

- MS4 piping system as per the District counter maps
- Outfall information: location (using both street address and Global Positioning System [GPS] coordinates), size and type of pipe.
- Field verification information: verified GPS coordinates, photo of every outfall, presence (or not) of flow, condition of outfall, and chlorine level of flows present.

GIS information from District agency activities that are a part of the storm water compliance effort.

- DOH WPD information regarding construction review and inspection activities, location of green roofs, school yard and community group MS4 related projects.
- DOH WQD information regarding illicit discharge and inspection activities, educational activities and monitoring results.
- DPW information regarding street sweeping routes and location of joint cleanup activities (block parties etc.)
- DDOT information regarding proposed construction and BMP installations on roadway projects.
- WASA information on catch basin activities and maintenance work.

16.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

The District's storm water model provides an important management tool for the coordination and evaluation of the storm water pollution control effort. As the model continues to develop, the geographic data coupled with the monitoring data of the previous section will provide information regarding the District area of greatest need. In this manner, as a management tool, the storm water model helps to meet the requirements of the CWA.

17.0 HICKEY RUN STORM WATER POLLUTION CONTROL USING THE TOTAL MAXIMUM DAILY LOAD

17.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

17.1.1 Permit Requirements

The Permit in Part VI describes the permit requirements relating to the Hickey Run TMDL.

17.1.2 Compliance Summary

The storm water pollution control program for Hickey Run emphasizes compliance with the Hickey Run TMDL for oil and grease. Activities emphasize:

- Monitoring of Hickey Run for oil and grease on a rotating basis with the Anacostia watershed monitoring stations,
- Development of a cooperative agreement with the National Arboretum (NA) for the installation and maintenance of the BMP.
- Develop a detailed post construction BMP monitoring plan of sampling and protocol requirements, and
- Complete the final *Hickey Run BMP Compliance Plan*.

Section 17.2 below provides details regarding these activities.

17.2 HICKEY RUN TMDL ACTIVITIES

Hickey Run is a small tributary to the Anacostia River. The headwaters of Hickey Run are part of the MS4 with four outfalls located close together. Through these four outfalls, the storm sewer gives way to an open stream channel. The creek then flows through the National Arboretum (NA) for less than a mile before meeting the Anacostia River.

Figure 17-1 illustrates the Hickey Run sewersheds and outfalls.

Illegal oil and grease dumping has historically plagued the stream. Above the open stream, there are a number of transportation-related facilities in the watershed (gas stations, repair shops, etc.) many of which do not properly dispose of waste oil. Also, oil and grease flush into the storm sewer system during rainstorms.

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.

17.2.1 Monitoring

Performance Standard: The District monitors a representative outfall in the Hickey Run watershed as part of the storm water monitoring program. The results are presented in the annual Discharge Monitoring Reports.

Monitoring for oil and grease at the 33rd and V Street, NE, Hickey Run MS4 site, is to be performed on a rotating basis in the same year as the other Anacostia River MS4 locations. No wet- or dry-weather samples were collected from the Hickey Run station during FY 2005 because the permit did not require the District to sample this station. However, the second round of annual sampling at Hickey Run and Anacostia River subwatershed stations commenced in FY 2006.

The Permit stipulates that ambient water quality monitoring of Hickey Run should continue at its current location. Part VI Paragraph 1 states that “*in the event, monitoring station THRO1 downstream on Hickey Run shows violations for oil and grease (above water quality standard criterion of 10 mg/l), the Hickey Run MS4 site and BMP shall be sampled in accordance with the Permit’s Monitoring Program on an annual basis*”. To date the ambient sample has not exceeded the water quality standard.

17.2.2 Cooperative Agreement With National Arboretum

Performance Standard: The District has signed a MOU with the NA for the installation of BMPs within the NA. The conceptual design, and construction of BMPs for the NA is being handled by the USDA ARS.

In July 2005, the District signed a MOU, with the USDA ARS at the NA for the purpose of improving the water quality of Hickey Run. In the MOU the ARS agreed to hire a contractor to evaluate the recommendations made previously, prepare a design package reflecting the agreed upon alternative and install the system. ARS has contracted Earth Tech, Inc. as the primary subcontractor and Ecologix as a stakeholder subcontractor to provide a conceptual design for a BMP device or system to be installed on Hickey Run.

- In signing the MOU, the ARS agreed to hire contractors to: (1) evaluate previous recommendations of the Center for Watershed Protection to determine the optimal approach for removing floatable debris and oil and grease from Hickey Run; (2) prepare a design package reflecting the agreed-upon optimal approach for removing floatable debris and oil and grease from Hickey Run; and (3) install the systems.

17.2.3 Design of Hickey Run BMP and Monitoring Plan

Performance Standard: The District is cooperating with the NA for the design and installation of BMPs within the NA. The conceptual design and construction of BMPs for the NA is being handled by the USDA ARS.

- ARS has contracted with Earth Tech, Inc., through Naval Facilities Engineering Command (NAVFAC) Washington to provide a conceptual design for “...a stormwater control structure device/pollution abatement system to be installed on Hickey Run...” with the emphasis of the conceptual design on “...environmentally sensitive management of stormwater and related natural resources.” The system “...shall meet regulatory requirements for stormwater discharges, i.e., removing floatable solids, oil and grease from the New York Avenue outfall, which discharges to Hickey Run.”
- In January 2005, Earth Tech completed the *Draft Final Permit Identification Summary Hickey Run Stormwater Pollution Abatement Project*. This document discusses the permits required to install one or more BMPs in the NA.
- In December 2005, Earth Tech completed the conceptual design for the installation of BMPs within the NA. Details are:
 - Two proprietary BMPs of the same size will be installed in parallel just downstream of the NY Avenue outfall. Maximum treatment will be the 6-month storm, or 98 cfs.
- It is anticipated that the BMPs will impact the levels of several pollutants found in Hickey Run, including
 - Oil and grease: 80-90% of free floating oil (current TMDL is 27 pounds per day)

- Floatables: 90% or more of floatable trash (current load is estimated at 10 gallons per day)

The assessment done by the United States Fish and Wildlife Service (USFWS) on Hickey Run watershed, mainstem and its tributaries has been approved by DOH but remains under review and with some issues from the NA staff. USFWS has responded in writing to all concerns and the District is awaiting acceptance of the assessment by NA.

The USFWS assessment yielded the following findings: The majority of tributaries, except where piped, appear physically unaltered by channelization activities and free to adjust naturally. The Service delineated twenty-eight separate stream reaches, representing twelve different Rosgen stream types, based on geomorphologic character and stability conditions. Instream habitat conditions are fair to good in most tributaries with some poor areas. The riparian buffer ranges in width from 20 to 1,300 feet and consists mostly of mature woodlands with some areas consisting of woody shrubs and non-native species. Overall, the tributaries are relatively stable (72 percent vertically stable, 68 percent laterally stable), and only slightly incised (60 percent rated as low to moderate), but have a very high potential sediment supply on a majority of the tributaries (51 percent). Recovery potential of the degraded areas is poor and will only occur if the cause of the instability is corrected.

The Service partitioned the main stem of Hickey Run into six reaches based on geomorphologic character and stability conditions and identified three Rosgen stream types. The entire main stem has been physically altered and nearly half has been hardened into place with either large rip rap or concrete. In most areas where it has not been hardened, it is actively eroding (67 percent laterally and 47 percent vertically adjusting). Fifty seven percent of the reaches are severely incised and entrenched. Instream habitat diversity and cover quality varies from poor to moderate. Water quality is impaired by urban runoff, sewer line leaks, and past petroleum leaks. The riparian buffer varies from mowed grass to wide, mature woodlands. The potential sediment supply is very high. The Service predicts approximately 1,100 tons of sediment erodes from the stream banks of Hickey Run annually. The potential for Hickey Run to recover on its own, given its current condition is poor.

Changes in the watershed and physical alterations to the Hickey Run are the primary causes for instability, poor water quality and aquatic habitat problems. High percentages of impervious surface in the watershed, along with conversion of many of the tributaries to piped or concrete-line storm drains have altered Hickey Run's natural hydrology. Base

flows (groundwater derived flow) are lower than in a predominantly forested or agricultural watershed, and storm flow peaks are of greater intensity but shorter duration (flashiness). These higher flows and greater velocities have caused and are still causing stream erosion and channel incision throughout Hickey Run.

The Service derived Hickey Run restoration costs based on restoration costs developed as part the Oxon Run Stream Restoration Concept Development (Shea, et al, 2004). The restoration costs include construction costs only and are applied on a linear foot cost at the rate of \$230.00. Preliminary restoration costs for Hickey Run are \$1.2 million. The Service will refine the restoration costs during the design phase as details of restoration solutions and their locations are finalized.

17.2.4 Preparation of the Final Hickey Run Action Plan

In October 2002, the District prepared a draft MS4 management plan for the four Hickey Run sewersheds titled, "*Hickey Run Action Plan to Comply with MS4 Permit Requirements.*" A copy of the draft plan text is presented in Appendix 17-B of the 2004 Annual Report. This plan reviewed and evaluated data, and provided recommendations for structural and non-structural BMPs and education programs and activities designed to reduce oil and grease loading from the MS4 outfall to Hickey Run.

The 2002 *Hickey Run Action Plan* evaluated BMPs that would reduce pollutants including oil and grease discharged from the MS4 to Hickey Run. The results presented were based on work by The Center for Watershed Protection, which conducted an evaluation of BMPs that could be potentially installed in Hickey Run near New York Avenue. A structural BMP consisting of a centrifugal separation device as the primary treatment combined with a netting trash rack was recommended. When coupled with supplemental sorbents the device is able to treat oil and grease at low rainfall intensities.

Under the current MOU Earthtech Inc has been retained under contract to design and build a BMP at the New York Avenue outfall. In addition, Ecologix has been hired specifically to engage every possible stakeholder in the community, federal partners, non-government organizations etc. Every stakeholder will have a chance to meet with Ecologix to discuss their concerns. At these junctures, stream assessment and potential restoration work, as well the construction of the BMP, will be brought up for discussion by DOH.

The Final *Hickey Run Action Plan* will be represent a composite of

- The MOU developed with the NA,
- The BMP design by Earthtech Inc.,
- A summary of the public response to the BMP design, and
- A description of the BMP monitoring plan.

The completion date of the final *Hickey Run Action Plan* will be dependent upon the timetable and completion of the above activities.

17.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

The Hickey Run Watershed provides a sub-watershed to model the impacts of the SWM program. The watershed has been monitored as part of the Anacostia watershed rotation, has one or more BMPs in the design stage, and has been subject to an extensive educational awareness campaign under the EE-CARS program. In this manner the Hickey Run watershed provides a management tool which helps to both assess the effectiveness of the District's SWM program and meet the requirements of the CWA.

18.0 TOTAL MAXIMUM DAILY LOADING WASTE LOAD ALLOCATION IMPLEMENTATION PLANS

18.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

18.1.1 Permit Requirements

Part IX.B of the Permit requires the District to submit implementation plans to reduce discharges consistent with any applicable EPA-approved waste load allocation (WLA) component of any established TMDL.

18.1.2 Compliance Summary

The August 19, 2004 Permit specified that the Anacostia Watershed TMDL WLA Implementation Plan Watershed be submitted to EPA within six months of the effective issuance of the Permit and that the Rock Creek Watershed Plan be submitted within 12 months.

In compliance to the Permit,

- The Anacostia TMDL Waste Load Allocation Implementation Plan was submitted to EPA on February 19, 2005.
- The Rock Creek TMDL Waste Load Allocation Implementation Plan was submitted to EPA on August 19, 2005.

These plans propose an integrated approach to improve removal efficiencies of current SWM Program activities and to introduce additional programmatic and structural BMPs to reduce loading of pollutants of concern in the MS4 discharges to the Anacostia and Rock Creek watersheds. Six major components were included as part of the TMDL Waste Load Allocation Implementation Plans.

- **Street Sweeping:** - Target improvements in equipment and scheduling within the existing street sweeping program. This will result in improved collection of fine particulates and associated pollutant waste loads from streets and alleys within the Anacostia and Rock Creek areas.
- **Catch Basin Cleaning:** - **Anacostia:** Develop a pilot project to implement more effective catch basin cleaning utilizing higher efficiency equipment within a portion

of the Anacostia MS4. In addition to increased pollutant removal through more effective cleaning and documenting the improvements in waste load removal efficiency, a secondary goal of this pilot study is to develop an optimized cleaning schedule for the District's MS4 catch basins.

- **Rock Creek:** Evaluate the Anacostia pilot project and if needed, expand the pilot project to Rock Creek by 2010.
- **Inspection and Enforcement:** - Expand support to the existing inspection and enforcement programs including assessing and providing an improved program for locating illicit MS4 connections. The outcome will be additional reduction in pollutant loadings to the MS4 from illegal dumping, illicit discharges, and other illegal activities.
- **Public Outreach:** - Expand public education to existing audiences; identify groups and organizations for target education and outreach. The goal of this component are enhanced public awareness of storm water pollution issues and increased direct participation in reducing loadings of pollutants of concern to the Anacostia and Rock Creek MS4.
- **Constructed LIDs and BMPs:** - Establish a construction program coordinated with on-going street and road repair and reconstruction projects to build and maintain structural BMPs/LIDs. Emphasis will be placed on LID BMPs such as biofilters, bioinfiltration devices, and redirecting runoff away from the MS4 to vegetated areas. The majority of structural BMP construction will be focused on the Anacostia MS4 area in the near term, while specific projects identified in the Rock Creek MS4 will be evaluated and may be constructed based on the cost effectiveness, public input, and schedule and budget requirements. Included in this component is a matching-fund incentive program to encourage individual citizens and organizations to directly implement LID projects.
- **Evaluation:** - Continue the Permit-required MS4 monitoring of the Anacostia and Rock Creek watersheds, and develop additional monitoring as necessary to document innovative techniques and data specific to conditions in the District. Evaluations will be conducted using the monitoring data and the load estimates as discussed in Section 15.

18.2 ACTIVITIES UNDER THE TMDL WLA IMPLEMENTATION PLANS

During FY 2005, the District completed the two TMDL WLA Implementation Plans required under the permit. Upon approval of the plans by EPA, the District will begin planning activities for specific projects and activities proposed in the plans for implementation beginning in FY 2007.

18.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

The District is continuing to develop watershed-specific implementation plans for two of the District's major watersheds, Anacostia River and Rock Creek. The implementation plan will discuss the level of effort needed to meet the TMDL waste load allocation determined for the watershed. This plan will be used as a management tool to both direct future storm water efforts and estimate the anticipated costs of the activities. In this manner, the implementation plans help to meet the requirements of the CWA.