

VII. Additional Permit Reporting Requirements

VII. (A) Proposed Changes to the Stormwater Management Program

The county's Department of Public Works (DPWES) is leading the effort to develop watershed management plans for all 30 watersheds within the county. Watershed plan development for entire watersheds, sub-watersheds, and/or groupings of watersheds is anticipated to be completed over the next three to five years. The watershed plans are expected to provide an assessment of management needs, encourage public involvement, and prioritize the implementation of needed capital improvements within each watershed.

The county is has completed field studies of all stream valleys, providing an assessment of management needs and a prioritization of solutions within each watershed. These are being used to help develop Watershed Management Plans. The county has also completed the field identification of all perennial streams, thus ensuring that these streams received designation as Resource Protection Areas (RPA) under the Chesapeake Bay Preservation Ordinance. In addition, the county is conducting long-term biological monitoring and watershed water quality monitoring to establish trends, to verify the effectiveness and adequacy of stormwater management controls, and to identify areas of water quality improvement or degradation.

Recommendations from the ongoing Stormwater Needs Assessment Program (SNAP) will form the basis for overall stormwater program changes over the next several years.

Regional Pond Study

In February 2004 the draft Implementation Plan for Stormwater Management was completed with recommendations to continue working in the following action areas:

- Develop and implement a countywide watershed management planning program
- Develop a comprehensive Stormwater Policy and Manual
- Encourage public participation in stormwater management in Fairfax County
- Ensure a dedicated/comprehensive funding source
- Conduct project evaluations based on social, economic, and environmental issues

Background

In 2002, county staff formed a multi-agency committee to develop a unified position on the use of regional ponds as well as alternative types of stormwater controls as watershed management tools. During 2003, the Regional Pond Subcommittee provided recommendations regarding the use of regional ponds as well as other innovative and non-structural techniques as part of watershed management. The focus of the effort was to determine in a deliberate and comprehensive way whether modifications to current practices, policies, and regulations would be beneficial. After much deliberation, research, and consultation with the public and stakeholders, the subcommittee identified 61 recommendations to improve Fairfax County's stormwater management program and to clarify the role of regional ponds in that program. The general consensus is that regional ponds do play a role in the county's stormwater management program but their design needs to address several ecological, economic, and social concerns while working in concert with better site designs and low impact development practices. Several of the recommendations are being implemented and will also address the need to make modifications to the county's Public Facilities Manual (PFM), stormwater policies, codes, and ordinances. The results of all of these efforts are expected to have significant impacts on the stormwater management program.

VII. (B) Revisions, if Necessary, to the Assessments of Controls and the Fiscal Analysis of the Effectiveness of New Controls Established by the Stormwater Management Program

Results of the monitoring efforts and field screening activities indicate that the stormwater controls in Fairfax County generally maintain water quality and discharges in compliance with the MS4 permit requirements. As the county approaches build-out conditions, it has become increasingly challenging to mitigate the impacts of impervious area and nonpoint source pollution on streams. The Stormwater Management (STW) business area will need to expand in order to adequately address this increasing challenge. However, several efforts through the existing stormwater management program are helping to reduce or minimize water quality impacts such as: the mandate of controls (BMPs) by the Chesapeake Bay Preservation Ordinance; development and implementation of Comprehensive Watershed Management Plans; development of an extensive retrofitting program for existing developed areas; and changes to current stormwater management codes, policies, ordinance and guidelines.

VII. (C) Annual Expenditures for the Reporting Period

Department of Public Works and Environmental Services (DPWES)

The following cost information of stormwater spending in FY2004 are not budget numbers but an estimation of spending, demonstrating how stormwater costs are distributed across the agency. They are broken down into Stormwater Planning, Maintenance and Stormwater Management, and miscellaneous Public Works.

The Stormwater Planning Division total costs were approximately \$5,203,000. Major activities include: implementation and execution of stormwater control policies, developing the Watershed Management Plans, the Countywide Watershed Protection and Restoration Strategy, a long-term watershed and water quality monitoring program, and a long term biological monitoring program; retrofitting developed areas with water quality control facilities; designing facilities for urban flood control and stormwater management; implementing the Regional Stormwater Management Plan; conducting public outreach and education; providing support for the dam safety program; conducting dry and wet weather field screening; conducting industrial high risk and floatables monitoring; and preparing the annual report.

The Maintenance and Stormwater Management Division total costs were approximately \$5,143,000. Major activities include: Maintenance and inspection of stormwater management facilities; inspection of privately maintained stormwater management facilities; and engineering support and program management. Inspection includes all the publicly maintained stormwater management ponds, the PL-566 dams, and approximately 20 percent of the privately maintained stormwater management facilities. Engineering inspection of the public ponds and mowing are included in maintenance.

Additional major program costs associated with DPWES were approximately \$1,405,000. Major activities include: general code development and review; inspection of new development stormwater systems; erosion and sediment control program; dam safety program; emergency reported maintenance; capitol improvements; and land easements and right-of-way acquisition.

The total costs associated with stormwater management for FY2004 were approximately \$11,751,000. The Watershed Community Needs Assessment and Funding Options Study recommends an increase in dedicated resources, targeting capital improvements and maintenance enhancements, and ranges from \$28,000,000 to \$52,000,000 over the next five years. This approach should allow the county to expand the level of service for stormwater to achieve the goals and outcomes defined in protection strategies,

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both regulatory and voluntary, as stated in the Stormwater Management (STW) business area's Strategic Plan, and in the county's Environmental Agenda. It will also provide an expansion of the stormwater management programs to reflect changing service levels, increased infrastructure inventories, unfunded mandates, and emergency events.

Other costs not directly associated with stormwater management but of importance to the stream environment are incurred by the Division of Solid Waste Disposal and Resource Recovery, DPWES. This division is responsible for the operation of the I-95 Landfill located at 9850 Furnace Road in Lorton, Virginia, and the I-66 Transfer Station Landfill (closed), located at 4618 West Ox Road in Fairfax, Virginia. Annual VPDES expenditures are estimated to be \$30,000 for the I-95 facility and \$17,000 for the I-66 facility (closed). In addition, this division operates the Household Hazardous Waste program, which costs approximately \$500,000 annually.

Department of Planning and Zoning (DPZ)

There are currently three full-time professional positions in the Environment and Development Review Branch, DPZ, devoted to environmental planning. Additional staff resources from other DPZ branches or divisions will occasionally address water quality issues. A fourth environmental planner position was authorized during FY 2005 and should be filled by the end of FY 2005. The environmental planning function in DPZ was funded at approximately \$200,000 in FY 2004. A similar budget allocation was established at the beginning of FY 2005; this amount was increased during FY 2005 to provide for a new environmental planner position.

Northern Virginia Soil and Water Conservation District (NVSWCD)

All technical and educational programs of the NVSWCD are considered to benefit water quality in Fairfax County. The personnel and operations budget for calendar year 2004 was approximately \$437,712, with Fairfax County contributing \$314,760 and the state contributing \$82,990. Several grants were received, including \$600 for the stream monitoring program and \$9,800 to provide technical assistance on stream projects. In addition, the value of volunteer services provided to Fairfax County is approximately \$220,696, of which \$95,698 is contributed by stream monitors.

Northern Virginia Regional Commission (NVRC)

The NVRC estimated budget expenditures related to stormwater management in Fairfax County include: Four Mile Run Program (Fairfax County share) \$12,021 for FY 2003 and \$12,697 for FY 2004; a DEQ grant for a Four Mile Run Bacteria TMDL Implementation Plan for \$31,110 (11/02–4/04); Occoquan Nonpoint Pollution Management Program (Fairfax County share) \$52,046 for FY 2003 and \$42,351 for FY 2004; a DEQ grant of \$60,000 for TMDL studies in the Occoquan watershed (11/02–4/04) and \$2,923 for Occoquan Meteorological Equipment purchase. A DCR grant of \$16,530 has supported adaptation of "Tributary Strategies Scenario Builder" software from Maryland for use in the Occoquan watershed as a tool to guide BMP implementation choices (1/03 – 4/04). Just over \$25,000 from public and private sources, including \$15,000 from DCR and \$5,000 from Fairfax County Water Authority, has supported adult and student watershed education projects including development and release of a film and curricula on the history of and the importance of preserving the Occoquan as a source of drinking water (FY 2003 and FY 2004). NVRC received \$35,000 through a grant from DCR and matched \$34,152 in NVRC contributions to produce the LID film and collateral materials. The On-Site Wastewater Treatment project was funded through \$17,325 in DCR grant monies with \$17,325 in NVRC contributions. Lastly, the Regional Pollution Outreach Strategy is part of the NVRC Coastal Program that is funded through \$27,000 in NOAA funds and a \$43,500 NVRC match.

Reston Association (RA)

In 2004, RA spent over \$250,000 on watershed and stormwater management initiatives including: continued implementation of the Reston Watershed Management Plan; lake, pond, dam, and stream

maintenance; shoreline and stream bank stabilization; erosion and nutrient control project design and implementation; lake and stream water quality monitoring; technical/professional consultation; educational programs and workshops; and development and distribution of watershed improvement educational literature.

VII. (D) Identification of Water Quality Improvements or Degradation

Overall, the stormwater control program has been effective in achieving compliance with the permit to date. However, it is anticipated that the increased nutrients (phosphorus and nitrogen) and sediment reductions as part of the proposed Potomac River Basin Tributary Strategy will place increased demands and requirements on the county's MS4 to achieve the necessary allocations and pollutant levels in the effort to restore the Chesapeake Bay. The detailed levels of pollutant reductions anticipated through the Tributary Strategy have not yet been determined for localities such as Fairfax County. The impacts of pollutant reduction requirements will be the focus of future collaborative efforts with the state at which time capital improvements and funding needs can be better determined.

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Summary

Through the collaborative efforts of numerous county agencies, non-government organizations, and volunteer groups, Fairfax County has been able to maintain an effective stormwater management program that has satisfied the requirements of the VPDES Phase I permit for the last eight years. Participation by non-government agencies in stormwater management plays a significant role in achieving this. During 2004, the stormwater management program has focused on development of the Watershed Management Plans; the Perennial Stream Survey and Mapping; long-term watershed monitoring program; long-term biological monitoring; infrastructure mapping, inspections and maintenance; retrofitting developed areas with water quality control facilities; and more rigorous public involvement, outreach and education.

The development of the watershed management plans for all 30 watersheds, including sub-watersheds and/or groupings of watersheds, is in process and will continue over the next three to five years. The overall goal is to provide a consistent basis for the evaluation and implementation of solutions for protecting and restoring the receiving water, the ecological systems, and other natural resources of the county. Six watershed management plans have been started and the Little Hunting Creek Watershed Plan has been approved by the BOS. The implementation of recommendations from these plans is the next step and will require substantial capital investment to accomplish. This effort has commenced through existing and anticipated increased budget allocations towards stormwater. The development of these plans, combined with an active community and dedicated county staff, will be a cornerstone in “*Protecting our land and our water*” —the slogan of the Stormwater Management (STW) business area. The overall goal is the improvement of the state of our watershed and environmental quality, the protection of public health, and, where necessary, restoration of the integrity of natural resources.

The stormwater monitoring program has been expanded to include a paired watershed monitoring component to evaluate the effectiveness of stormwater controls and BMPs. In addition, a wet weather screening and floatables monitoring component and a high risk and industrial monitoring component have been implemented since 2002.

There are nineteen Category 5 waterbodies (impaired—requiring a TMDL) with drainage areas in Fairfax County included in DEQ’s Virginia Water Quality Assessment 305(b)/303(d) Integrated Report (August 2004). According to DEQ’s current schedule, seven waterbodies require TMDL studies to be completed by 2010, nine require studies to be completed by 2014, and three are to be completed by 2016. In addition, the threat of a Chesapeake Bay and Potomac River Basin-wide TMDL looms if mitigating efforts do not reverse the existing water quality impairment to the Bay by 2010. In light of this, several regulatory actions could be imposed on localities, including Fairfax County, to implement additional corrective measures and curtail development until the impairment to the Bay is alleviated. It is speculated that the MS4 permit will become the mechanism through which increased water quality requirements will be enforced.

STW’s core leadership team, which was formed in 2001 to help define long-term strategic planning and thinking for stormwater management in the county, updated the strategic plan for 2004. This core leadership team will continue to pursue the implementation of action steps from the strategic plan for STW. It is generally recognized that in the future STW will be increasingly challenged to achieve full compliance with changing permit requirements and increasing state and federal mandates as a result of Chesapeake Bay commitments, the state’s Tributary Strategy, and TMDLs. Strategic efforts will have to focus on how to achieve a reliable and dedicated funding source to better support the increasing demand to improve the ecological health of our watersheds and preserve the quality of life for the community.

Acronym List

ANS: Audubon Naturalist Society
BMP: Best Management Practice
BST: Bacteria Source Tracking
CAP: Corrective Action Plan
CASH: Citizens Alliance to Save Huntley
CBLAB: Chesapeake Bay Local Assistance Board
CBLAD: Chesapeake Bay Local Assistance Department
CBPO: Chesapeake Bay Preservation Ordinance
CCTV: Closed Circuit Television
COG: Council of Governments
DCR: Department of Conservation and Recreation
DEQ: Department of Environmental Quality
DPWES: Department of Public Works and Environmental Services
DPZ: Department of Planning and Zoning
E&I: Extension & Improvement
E&S: Erosion and Sediment
EFID: Environmental and Facilities Inspection Division
EHD: Environmental Horticulture Division
EMC: Event Mean Concentration
EPA: Environmental Protection Agency
EPCRA: Emergency Planning and Community Right-To-Know Act
EQC: Environmental Quality Corridor
ESI: Engineers and Surveyors Institute
FCPA: Fairfax County Park Authority
FCPS: Fairfax County Public Schools
FRD: Fire and Rescue Department
FMD: Facilities Management Division
FY: Fiscal Year
GIS: Geographic Information System
GMU: George Mason University
HHW: Household Hazardous Waste
HMIS: Hazardous Materials and Investigative Services Section
ICPRB: Interstate Commission on the Potomac River Basin
LBWID: Lake Barcroft Watershed Improvement District
LID: Low Impact Development
MOU: Memorandum of Understanding
MRF: Materials Recovery Facility
MS4: Municipal Separate Storm Sewer System
MSMD: Maintenance and Stormwater Management Division
MSW: Municipal Solid Waste
MWCOC: Metropolitan Washington Council of Governments
NPDES: National Pollutant Discharge Elimination System
NPS: Nonpoint Source
NRCS: Natural Resources Conservation Service
NVBIA: Northern Virginia Building Industry Association
NVCT: Northern Virginia Conservation Trust
NVRC: Northern Virginia Regional Commission
NVRPA: Northern Virginia Regional Park Authority

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NVSWCD: Northern Virginia Soil and Water Conservation District
NWI: National Wetland Inventory
OCF: Office of Capital Facilities
OSDS: Office of Site Development Services
PDD: Planning and Design Division
PH&F: Pesticide, Herbicide & Fertilizer
RA: Reston Association
ResWAG: Reston Watershed Action Group
RMA: Resource Management Areas
RPA: Resource Protection Area
SCRAP: Schools County Recycling Action Plan
SPS: Stream Protection Strategy
STW: Stormwater Management business area
SWMP: Solid Waste Management Program
SWPD: Stormwater Planning Division
TMDL: Total Maximum Daily Load
USDA: United States Department of Agriculture
USGS: United States Geological Survey
VDACS: Virginia Department of Agriculture Consumer Services
VDOF: Virginia Department of Forestry
VDOT: Virginia Department of Transportation
VPDES: Virginia Pollutant Discharge Elimination System
WID: Watershed Improvement District
WQIF: Water Quality Improvement Fund

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Department of Public Works and Environmental Services
12000 Government Center Parkway, Fairfax, Virginia 22035