

IV. Strategic Initiatives, Policy, Management, and Emergency Response

This section discusses stormwater management strategic initiatives, policy, pesticides, landfill management, and emergency response related to the effort to respond to the stormwater regulatory challenges faced by the county.

IV. (A) Strategic Initiatives

The following are a compilation of those key DPWES Strategic Initiatives FY2004 identified in the Stormwater Management (STW) business area strategic plans and other department initiatives.

Implementation New Environmental Technologies in Capital Projects

Rain gardens are under construction as part of the Fairfax Center Fire Station project. Rain gardens are also included as part of the design of the Crosspointe Fire Station which will be ready for construction within the next several months. The use of rain gardens will be considered as plans are developed for other county facilities. The use of rain gardens continues to become a more acceptable alternative for meeting BMP requirements.

Outreach, Partnering, and Public Education

DPWES is collaborating with neighboring jurisdictions for uniformity in interpretation of building code requirements, common understanding of environmental regulations, and a shared vision on alternative energy sources, streamlining component, etc. DPWES is in the process of gathering the erosion and sediment (E&S) control regulations and policies of the neighboring jurisdictions of Loudoun, Prince William, and Stafford Counties. An evaluation and comparison of each of these neighboring jurisdictions' policies and regulations with Fairfax County's will be made by April 2005. Based on the results of the comparison, a determination will be made if there is any need, merit, or interest in developing more uniform regulations and enforcement policies. DPWES will work with the development stakeholders to create a common understanding on land development's link to environmental protection. DPWES has created several committees to improve working relationships with industry including the Fairfax Committee of Engineers and Surveyors Institute (ESI) and a Fairfax chapter of Northern Virginia Building Industry Association (NVBIA). Code modifications and environmental objectives are vetted through these groups. Over the last six months these groups have participated in developing requirements to address E&S issues, adequate outfall, and perennial streams. These are ongoing efforts to work in close collaboration with the development industry and the environmental stakeholders.

Assurance of Adequate Service Levels and Financial Management

DPWES is exploring options to stabilize the funding level for stormwater management in order to ensure that stormwater strategies can be implemented. DPWES will develop a funding strategy for stormwater management programs to reflect changing service levels, increased infrastructure inventories, unfunded mandates, and emergency events. The service levels for the stormwater management programs are currently being evaluated through a study known as the Fairfax County Watershed Community Needs Assessment and Funding study. A funding strategy is being developed for the stormwater programs as part of a service level evaluation. This study is being prepared by AMEC Earth and Environmental, Inc. The study identifies types of stormwater services and levels of services provided by Fairfax County. In addition, this assessment compares these current levels of service against a benchmark of similar communities in the United States in order to show how Fairfax County compares in relation to these other programs. The service gaps, issues, and needs with alternatives are identified to improve the current service level. Funding options for the resource needs were provided in this study. A committee appointed by the Board of Supervisors (BOS) is reviewing this report and developing recommendations on the

needs assessment and proposed service levels for the stormwater programs. The committee's report is to be presented to the BOS on March 28, 2005, for consideration in the Fiscal Year 2006 Budget.

Service Delivery

DPWES is improving service response and customer satisfaction of the land development process by reducing its complexity and will partner with the Engineering Standards Review Committee (ESRC). In 2004, an initiative was started to incorporate the use of Low Impact Development (LID) practices in the Public Facilities Manual to address and mitigate the impacts of stormwater associated with development. This initiative is to identify six or more LID practices that can be incorporated into the PFM for immediate application and using standard submission requirements with new development plans. The ESRC and development engineers are major partners in this initiative. A stakeholders' forum is scheduled for March 9 and 16, 2004, for review and input of potential LID practices for immediate inclusion with the PFM.

Watershed Management

DPWES is implementing a comprehensive watershed management program that will meet the state's MS4 permit requirements. The first watershed plan, for Little Hunting Creek, is complete and was presented to the BOS on February 7, 2005. Plans are being developed to implement some of the measures identified. The second watershed plan, for Popes Head Creek, is nearing completion and plans will be developed to start implementation in FY2006. Four other watershed plans are in various stages of development and three more will be initiated in FY 2005. The county's 30 watersheds are currently grouped into fifteen watershed planning projects. There is a possibility that planning may be accelerated so that the plans will be completed ahead of FY2009. The outcome of the Stormwater Needs Assessment Project currently underway will be used to develop a comprehensive program to meet the needs of the MS4 permit renewal process due to start in January 2006.

Water Quality

DPWES is implementing all commitments made under the Chesapeake Bay Agreement. The focus of the Chesapeake Bay 2000 Agreement is the restoration of the bay to a healthy ecological community, to support the living aquatic resources, and to reverse the current impairments to the bay's water quality. The multi-state approach to meeting the restoration goals and commitments are aimed at removing the bay from the EPA's impaired waters list by 2010. Fairfax County is doing its share to meet the commitments as part of Virginia's Potomac River Tributary Strategies, by being good environmental stewards, and by satisfying the regulatory requirements of the Municipal Separate Storm Sewer System (MS4) permit. The county has the responsibility to implement a comprehensive stormwater management program under the MS4 permit. One condition of the MS4 permit is to complete watershed management plans and implement recommended improvements; another condition is to have a monitoring plan to assess and report on the stream and stormwater infrastructure conditions annually. In order to assess the overall conditions of streams and the health of watersheds, the county has established a Stream Quality Index (SQI) to track conditions annually. The SQI is based on biological and habitat monitoring data taken from representative sites across the county and applying a weighted average to determine the average score on a scale of one to five, where five represents the highest quality streams and one represents the lowest quality. The first year (2003) the SQI was determined as 2.8 and the index for 2004 is 2.4.

Efficient Use of Land to Meet Stormwater Requirements

DPWES is working with other county agencies, Environmental Quality Advisory Group (EQAC), and other interest groups to evaluate the feasibility of meeting stormwater management requirements through the use of regional stormwater ponds. A multi-agency committee was directed by the BOS to develop a unified position on the use of regional ponds as well as other alternative types of stormwater controls as watershed management tools. On March 3, 2003, the committee completed a report entitled The Role of

Regional Ponds in Fairfax County's Watershed Management; June, 2003, the Implementation Plan for Stormwater Management was started; February 25, 2004, the draft Implementation Plan for Stormwater Management was completed. Implementation continues within the following recommended 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; find a dedicated/comprehensive funding source; and conduct project evaluations based on social, economic, and environmental issues. DPWES is working with county agencies involved in land development to establish sound environmental policy for infill development as a component of the Residential Development Study. A letter to industry entitled "Acceptance and Review of Stormwater Information Provided on Rezoning, Special Permit and Special Exception Applications" has been drafted. The letter and imbedded "Minimum Stormwater Information for Zoning Applications" checklist advances sound guidance for infill development and land use that is responsive to the need for environmentally-friendly stormwater management. In addition to requiring adequate stormwater outfall conditions, it requires descriptions of: Low Impact Development (LID) and environmentally sensitive site design practices investigated; existing vegetation and other site features including those to be preserved; potential retrofit/rehabilitation of existing STW facilities; existing physical, biological, and chemical characteristics of receiving stream valleys, projected impact from development, and proposed avoidance/mitigation practices; existing soil properties including pH, bulk density, infiltration rates, depth to bedrock, and depth to high water table.

IV. (B) Policy

RPAs and perennial streams, the Chesapeake Bay Preservation Ordinance, TMDLs, the county's Comprehensive Land Use Plan, infill plans, erosion and sedimentation control regulations, and Zoning Ordinance requirements all play a key part in effective stormwater management. They are discussed in this section.

Perennial Streams Identification and Mapping Project

The Quality Assurance/Quality Control (QA/QC or QC) study of the Perennial Streams Identification and Mapping project was conducted between May and October of 2004.

A total of ten percent of the streams initially surveyed between 2002 and 2003 were selected for the QC process. While the majority of these sites were randomly selected, many of them were targeted based on the following criteria:

- Visual evaluation of tributaries to determine areas that may be suspect (large drainages or sites determined to be "borderline")
- Sites where surveys were completed by our consultant teams
- Field notes from original surveys that indicate particular streams should be resurveyed in a drier or wetter season
- Contentious locations, i.e., development sites (rezoning or by-right) or citizen calls disputing determinations

QC surveys were completed throughout the moist-to-normal conditions of spring 2004 for watersheds originally surveyed during the 2002 hydrologic drought (approximately 35 percent of the total streams surveyed during the QC study). The remaining watersheds, originally surveyed in 2003 during a period of normal to above average rainfall, were assessed beginning in late July 2004 under normal to drier

weather conditions (approximately 65 percent of the total streams surveyed during the QC study). All QC fieldwork was completed by October 2004.

In the spring of 2005, the results of the QC study along with the revised Chesapeake Bay Preservation Area Maps will be presented before the Board of Supervisors.

The impetus for the Perennial Stream Identification and Mapping Project came from the Board of Supervisors, based on resolution from the Environmental Quality Advisory Council, to map and protect additional stream segments under the county's Chesapeake Bay Preservation Ordinance (CBPO). In 2003, the Chesapeake Bay Local Assistance Department (CBLAD) revised the state's CBPO, concurrently, to include identifying perennial streams using a scientifically defensible protocol as an appropriate method for determining Chesapeake Bay Preservation Areas.

The county's project was initiated in 2001 with the development of a protocol to classify streams as perennial or non-perennial, based on their hydrological, geomorphological, and biological features. This protocol was approved by CBLAD in March, 2002, as an acceptable method for determining perenniality. Fieldwork commenced in March 2002 and ended by October 2003.

Approximately 330 miles of stream were newly designated as perennial, increasing the total from 520 miles to 850 miles. Fairfax County's Board of Supervisors approved the revised CBPO maps, which became effective on November 18, 2003.

Perennial stream lengths and Resource Protection Areas, for 1993 and 2003

| | 1993 | 2003 |
|---|------|------|
| Perennial Stream Length - excluding shorelines (miles) | 520 | 850 |
| Resource Protection Areas (square miles) | 55.3 | 72.3 |

In addition to identifying and mapping all perennial streams in the county, this project helped to develop an updated stream data layer of the county's waterways. It also aided in the informal characterization and inventory of headwater streams by providing information on their physical and ecological conditions.

The Fairfax County Stream Classification Protocol, Field Data Sheet, and interactive maps displaying the county's Chesapeake Bay Preservation Areas are available on the county's Web site, by visiting:

www.fairfaxcounty.gov/watersheds/perennial.htm

Chesapeake Bay Preservation Ordinance

The Chesapeake Bay Preservation Ordinance (CBPO), Chapter 118 of The Code of the County of Fairfax, Virginia, was adopted by the Board of Supervisors on March 22, 1993, and became effective July 1, 1993. This ordinance protects certain areas along the corridor of streams, designated as Resource Protection Areas (RPAs), from most development and requires that the remaining areas outside RPAs be designated as Resource Management Areas (RMAs). The amendments also included changes to the performance criteria for development and redevelopment in RPAs and RMAs; changes in the information to be provided with plans of development in applications for construction permits; and changes to the procedures and criteria for the granting of exceptions to the requirements of the Chesapeake Bay Preservation Ordinance. This ordinance is enforced through the development review and inspection process, which assures that the development plans address the requirements of the ordinance and are constructed as approved. Civil and criminal penalties are available to address violations.

The Board of Supervisors held a public meeting on May 19, 2003, about possible perennial stream amendments to the CBPO and adopted the amendments during their regularly scheduled Board meeting on November 17, 2003. These amendments became effective on November 18, 2003. The amendments to the Public Facilities Manual of Fairfax County were adopted on July 7, 2003, and also became effective on November 18, 2003, to include those areas that the Board designated as RPAs and RMAs. RPA and RMA components are identified in § 118-1-7 of the Code. Performance criteria have been established that require water quality control measures designed to prevent a net increase in non-point source pollution from new development.

DPWES enforces compliance with the Chesapeake Bay Preservation Ordinance through the development review and inspection process. In addition, DPWES has the responsibility for assuring that development plans address the requirements of the ordinance as well as are constructed as approved. During 2004, DPWES received 384 site, subdivision, and public improvement plans for review and approval; of these, 188 were first submission plans (a plan may be submitted multiple times before approval is granted).

The NVSWCD develops soil and water quality conservation plans for all land in agricultural use. In most cases in Fairfax County, these are horse-keeping operations. The plans are written to comply with the Chesapeake Bay Preservation Act guidelines to include best management practices to reduce sediment pollution from erosion; excess nutrients from animal waste and fertilizers; and misuse of pesticides and herbicides. The plans also prescribe riparian buffers for Resource Protection Areas (RPAs). As required by county ordinance, soil and water quality conservation plans are developed for all agricultural and forestal districts in the county. Plans are updated and technical assistance is provided by NVSWCD as needed. NVSWCD also develops conservation plans for landowners receiving state cost-share money for installing agricultural BMPs, such as manure storage and composting structures, or fencing animals out of streams.

In 2004, thirteen soil and water quality conservation plans were developed for 1001 acres and included 7,070 linear feet of RPAs. Cumulatively, 9,960 acres and 267,161 linear feet of RPAs are covered by water quality conservation plans that have been developed since 1994 when the program began.

At Meadowood Farm, the Bureau of Land Management property on Mason Neck, NVSWCD designed and sited a windrow composting pad as a demonstration project to show how to better manage horse manure.

Four Mile Run TMDL/Implementation Plan

In compliance with the Virginia Water Quality Monitoring Information and Restoration Act (WQMIRA), the Northern Virginia Regional Commission (NVRC), under a contract with the Virginia Department of Environmental Quality (VADEQ), worked with the four watershed jurisdictions—Fairfax and Arlington County and the cities of Alexandria and Falls Church—to develop an implementation plan for the Total Maximum Daily Load study developed for bacteria in Four Mile Run. The implementation plan focuses on limiting bacteria contamination in the waters of Four Mile Run. The Four Mile Run plan covers a myriad of initiatives from community and individual behavioral changes to large-scale capital projects. The plan marks the first for an urban area in Virginia and was endorsed by all four watershed jurisdictions.

<http://www.novaregion.org/tmdlresource.htm>

Other TMDLs in Fairfax County

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). A summary of these waterbodies is provided in the table below. Of the listed waterbodies, twelve are riverine systems totaling 58.45 miles, six are estuarine systems with a total area of 23.23 square miles, and one is a drinking water reservoir with an area of 1,700 acres. Several waterbodies that were listed in previous assessment cycles have additional impairment causes shown in the 2004 report, mainly for bacteria (fecal coliform and/or *E. coli*). This is usually due to the change in the bacteria water quality standard from 1,000 cfu/100 mL to 400 cfu/100 mL, and the transition from a fecal coliform to an *E. coli* standard, which became effective February 12, 2004.

The cause of impairment for the majority of the riverine waterbodies in Fairfax County is either bacteria or impacts to the benthic community. For the estuarine waterbodies, the cause of impairment for the majority of systems is PCBs in fish tissue and bacteria. Ten of the nineteen waterbodies are multi-jurisdictional, i.e., include drainage areas outside Fairfax County. Fecal coliform TMDLs have been completed for two waterbodies, Accotink Creek (above Lake Accotink) and Four Mile Run, and were approved by EPA on May 31, 2002, and by the Virginia State Water Control Board (SWCB) on June 17, 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, with three to be completed by 2016. A complete list of impaired waterways in Fairfax County can be found in [Appendix F](#).

Comprehensive Land Use Plan

On November 15, 2004, the Board of Supervisors adopted an amendment to the Comprehensive Plan pursuant to the comprehensive planning requirements of Virginia’s Chesapeake Bay Preservation Act and Chesapeake Bay Preservation Area Designation and Management Regulations. Included in the amendment were revisions and additions to Comprehensive Plan text and policies as well as the incorporation into the plan of a “Chesapeake Bay Supplement.” The county had broad discretion in developing an approach to this effort; through the Chesapeake Bay Supplement, an innovative approach was pursued that satisfied the specific requirements identified by the state while more comprehensively addressing water resource conditions, issues, policies, regulations, and initiatives in support of the county’s commitment to the regional Chesapeake Bay Program, in furtherance of the county Board of Supervisors’ “Environmental Excellence 20-year Vision Plan,” and in support of other environmental and open space goals. The supplement presents information regarding water quality factors, water pollution sources, water quality conditions, and shoreline conditions in the county within the context of the county’s land use and its water quality policies, regulations, and initiatives. The supplement culminates in an analysis and series of recommendations addressing water pollution sources, infill development, redevelopment, shoreline erosion control, and shoreline access. In all, 42 actions are recommended in the supplement (with three actions listed twice). Many of these recommended actions build from efforts that are already under way or anticipated, while others reflect new initiatives that will need to be pursued. Staff is currently developing implementation plans for the actions that are recommended in the supplement.

The Environmental Quality Corridor (EQC) policy, as found in the Environment section of the Policy Plan volume of the county’s Comprehensive Plan, does not directly address stormwater discharges; however, it is particularly relevant to the county’s overall water quality management program as it serves to identify, protect, and, in some cases, restore environmentally-sensitive resources. Specifically, the EQC

policy recommends the preservation and restoration of areas including floodplains, steep slopes (slope gradients of 15% or greater) adjacent to streams or floodplains, wetlands connected to stream valleys, minimum stream buffers (variable in width depending on topography), and sensitive habitat areas. While there is no county regulation requiring EQC protection (RPA and floodplain provisions in the County Code protect many, but not all, EQC areas), the application of the EQC policy during the zoning process has been effective in protecting, and in some cases restoring, environmentally-sensitive areas.

Another area of interest with respect to the Comprehensive Plan is an objective addressing water quality and stream protection; there are a series of policy statements in the plan that are related to this objective. This section of the plan was amended in the year 2000 to provide explicit support for better site design and low impact design (LID) measures, and opportunities to implement such measures are explored during the zoning process. In a number of cases, staff has negotiated successfully for measures such as reductions in proposed impervious cover and the provision of biofiltration facilities (rain gardens) to provide water quality control through infiltration.

The Environment and Development Review Branch of the Department of Planning and Zoning (DPZ), in coordination with other DPZ staff and staff from other county agencies, reviewed 121 rezonings and related applications (e.g., amendments), 66 special exceptions and amendments, and 138 special permits in 2004 for environmental considerations.

Stormwater management and drainage issues continue to be evaluated throughout the development review process, and the county continues to seek improvements in how these issues are addressed during this process. On March 29, 2004, the Board of Supervisors adopted an amendment to the Zoning Ordinance that substantially expanded the submission requirements for all special permit, special exception, rezoning, and development plan applications as they relate to stormwater management and drainage issues. The amendment also significantly restricted the extent to which the limits of clearing and grading for stormwater management facilities can be expanded (such expansions are not permissible where they will result in a reduction of non-stormwater management open space, tree save, and/or landscaping area on the property in question). Details are provided in a letter to industry that was sent to all Architects, Builders, Developers, Engineers, and Surveyors practicing in Fairfax County. The letter can be found at the following Web address:

<http://www.fairfaxcounty.gov/dpwes/publications/lti/04-06.htm>

In conjunction with the adoption of this amendment, the technical review of stormwater management and drainage issues during the development review process was strengthened

In September, 2002, the Board of Supervisors adopted a plan amendment to revise the criteria that are used to evaluate residential development proposals. This amendment included a heightened emphasis on environmental protection, including stormwater management. The following text was added to address water quality and drainage issues; this text is applied during the review of all residential rezoning requests:

Water Quality: Developments should minimize off-site impacts on water quality by commitments to state-of-the-art best management practices for stormwater management and low-impact site design techniques.

Drainage: The volume and velocity of stormwater runoff from new development should be managed in order to avoid impacts on downstream properties. Where drainage is a particular concern, the applicant should demonstrate that off-site drainage impacts will be mitigated and that stormwater management facilities are designed and sized appropriately. Adequate

drainage outfall should be verified, and the location of drainage outfall (onsite or offsite) should be shown on development plans.

DPZ staff is implementing this Comprehensive Plan guidance during the rezoning process for proposed residential projects.

Implementation of Infill and Residential Development Stormwater and Erosion and Sedimentation Control Initiatives

The Infill and Residential Development Study staff have reviewed the effectiveness of current policies regarding erosion control and storm drainage with the multiple goals of minimizing impacts of storm water from a proposed development on downstream properties, limiting the impacts of stormwater management facilities on neighborhoods, ensuring that developers are accountable for impacts from their developments, and upgrading existing inadequate facilities. Some of the recommendations presented include:

- Adoption of innovative BMP policies to reduce impact during development and allow greater flexibility in the engineering of proposed sites
- Improved design and performance of proposed storm water management facilities by implementing a technical review of certain components during the rezoning process
- Enhanced requirements and better definitions for design professionals for evaluating the adequacy of stream channels for increased runoffs due to new developments during the design process
- Identification and survey of water impoundments downstream of a proposed development that could be impacted by a proposed development, and assignment of accountability for impact resolution
- Adoption of a program to retrofit existing non-water quality control facilities to perform this function as well
- Development of a BMP monitoring program

Implementation of the recommendations is continuing in all areas of the initiatives identified in the “Infill and Residential Development Study.” Significant progress was made toward fulfillment of the storm water and erosion and sedimentation (E&S) control initiatives over the past year. Many of the initiatives have been completed in prior years and further completion or substantial progress was made, most recently, in the following key areas:

- Amendment of the Zoning Ordinance to strengthen stormwater management submission requirements, and a concurrent strengthening of staff’s technical review of stormwater management issues during the development review process
- Completion of a Violation Matrix to better enable staff to enforce the E&S requirements and provide industry with a more predictable path toward resolution of violations
- Continued analysis of measures and methods to improve the efficiency and capabilities of E&S site controls including drainage area to temporary inlets, use of devices such as the Faircloth Floating Skimmer, chemical erosion prevention products, or bonded fiber matrix products
- Establishment of a committee comprised of staff and industry professionals, in conjunction with the Engineers and Surveyors Institute (ESI), to review and evaluate the current adequate outfall provisions with intent to recommend policy and regulatory changes to help address these issues.

Zoning Ordinance and Subdivision Ordinance

During 2004, 384 site, subdivision, and public improvement construction plans were reviewed for code compliance; of these, approximately 174 were approved for construction. DPWES enforces the Zoning Ordinance and Subdivision Ordinance criteria related to stormwater for new development and redevelopment through its plan review process. This ensures that BMPs are implemented on all new developments in compliance with the Occoquan Water Supply Protection Overlay District and the Chesapeake Bay Preservation Ordinance. The on-site inspection program and Bonding assures that sites are constructed in accordance with approved plans.

The Zoning Enforcement Branch of the Department of Planning and Zoning investigates complaints of possible Zoning Ordinance violation issues. The complaints related to potential stormwater impacts are sorted into the following categories:

- 1) Drainage, which includes such items as obstructed streams or blocked drainage structure inlets, backyard flooding, etc
- 2) Junk yards, which involve construction debris, abandoned vehicles, used appliances, etc., often located on vacant lots
- 3) Outside storage located at an occupied residence, which includes general items such as bikes, boats, batteries, used lumber, tires, empty paint or fuel
- 4) Storage yards, which may involve construction-related material (including mobile homes left behind), roof material, tires, etc.

Strengthening the Effectiveness of the Erosion and Sediment Control Program

The Board of Supervisors passed a motion in April, 2004, directing staff to strengthen the effectiveness of the county's erosion and sediment control. A committee has been formed. The members of the committee include DPWES staff, Northern Virginia Building Industry Association (NVBIA), and the Engineers and Surveyors Institute (ESI). The committee has identified the following items for further study, evaluation and implementation:

- Improve communication between development community, Department of Planning and Zoning, Site Review, Inspections and citizens
- Examine current drainage complaint databases and streamline reporting, evaluation, and resolution of complaints
- Enforce existing codes and regulations more strictly
- Add codes and regulations that will enhance E&S Program.
- Examine E & S practices of other jurisdictions and consider adopting those that might be useful to Fairfax County, such as a 'Sod Ordinance' which may require that house grading lots below one half acre must be stabilized by placing sod instead of the current practice of seeding and mulching
- Subject small sites to ESI Peer Review, similar to the current practice in other plans
- Require adjoining property notice for infill lot development proposals
- Increase civil penalties for E & S violations
- Provide incentives to engineering industry for constructability review of their plans
- Enhance education and information programs for industry and citizens

Letters to Industry

Site Development Services sent two letters to the industry that affected off-site impact of stormwater, erosion, and sediment transport and deposition.

- The letters informed industry of the zoning amendment that requires development plans to include the location; estimated size of facility footprint in area; and type of all stormwater management facilities, including the full extent of side slopes, embankments, spillways, dams and water surface elevations of design storms, if applicable. In addition, all applications are required to submit a preliminary stormwater management plan that includes information about the adequacy of downstream drainage, including the sufficiency of capacity of any storm drainage pipes and other conveyances into which stormwater runoff from the site will be conveyed. In addition to the above, those applications proposing land disturbing activity of 2500 square feet or more are required to submit additional graphic and narrative information. The graphic information requires the depiction of: 1) the facility footprint and, where applicable, the height of any dam embankment and location of the emergency spillway outlet; 2) the on-site and off-site areas to be served by the facility and the acreage draining to each facility; 3) a preliminary layout of all on-site drainage channels, outfalls, and pipes within the facility; 4) the location of any access roads or other means of access to the facility with a description of the type of road surface; 5) proposed landscaping and tree preservation areas in or near the facility; and 6) the approximate limits of clearing and grading on-site and off-site for the facility, storm drainage pipes, spillways, access roads and outfalls, including energy dissipation, storm drain outlet protection and/or stream bank stabilization measures. The narrative information requires: 1) a description of how the detention and best management practice (BMP) requirements will be met; 2) the estimated area and volume of storage of the stormwater management facility to meet the detention and BMP requirements; 3) the existing outfall conditions for each watercourse receiving drainage from the site; and 4) a description of how adequate outfall requirements of the Public Facilities Manual will be satisfied.
- In response to industry requests, Land Development Services clarified the existing on-site and off-site tree protection requirements during development to conserve and protect the land, water, air, vegetation, and other natural resources of Fairfax County; and to alleviate erosion, siltation, and other harmful effects of land-disturbing activities on neighboring land and streams by ensuring that the owner of the property on which land-disturbing activities are to be carried out provides adequate controls of erosion and sedimentation and takes necessary measures to preserve and protect trees and other vegetation during all phases of any land-disturbing activity.

A class and a workshop are annually conducted on E&S controls, constructability issues pertaining to the implementation of E&S controls, and E&S regulations through the Engineers and Surveyors Institute (ESI). The class and workshop were attended by both the private and public sector employees. In addition, in 2004, EFID staff planned and conducted a course through ESI that addressed house lot grading issues with an emphasis on E&S controls during plan submission, inspection, and compliance. State and federal requirements for E&S control as well as practical applications were discussed. Facilitation of construction and maintenance of E&S controls and NPDES/UPDES permits were discussed.

The Environmental and Facilities Inspections Division of DPWES (EFID) organized and conducted a presentation to the Fairfax County Public Schools Construction Industry in partnership with the Virginia Department of Conservation and Recreation, and the Virginia Department of Environmental Quality, on federal, state, and Fairfax County requirements pertaining to E&S controls and the protection of natural resources during the land development process. Other efforts included presentations to Green Breakfast

Group and other partners in environment protection. In 2005, EFID is expanding its outreach to many friends of the environment and enlisting their support of our efforts to protect the county resources.

Staff from EFID visited Stafford County to discussed regional approach to erosion and control. These efforts will be continued as other surrounding jurisdictions are joining Fairfax County in this endeavor. A regional conference on E&S is planned.

EFID has implemented the Alternative Inspections Program approved by the state. Under this program the construction sites are given a score according to the following criteria: (A) denuded area of the project, (B) proximity to watercourse crossing, (C) distance to adjacent downstream property, (D) distance of a denuded area to a Natural Watercourse, (E) vegetative buffer, (F) distance from the site storm outfall to any environmentally sensitive feature such as wetlands, (G) presence of any critical slopes within 50 feet of an adjacent property and, (H) soil erodibility. The overall project score classifies the project as high, medium, or low priority. The frequency of inspections is based on this classification. This program has resulted in a decrease in downstream properties being negatively impacted by erosion and sedimentation from active construction sites. Refinements to this program are being made in 2005 in cooperation with the Department of Information Technology. With these improvements staff will be able to predict trouble spots and change inspection priorities.

Construction Site Runoff

During 2004 a total of 268 Erosion and Sediment (E&S) Control Plans were submitted and approved for projects that would disturb one acre or more of land. Monthly letters were written to the Department of Environmental Quality (DEQ) informing them of these individual sites (***Appendix G***). In addition, 30,888 E&S inspections were conducted by the Environmental and Facilities Inspections Division (EFID) during 2004 on all sites under construction in Fairfax County. This amounted to providing E&S inspections on over 3,100 projects each month. Approximately 45 percent of the 3,100 projects per month consisted of bonded site plans and subdivision plans. The remaining 55 percent consisted of individual residential grading plans and minor site plans.

The construction sites that do not conform to the construction rules are given a notice to comply and a written notice of violation. There were 335 notices of violation given to the construction sites not conforming to the approved plans. This requires follow-up inspections by the site inspectors. There were 834 violation inspections, in addition to 30,888 E&S inspections.

A 24-hour hotline established by the Code Enforcement Division of DPWES continues to be an effective means for citizens to report complaints about erosion and sedimentation. For soil erosion and sediment transport and deposition affecting adjacent land or streams or other bodies of water, or mud being tracked onto public streets by construction vehicles, residents can contact the Code Enforcement Division at (703) 324-1937. For problems with the removal and addition of soil without a construction permit, residents should contact the Code Enforcement Division or Northern Virginia Soil and Water Conservation District at (703) 324-1460. For problems with soil erosion on private property that are not related to land-disturbing activities, residents should contact the Northern Virginia Soil and Water Conservation District at (703) 324-1460. More information is available with regard to reporting environmental concerns or of possible violations of Fairfax County environmental regulations at DPWES' web site:

<http://www.co.fairfax.va.us/gov/dpwes/publications/urbanfor.htm>

In support of the E&S control review program, the Northern Virginia Soil and Water Conservation District (NVSWCD) evaluates E&S controls, water quality protection, and stormwater management aspects of preliminary plans and site plans in the Pohick Creek Watershed. They also evaluate all Department of Public Works and Environmental Services (DPWES), Fairfax County Park Authority, and School Board projects; projects within three miles of the Potomac River; and other plans as requested, particularly those which appear to involve special difficulties in soil types and slopes and with particular attention to the properties of soils, the potential for erosion, and the impact on drainage, stormwater management, and the surrounding environment. Comments are provided to the Department of Planning and Zoning; and NVSWCD provided technical advice and information to developers, consultants, and engineers on the properties of soils in the county and on potential erosion and drainage problems. Each year, the county recognizes those developers and site superintendents who do an excellent job of installing and maintaining erosion and sediment controls on construction sites with Land Conservation Awards. A NVSWCD judging team evaluates sites twice a year for these awards. An award also is given to an outstanding county inspector. Those sites that demonstrate excellence in tree preservation are also recognized in these annual awards; the judging is done by the Fairfax County Tree Commission. An awards ceremony, which includes remarks by elected officials and representatives of the development community, is held in January.

Northern Virginia Regional Commission

Regional Pollution Prevention Outreach Strategy

Northern Virginia Regional Commission (NVRC) continued to coordinate with the EPA Chesapeake Bay Program's pollution-prevention campaign on behalf of Northern Virginia localities. The purpose of coordinating media campaigns on a regional basis is to ensure a greater number of exposures and audience reach to improve the cost-effectiveness of local outreach efforts. Public education is a required component or nonstructural best management practice (BMP) of stormwater and other water quality programs, such as Total Maximum Daily Loads (TMDLs).

For the Northern Virginia campaign, representatives of local jurisdictions reviewed stormwater educational messages and selected a pre-produced radio ad for airing during early spring, 2005. A number of jurisdictions committed to pooling stormwater education funds in order to achieve greater impact for dollars spent. NVRC issued a Request for Proposals and a media buying firm was selected.

Coastal Program Pollution Prevention Media Strategy

Working with local jurisdictions, NVRC prepared a media strategy report to address the problem of stormwater pollution. The report addresses the pollution-causing behaviors to be targeted, target audience demographics, messages, media options, and budget alternatives. In addition, the report contains findings regarding the basics of behavior change, conservation communications challenges, market research, effective messages, media considerations, and "earned" or unpaid media coverage. The information contained in the report is intended to be a useful reference for any conservation-related communications effort.

NVRC is coordinating the proposed regional campaign with that of the larger Chesapeake Bay Program. It is expected that local participation in the campaign will address the outreach requirements of a number of existing programs, including MS4 stormwater programs, Total Maximum Daily Load implementation, and Potomac Tributary Strategies. Upon acceptance by government partners, NVRC will coordinate implementation. NVRC will report to the Virginia Department of Environmental Quality on implementation progress and will make an assessment of the effectiveness of a regional approach.

Chesapeake Bay Support

Fairfax County staff members have been assisting in guiding local policies and programs at the Federal Chesapeake Bay Program through their activity and support of the Urban Nonpoint Source Workgroup, which a staff member of NVRC chairs. Activities include participating on a conference planning subgroup of the workgroup. This subgroup is planning an Urban Summit Conference to be sponsored by the Chesapeake Bay Program at the request of the Bay Programs Implementation Committee. Fairfax staff members have also been active in a workgroup initiative to look at the science of biofiltration BMPs and all their derivatives and the implication to local government operations and pollution credit. Some of the leading academic researchers are assisting in this effort and the intention is to bring together science and local government reality.

Coastal Resource Protection Teacher Education

NVRC staff conducted a session at the Earth Force Teachers Institute in Alexandria in September to brief area teachers on resource protection tools, ranging from blue and green infrastructure and conservation design to low impact development and watershed planning. Teachers were provided with examples of things that students can do to make a difference—from monitoring streams, to reporting erosion and sediment control violations, to testifying before elected officials on natural resource issues.

Occoquan Watershed Management Planning

NVRC continues to direct the Occoquan Basin Nonpoint Pollution Management Program, which was established in 1982 to provide an institutional framework for maintaining acceptable levels of water quality in the Occoquan Reservoir through management of nonpoint source pollution. The Occoquan Reservoir is one of two major water sources of the majority of Northern Virginians. Six jurisdictions within the watershed, including Fairfax County and various stakeholders, participate in this program.

At the request of the Occoquan Technical Advisory Committee and the Virginia Department of Environmental Quality (DEQ), the Northern Virginia Regional Commission entered into agreement with the Commonwealth of Virginia to develop TMDLs for bacteria in Occoquan sub watersheds of Licking and Cedar Run. NVRC has started to coordinate with key staff from the affected localities that share the watershed. The TMDL was completed and adopted by the EPA in July of 2004. The rationale for the approval can be found at the following address:

<http://www.deq.virginia.gov/tmdl/apptmdls/epa/epacdrk.pdf>

The TMDL was adopted by the State Water Control Board in December of 2004.

Because of continued high growth in Northern Virginia, the Occoquan Program will begin to turn its attention to broader watershed management and planning issues in addition to its current emphasis on BMPs and modeling. As part of the watershed management planning process, NVRC continues to review local policies and meet with key stakeholders in Prince William, Fauquier, Fairfax, and Loudoun counties.

Onsite Wastewater Treatment Systems

This project, funded by the Virginia Coastal Nonpoint Pollution Program, is designed to foster sustainable solutions to the management challenges associated with new alternative onsite wastewater treatment systems (AOWTS). Proper management of AOWTS is essential to protect public health, property values and the safety and integrity of surface and ground water.

A technical forum as part of NVRC's project was held in conjunction with the Virginia Onsite Wastewater Recyclers Association (VOWRA) annual conference on October 7, 2004, in Chantilly, Virginia. Nationally known speakers presented perspectives on planning and managing onsite wastewater

systems. Participants included industry practitioners, health department officials, planning commissioners, and planning staff. The forum was designed to lay the groundwork for a long-term solution to the need for effective management of onsite wastewater treatment systems.

Quick guides to alternative onsite wastewater systems for officials and homeowners were developed as part of this project. Guides for officials present the elements of AOWTS technologies and management implications to support land use decision-making. The guides for homeowners underscore the importance of maintaining AOWTS to protect family health, property values, and ground and surface water quality. In addition, the project included reports on findings and analyses of primary and secondary research, forum proceedings, and recommendations for future activities.

Low Impact Development

With funding from the Virginia Department of Conservation and Recreation and the EPA Chesapeake Bay Program, NVRC completed a multi-faceted project to address the need for basic information related to Low Impact Development (LID) technology. NVRC coordinated the writing, story development, and production of “Reining in the Storm—One Building at a Time.” This 30-minute digital film presents the essential elements of LID, reflecting the five principles developed by Virginia’s multi-stakeholder LID workgroup. In addition to the film, an 8-page full-color guide and electronic slide show covering the basics of LID, also reflecting the same themes, were produced to accompany the film.

In addition to the LID film, NVRC coordinated the integration of LID practices into the redevelopment of Tinner Hill, an African-American heritage site in the City of Falls Church and Fairfax County. When completed, this historic site will feature two buildings: a museum to be housed in a residential-like structure and a small performance barn to accommodate small outdoor performances. Fairfax County and the Northern Virginia Soil and Water Conservation District performed the site evaluation, soil testing, and schematic design of LID practices in conjunction with the Tinner Hill Heritage Foundation’s architectural design team and civil engineer. The goal of the LID strategy for Tinner Hill is to reproduce the hydrology of undisturbed forested conditions.

Working with the Tinner Hill Heritage Foundation staff, NVRC developed a program for interpretive signage for LID practices designed for the Tinner Hill site. A LID “trail” will enable visitors to the planned museum and performance barn to view eight individual, decentralized stormwater practices and better understand the value of water as a resource.

Finally, “LID in Northern Virginia” is an informal review of the status of LID in the region, compiled in response to interest in the local introduction of LID strategies into stormwater management programs. A sharing of information and insights is expected to stimulate follow-up activities such as workshops or dialogues to address issues of common concern.

IV. (C) Management

Management of pesticides, herbicides, fertilizers, and control of our landfills has a significant role in watershed management.

Pesticide, Herbicide and Fertilizer (PH&F) Application Program

Application Rates Reduction Report

In an effort to determine application rates and to determine an approach to reduce the amounts of pesticides, herbicides, and fertilizers applied to public rights-of-way, parks, and other municipal

properties, a of the survey of the Fairfax County Park Authority and the Virginia Department of Transportation was conducted. ***Appendix H contains*** the summary report. The goal of the survey was to characterize current agency approaches for the management of pests and weeds and to determine the need for and rates of fertilizer application. A component of the survey was designed to determine current rates of pesticide, herbicide, and fertilizer application by county agencies and utilities. The methodology for developing and conducting the survey, along with the information gathered, are discussed in the report along with resulting evaluation of current methods of pesticide, herbicide, and fertilizer application and recommendations for implementing management measures that will result in reductions in the amounts applied and transported to the county's receiving streams.

The report identifies opportunities to reduce the use of chemical controls for pest and turf management based on the evaluation of current practices being implemented by county agencies and the identification of opportunities to apply best management practices, such as integrated pest management (IPM), and other management approaches. Opportunities for improving management approaches and reducing use of pesticides, herbicides, and fertilizers through the use of environmentally benign controls that meet environmental goals are evaluated. Recommendations for a county-wide approach to reduce the amount of chemicals used to control pests and manage vegetation by county agencies and utility companies are included.

The report notes that the differences in amounts currently used on a per acre basis were substantial and that a first priority in managing pesticide, herbicide and fertilizer use in the county should be to determine the cause of these differences and then eliminate them to the maximum extent practicable.

In addition, the report recommends a countywide, a three-pronged approach to limit the amounts of chemicals applied to county lands. The first step would be the development of a countywide IPM plan, and plans specific to agencies with different land management goals. The next step would be to make these plans available to all county land managers and to provide training in IPM. Finally, since some agencies have implemented IPM principles to a greater extent than others, a countywide land managers' forum could help foster communication among different agencies and facilitate the exchange of ideas for new practices.

Once such an approach has been implemented, future surveys could help determine trends in pesticide, herbicide and fertilizer applications to county lands.

NVSWCD

NVSWCD continues to distribute *You and Your Land—A Homeowner's Guide for the Potomac Watershed*. It can be viewed at NVSWCD's web site at:

<http://www.fairfaxcounty.gov/nvswcd/yyl-intro.htm>

Under the county's Chesapeake Bay Preservation Ordinance, the NVSWCD develops soil and water quality conservation plans for land in agricultural use. The plans recommend best management practices so that sediment, fertilizers, pesticides, herbicides, and animal wastes do not harm water quality.

NVSWCD continues to distribute *Agricultural Best Management Practices for Horse Operations in Suburban Communities*. It is posted on the web site with several photographs to accompany the text. The web page gets 50 to 100 visitors each month.

<http://www.fairfaxcounty.gov/nvswcd/horse.htm>

In addition, NVSWCD reviewed nutrient management and integrated pesticide management plans for three golf courses and provided comments and recommendations to the Department of Planning and Zoning.

Landfill

Hazardous Waste Treatment, Storage, and Disposal Facilities

There were no new or previously unidentified landfills, hazardous waste treatment, or storage and disposal facilities identified in the County since the MS4 permit application was submitted in November 1992.

Landfill Monitoring Program

The Division of Solid Waste and Resource Recovery (Solid Waste Management Program) is responsible for the operation of the I-95 Landfill located at 9850 Furnace Road in Lorton, Virginia, and the I-66 Transfer Station/Closed Landfill, located at 4618 West Ox Road in Fairfax, Virginia. Both facilities are located on county property and are covered under the VPDES General Permit. The I-95 Landfill is registered under the permit as VAR051076, and the I-66 Transfer Station/Closed Landfill is registered under the VPDES permit as VAR051074. The permit expires on June 30, 2009.

The I-95 Closure Plan project was designed to complete the capping of approximately 130 acres of Municipal Solid Waste (MSW) section of the landfill, as approved by the Virginia Department of Environmental Quality (VADEQ). The construction of the project started in May 2003 and is anticipated to be completed by December 2005. The closure project is divided into four phases, with each phase consisting of approximately 40 acres. The final cover system will consist of an 18-inch low-permeability soil and 15-inch protective cover/vegetation support layers. As a result of this work, storm water will be managed more efficiently and infiltration will be reduced significantly, in turn providing for less generation of leachate. The final cover system will minimize the need for post-closure maintenance.

The Area Three Lined Landfill Phase IIB project is part of the I-95 Area Three Lined Landfill Project (ATLL). This project will receive approximately 1,000 tons of incinerator ash per day from the Energy Resource Recovery Facility (E/RRF) located at the I-95 Complex and in Alexandria. Construction of the ash cell started in June 2004, was substantially completed in early November 2004, and is currently awaiting final inspection from VADEQ. The 7.5-acre cell consists of a landfill bottom lining system that includes two feet of low-permeability soil, double synthetic liner (60 mil HDPE), and a leachate collection and detection system. The capacity of this project for the placement of ash is anticipated to be three years.

The E/RRF has added a dolomitic lime system to its operations to chemically bind metal with the ash to prevent leaching when the ash is landfilled. The system allows the reduction of the pebble lime reagent during the burning process. Recovered metal accounts for 8.1% of the total ash stream and is recycled.

Division staff performs quarterly visual inspections at stormwater outfalls located at the I-95 Landfill and I-66 Transfer Station/Closed Landfill. The quarterly inspections are performed in each quarter of the calendar year (January through March, April through June, etc.). Annual benchmark sampling is performed between July 1 and June 30 of the monitoring year. The cost for VPDES monitoring, testing, and other related activities are included as part of the operating budget for each facility and are not funded separately. This is done because most of the activities required by the VPDES permit are also required under the operating permits granted by VADEQ. Test results and inspection reports are maintained at the division's main office, and copies are on file at the facilities' administration offices.

Training in pollution prevention for facility staff is provided and is a part of the I-95 Landfill and I-66 Transfer Station/Closed Landfill waste disposal permits. Pollution Prevention Plans are maintained at each facility and are updated when conditions change. Additionally, spill kits are readily available at each location. Water quality test results conducted to satisfy VPDES permit condition have been satisfactory.

The division maintains a website at:

<http://fairfaxcounty.gov/dpwes/trash/recyclingtrash.htm>

IV. (D) Emergency Response

Fairfax County has a proactive dam safety program, floodplain management program, and a hazardous materials pollution response team. They provide the county's emergency response network for stormwater related problems.

Dam Safety Program

Revised Emergency Action Plans for Four Dam Sites

A study was performed on the adequacy of the emergency action plans for four of the six County's PL-566 earthen dams. The emergency spillways of the four dams involved in the study were previously investigated and found to be unable to convey the Probable Maximum Flood without severe damage to the spillways and even the breaching of the dams themselves. The emergency action plans were revised to reflect not only the results of the emergency spillway studies but also in light of the recently released rainfall versus intensity curves released by the National Weather Service. In addition, Emergency Actions Plans for nine other dams owned and operated by DPWES have been prepared and will soon be submitted to DCR's Division of Dam Safety for review, in accordance with the State's Impounding Structure Regulations. Dam breach inundation zones were determined and corresponding layers were created in the County's Geographic Information System for use with Emergency Management's Reverse 911 system. Additionally, inspections were performed to identify any deficiencies which pose safety concerns. Once accepted by DCR these nine dams will be added to the six DPWES facilities currently regulated by DCR.

Floodplain Management

Digital Elevation Model in the Belle Haven Watershed

After Hurricane Isabel delivered a record tidal surge to several communities along the Potomac and Cameron Run, the need for a more accurate digital elevation model was identified. Working with GIS, SWPD contracted with photogrammetry and mapping specialists to create one-foot contour interval digital mapping over the two square miles of the flood prone area.

Level I Digital Flood Insurance Rate Map

With the help of a grant from FEMA, the source data for the current Federal Flood Insurance Rate Maps (FIRMs) was digitized and a draft Level I Digital Flood Insurance Rate Map (DFIRM) was created. This is the first and most involved step in the process of creating an official DFIRM. Once approved by FEMA, this information can be overlaid on base mapping to create the final product. The final version of the DFIRM will enable engineers, mortgage lenders, and citizens access to accurate flood insurance data, with associated base mapping information, online. It will also virtually eliminate the high volume of corrections to the maps which are submitted to FEMA. Hundreds of these mapping corrections are

currently on file with the county, which impact over 1000 properties. These corrections (or “Letters of Map Amendment”) will also be incorporated in the final phase of the DFIRM production.

FIDO Floodplain Warning Tool

The new permits computer database, “Fairfax Inspections Database Online” or “FIDO,” scheduled to be launched in April, 2005, will be equipped with a floodplain warning tool. Because only about 500 miles of the county’s 900 miles of floodplain are mapped, a tool was needed to somehow flag permits associated with properties containing floodplain. Although approximate mapping of much of the county’s minor floodplains using aerial topography and HECGEORAS will be completed over the next five years as the watershed master plans are completed, the floodplain warning tool had to be created now as the software for the FIDO was being created. SWPD and the GIS department worked to create a collage of available floodplain data with approximate floodplain limits used where no other data was currently available. A table was then created of all the properties in Fairfax County that are impacted by either floodplain. Because the FIDO program only references the database table, updated floodplain information can be easily added as each of the watershed master plans are completed and as new studies are submitted by developers and approved by SWPD.

Spill Prevention and Response

The Fire & Rescue Department (FRD) responds to all reported incidents of hazardous material releases, spills, and discharges. FRD Operations Division staff are trained and equipped to initiate spill control measures to reduce the possibility of hazardous materials reaching the municipal storm drainage system. Resources available to FRD personnel include personal protective equipment, technical tools and equipment for control, and absorbent products such as pads and booms for containment. The FRD also maintains a contract with a major commercial hazardous materials response company to provide additional containment and clean-up support for large-scale incidents.

The Hazardous Materials & Investigative Services Section (HMIS) investigates complaints of potential and actual releases, many of a non-emergency nature. Approximately 500 investigations of oil or other liquid spills are conducted each year. HMIS staff, through vigorous enforcement of appropriate codes and ordinances, ensures that the responsible party takes appropriate spill control and cleanup action. In both emergency and non-emergency spills that reach the municipal storm sewer system, HMIS staff utilizes appropriate enforcement actions to ensure that proper cleanup activities are undertaken to protect and restore the environment as well as recover costs incurred by the county for initial emergency response to the incident.

The HMIS monitors, on a long-term basis, contaminated sites that have a potential for the contaminant coming in contact with surface structures including stormwater management facilities. As a part of the Oversight Program, HMIS, as an agent of the Director of DPWES, accepts, reviews, and processes requests to discharge treated groundwater from remedial activities at those sites into county sewers. HMIS then monitors the discharge for the duration of the agreement. DPWES staff members receive regular training in pollution prevention measures and in proper response procedures for incidences where pollutants or spills are found that are exposed to stormwater. Select groups are also trained in the proper handling of hazardous wastes and operate the Household Hazardous Waste collection program.

Ordinances and Enforcement

The FRD’s HMIS aggressively enforces County Code Chapters 105 and 106 in conjunction with DWPES and DPZ and has issued criminal citations during the investigations of Hazardous Materials Incidents. Chapters 105 & 106 contain the provisions that address illicit discharges to state waters and the county’s

storm drainage system. Procedural Memorandum No. 71-01, Illegal Dump Site Investigation, Response, and Cleanup, (*Appendix I*) outlines the process of follow-up action for non-emergency incidents of illegal dumping; establishes action under County Code Chapter 46, Health or Safety Menaces; and provides referrals for action on complaints that are not public health hazards nor regulated.

In May 1995, the county established the Fairfax County Hazardous Materials Task Force. Their charge is to provide oversight of remedial activities required as a result of Corrective Action Plans (CAPs). A CAP may be issued to a site for remedial activity required because of groundwater contamination. The CAPs may involve the discharge of treated groundwater to the storm sewer system. The FRD's Hazardous Materials Services Section acts as an agent of the Director of the Department of Public Works and Environmental Services to permit and enforce actions on these activities. The Hazardous Materials Technical Support Branch currently monitors 77 active sites undergoing remediation activities.

In 2004, responses to incidences which had the potential to discharge hazardous materials into storm drains or surface water included: fifteen improper disposals, nine pipeline incidents, 63 various types of product release and 252 petroleum releases. Storm drains and creeks/streams were reported to have been directly contaminated in 33 cases. There were fourteen cases involving products released from transportation accidents. None were reported to have reached storm drains or surface waters in the county. Major incidents for the year included 275 gallons of off-road diesel fuel being discharged into the Potomac River and 275 gallons of waste motor oil being discharged into Tripps Run and Lake Barcroft. The incidents involving potentially hazardous materials entering the storm sewer system and areas of surface water runoff are summarized in *Appendix J*.