

T&E COMMITTEE #1
March 23, 2009

Briefing/Discussion

MEMORANDUM

March 19, 2009

TO: Transportation, Infrastructure, Energy, and Environment Committee

FROM:  Keith Levchenko, Senior Legislative Analyst

SUBJECT: **Briefing/Discussion** – Water Quality Issues

- Water Quality Advisory Group (WQAG) 2008 Annual Report Discussion (led by WQAG Members)
- National Pollution Discharge Elimination System (NPDES) Draft Permit Briefing (by Department of Environmental Protection Staff)

Water Quality Advisory Group (WQAG) 2008 Annual Report

On February 12, the Water Quality Advisory Group transmitted its 2008 Annual Report to the County Council and the County Executive. A full copy of the report is attached on ©39-75.

Dustin Rood, Vice Chair of the WQAG (Business Community Representative) and Jill Coutts (Scientific/Academic representative on the WQAG) will discuss the WQAG annual report with committee members.

Department of Environmental Protection (DEP) Director Robert Hoyt and Meosotis Curtis, Senior Water Quality Specialist and member of the WQAG, will also be available to discuss the report.

WQAG Structure

The WQAG consists of 18 members appointed by the County Executive and confirmed by the County Council. The WQAG includes non-voting members from County Government agencies such as DEP and the Washington Suburban Sanitary Commission (WSSC), and up to 3 members from the following categories: the public-at-large, academic and scientific experts, environmental groups, the agricultural community, and the business community. Members serve for three year terms without compensation. DEP provides staff support to the WQAG. The

WQAG provides advice to the County Executive and County Council on policy and budget issues affecting water quality in the county.

2008 Report Discussion Points

The WQAG is divided into three subcommittees: Technical and Regulatory, Education and Outreach, and Land Use and Planning and suggested topics for discussion can be found in the Executive Summary of the Annual Report beginning on ©45 divided in the same manner.

Council Staff would particularly note the following:

- WQAG recommends that planning and administration funds need to be maintained so that federal monies can be accessed and administered.

Council Staff Comments: The Executive's Recommended Budget was transmitted on March 16 and included substantial reductions in many budget areas. The DEP Budget will be carefully scrutinized to ensure that adequate dollars are included to ensure DEP can continue to leverage State and Federal dollars.

- Evaluate the structure of the Water Quality Protection Charge (WQPC).

Council Staff Comments: Given the additional requirements in the new NPDES permit expected to go into effect on March 20, 2009, the Water Quality Protection Fund (WQPF) will likely be considered for some additional activities. The scope of work pursued in the WQPF has broadened in recent years since its creation in 2001. At that time, the WQPF was utilized almost exclusively to provide for the inspection, maintenance, and repair of stormwater management facilities. This work continues to be a major focus of the WQPF, however other water quality related work (such as low-impact development and environmental sensitive design projects, consultant studies, and street sweeping) are now funded out of the WQPF as well.

- Appoint a Montgomery County Public Schools representative to a regular WQAG position.

Council Staff Comments: This is a good idea given MCPS' substantial number of facilities in the County (i.e. environmental footprint), the role MCPS can play in the County's education and outreach efforts to its 140,000 students plus thousands of teachers and staff, and the fact that MCPS is identified as a "co-permittee" in the new NPDES permit. NOTE: The T&E and ED Committees will jointly be discussing MCPS' role in the new NPDES permit at a meeting on March 23 immediately following this WQAG and NPDES briefing/discussion.

- The WQAG specifically notes its interest in WSSC's water and sewer infrastructure and efforts to ramp up inspection, maintenance and replacement of aging and failing pipelines.

Council Staff Comments: The T&E Committee has discussed this particular issue on multiple occasions and the FY10 Proposed WSSC Budget provides some funding for additional PCCP inspections, monitoring, and replacement and some modest increases in water mains to be replaced. On the sewer side, WSSC is under a consent decree with the Environmental Protection Agency to eliminate sanitary sewer overflows (SSOs) through a variety of initiatives (both capital and operational).

NPDES Permit Status Update

DEP is the lead agency for Montgomery County with regard to the County's National Pollution Discharge Elimination System Municipal Separate Storm Sewer System Discharge (NPDES MS4) Permit. The Maryland Department of the Environment (MDE) is the State agency responsible for approving NPDES permits which are required as part of the Clean Water Act enforced by the Environmental Protection Agency. The first five-year permit was renewed in July 2001 and most recently modified in January 2004 to include six localities as "co-permittees." The County's permit covers all areas of the county with the exception of the cities of Gaithersburg, Rockville, and Takoma Park and lands under the control of State agencies (including the Maryland-National Capital Park and Planning Commission and Washington Suburban Sanitary Commission) or Federal agencies.

On November 3, 2008 the T&E Committee received a briefing from DEP staff regarding the status of the third generation permit, a draft of which was released for comment last September (see tentative determination fact sheet on ©20). The most recent permit period ended July 5, 2006 although its provisions remain in effect until a new permit is issued. MDE has been working with regional environmental groups on a new permit for the last several years. The new permit is expected to go into effect on March 20, 2009. A copy of the new permit is attached on ©1-19.

Department of Environmental Protection (DEP) Director, Robert Hoyt will provide an update to the committee on the new permit as well as some thoughts on the various new and expanded provisions proposed and how these efforts will be implemented during FY09 and FY10 and the budget implications¹. *NOTE: Council Staff expects to receive DEP's slide presentation prior to the briefing and will forward it to the T&E Committee.*

As mentioned at the November discussion, the draft permit has a number of new and/or expanded provisions intended to make Montgomery County's stormwater management program

¹ The County is required to maintain adequate program funding to comply with all permit conditions (see PART III. 1.2 of the draft permit on ©11).

a model for other permittees in the state and the country. The major changes from the prior permit include:

- An increase of the watershed restoration required of the uncontrolled impervious area from 10% to 30% within the five year permit.
- Compliance with changes in the Maryland Stormwater Design Manual which includes more emphasis on environmentally sensitive design (ESD) and low impact development (LID) techniques.
- A trash and litter reduction strategy to meet the Potomac Trash Free Treaty goal of zero trash in the Potomac by 2013.
- Implementation plans for projects, programs, and policies to reduce pollutants to meet total maximum daily loads (TMDLs).
- Public comment and input for development of the trash and litter strategy and for all TMDL implementation plans.

At the November discussion, Diane Cameron, Coordinator of the Montgomery County Stormwater Partners Network and Conservation Program Director for the Audubon Naturalist Society of the Central Atlantic States expressed support for the draft permit. Her written comments are attached on ©25-28. However, she noted some areas where additional clarification was needed. For instance, her comments noted, "vague and confusing language in the Trash section, the need for meaningful deadline requirements for attaining the TMDL reductions; and clarity on the role of MCPS as a co-permittee."

With regard to the MCPS co-permittee issue, the implications of this new status, as well as some ongoing permit requirements requiring addressing in FY10, will be discussed in a joint T&E and ED Committee discussion also scheduled on March 23 immediately following this T&E discussion. DEP is working with MCPS to clarify requirements and responsibilities in a similar manner to how it has worked in the past with other co-permittees.

In response to both the Trash and TMDL suggestions (see MDE's Response to Formal Comments on ©29-38), MDE feels that Montgomery County is best positioned to establish implementation plans (as called for in the permit) and that these plans will be subject to future review and approval by MDE.

Attachments to this memorandum include:

- The Draft NPDES MS4 Permit (©1-19)
- MDE Fact Sheet (©20-24)
- Stormwater Partners Statement Regarding the Draft NPDES Permit (11/3/08)(©25-28)
- MDE Response to Formal Comments (February 2009) (©29-38)

Attachments

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MARYLAND DEPARTMENT OF THE ENVIRONMENT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MUNICIPAL SEPARATE STORM SEWER SYSTEM DISCHARGE PERMIT

PART I. IDENTIFICATION

A. **Permit Number:** 06-DP-3320 MD0068349

B. **Permit Area**

This permit covers stormwater discharges from the municipal separate storm sewer system in Montgomery County, Maryland. This applies to discharges to and from the storm drain systems owned and operated by Montgomery County, including Montgomery County Schools, and the following localities: the Towns of Chevy Chase, Chevy Chase Village, Kensington, Somerset, and Poolesville; and the Village of Friendship Heights (co-permittees).

Requirements for discharges to the storm drain systems controlled by Montgomery County that become subject to National Pollutant Discharge Elimination System (NPDES) stormwater program requirements during the term of this permit may be added to this permit at the discretion of the Department.

C. **Effective Date:** March 20, 2009

D. **Expiration Date:** March 20, 2014

PART II. DEFINITIONS

Terms used in this permit are defined in relevant chapters of Title 40 of the Code of Federal Regulations (CFR) Part 122 or the Code of Maryland Regulations (COMAR) 26.08.01, 26.17.01, and 26.17.02. Terms not defined in CFR or COMAR shall have the meanings attributed by common use.

PART III. STANDARD PERMIT CONDITIONS

A. **Permit Administration**

The County shall designate an individual to act as a liaison with the Maryland Department of the Environment (MDE) for the implementation of this permit. The County shall provide the coordinator's name, title, address, phone number, and email address. Additionally, the County shall submit to MDE an organizational chart detailing personnel and groups responsible for major NPDES program tasks in this permit. MDE

shall be notified within 14 days of any changes in personnel or organization relative to NPDES program tasks.

B. Legal Authority

Montgomery County shall maintain adequate legal authority in accordance with NPDES regulations 40 CFR Part 122 throughout the term of this permit. In the event that any provision of its legal authority is found to be invalid, the County shall notify the Department within 14 days and specify a schedule for making the necessary changes to maintain adequate legal authority.

C. Source Identification

Sources of pollutants in stormwater runoff shall be identified and linked to specific water quality impacts on a watershed basis. The source identification process shall be used to develop watershed restoration plans that effectively improve water quality. The following information shall be submitted for all County watersheds in geographic information system (GIS) format with associated tables as required in PART IV of this permit:

1. Storm drain system: major outfalls, inlets, and associated drainage areas delineated;
2. Urban best management practices (BMP): stormwater management facility data including outfall locations and delineated drainage areas;
3. Impervious surfaces: delineated controlled and uncontrolled impervious areas based on, at a minimum, Maryland's hierarchical eight-digit sub-basins;
4. Monitoring locations: locations established for chemical, biological, and physical monitoring of watershed restoration efforts and the *2000 Maryland Stormwater Design Manual*; and
5. Watershed restoration: restoration projects proposed, under construction, and completed with associated drainage areas delineated.

D. Discharge Characterization

Montgomery County and 10 other municipalities in Maryland have been conducting discharge characterization monitoring since the early 1990s. From this expansive monitoring, a statewide database has been developed that includes hundreds of storms across numerous land uses. Analyses of this dataset and other research performed nationally effectively characterize stormwater runoff in Maryland for NPDES municipal stormwater purposes. These analyses and additional monitoring data required under this permit shall be used by Montgomery County to assess the following: the effectiveness of stormwater management programs, County watershed restoration projects, and to document progress toward meeting waste load allocations (WLAs) included in Total Maximum Daily Loads (TMDLs) approved by the U.S. Environmental Protection

Agency (EPA) for watersheds or stream segments located in the County. Details about this monitoring can be found in PART III. H.

E. Management Programs

The following management programs shall be implemented in areas served by the County's municipal separate storm sewer system. These management programs are designed to control stormwater discharges to the maximum extent practicable (MEP) and shall be maintained for the term of this permit. Additionally, these programs shall be integrated with other permit requirements to promote a comprehensive adaptive approach toward solving water quality problems. The County shall modify these programs according to PART III. J. below and address any needed program improvements identified as a result of periodic evaluation and within the timeframe specified by MDE.

1. Stormwater Management

An acceptable stormwater management program shall be maintained in accordance with the Environment Article, Title 4, Subtitle 2, Annotated Code of Maryland. At a minimum, the County shall:

- a. Conduct preventative maintenance inspections of all stormwater management facilities at least on a triennial basis. Documentation identifying the facilities inspected, the number of maintenance inspections, follow-up inspections, the enforcement action(s) used to ensure compliance, the maintenance inspection schedules, and any other relevant information shall be submitted in the County's annual reports.
- b. Implement the stormwater management design policies, principles, methods, and practices found in the *2000 Maryland Stormwater Design Manual* and the provisions of Maryland's *Stormwater Management Act of 2007* (Act). This includes, but is not limited to:
 - i. Within one year of State adoption of regulations required under the Act, modify the County stormwater management ordinance, regulations, and new development plans review and approval processes in order to implement environmental site design (ESD) to the MEP;
 - ii. Within one year of State adoption of regulations required under the Act, review existing planning and zoning and public works ordinances and other local codes to identify impediments to, and opportunities for, promoting the implementation of environmental site design (ESD) to the MEP;
 - iii. Within two years of State adoption of regulations required under the Act, modify those ordinances and codes identified in Part III. E.1.b.ii. above to eliminate impediments to, and promote implementation of, ESD to the MEP; and
 - iv. Report annually the modifications that have or need to be made to all ordinances, regulations, and new development plans review and

approval processes to accommodate the requirements of the Act.

- c. Maintain programmatic and implementation information according to the requirements established as part of MDE's triennial stormwater program review.

2. Erosion and Sediment Control

An acceptable erosion and sediment control program shall be maintained in accordance with the Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland. At a minimum, the County shall:

- a. Implement program improvements identified in any MDE evaluation of the County's application for the delegation of erosion and sediment control enforcement authority;
- b. At least three times per year, conduct responsible personnel certification classes to educate construction site operators regarding erosion and sediment control compliance. Program activity shall be recorded on MDE's "green card" database and submitted as required in PART IV of this permit; and
- c. Report quarterly, information regarding earth disturbances exceeding one acre or more. Quarters shall be based on calendar year and submittals shall be made within 30 days following each quarter. The information submitted shall cover permitting activity for the preceding three months.

3. Illicit Discharge Detection and Elimination

The County shall implement an inspection and enforcement program to ensure that all discharges to and from the municipal separate storm sewer system that are not composed entirely of stormwater are either permitted by MDE or eliminated. At a minimum, activities shall include:

- a. Field screening at least 150 outfalls annually. Each outfall having a discharge shall be sampled using a chemical test kit. Within one year of permit issuance, an alternative program may be submitted for MDE approval that methodically identifies, investigates, and eliminates illegal connections to the County's storm drain system;
- b. Conducting routine surveys of commercial and industrial areas for discovering and eliminating pollutant sources. Areas surveyed shall be reported annually;
- c. Maintaining a program to address illegal discharges, dumping, and spills;
- d. Using appropriate enforcement procedures for investigating and eliminating illicit discharges, illegal dumping, and spills. Significant

discharges shall be reported to MDE for enforcement and/or permitting;
and

- e. Reporting illicit discharge detection and elimination activities as specified in PART IV of this permit.

4. Trash and Litter

In 2006, Montgomery County committed to the goal of a trash free Potomac River by 2013 and signed the *Potomac River Watershed Trash Treaty* with other Washington, D.C. metropolitan area jurisdictions. Activities to meet obligations under the Treaty are specified in the *Trash Free Potomac Watershed Initiative 2006 Action Agreement* and include trash abatement program implementation, education, and evaluation to improve the quality of the Potomac River and its tributaries. The Potomac River Watershed Trash Treaty is incorporated by reference into this permit.

Consistent with the *Potomac River Watershed Trash Treaty*, Montgomery County shall:

- a. Support and implement regional strategies to reduce trash and increase recycling;
- b. As part of its public education program described in Part III. E.7. below, within one year of permit issuance, develop a work plan to implement a public outreach and education campaign with specific performance goals and corresponding deadlines to increase residential and commercial recycling rates, improve trash management, and reduce littering;
- c. Within one year of permit issuance, establish baseline conditions of trash being discharged to and from the storm drain system and develop a trash reduction strategy and work plan for the Montgomery County portion of the Anacostia Watershed detailing control measures and deadlines by which those measures will be implemented to meet the 2013 goal of a trash free Potomac River. MDE shall review the work plan and approve it, if it meets the requirements of this permit;
- d. In conformance with the County's trash reduction strategy, implement approved control measures according to the schedule specified in the Anacostia trash reduction work plan to eliminate the discharge of trash and debris from the County storm drain system;
- e. Evaluate and modify local trash reduction strategies with an emphasis on source reduction and proper disposal;
- f. Conduct a public participation process in the development of the trash reduction strategy that includes:
 - i. Notice in a local newspaper and the County's web site outlining

- ii. Procedures for providing the strategy to interested parties upon request;
 - iii. A minimum 30 day public comment period; and
 - iv. A summary of how the County addressed or will address any material public comments received
- g. Submit annually, a report which details progress toward implementing the requirements of the *Trash Free Potomac Watershed Initiative 2006 Action Agreement*. The report shall describe the status of trash and litter elimination efforts including resources (e.g., personnel and financial) expended and the effectiveness of the program components described above toward meeting the goals of the Anacostia Watershed trash reduction strategy developed according to PART III. E.4.d. above.

5. Property Management

The County shall ensure that a Notice of Intent (NOI) has been submitted to MDE and a pollution prevention plan developed for each County-owned and municipal facility requiring NPDES stormwater general permit coverage. The status of pollution prevention plan development and implementation for each County-owned and municipal facility shall be submitted annually.

6. Road Maintenance

The County shall continue to implement a program to reduce pollutants associated with road maintenance activities. The road maintenance program shall include:

- a. Street sweeping;
- b. Inlet cleaning;
- c. Reducing the use of pesticides, herbicides, fertilizers, and other pollutants associated with roadside vegetation management through increased use of integrated pest management (IPM); and
- d. Controlling the overuse, and to the MEP, reducing use of winter weather deicing materials through continual testing and improvement of materials, equipment calibration, employee training, and effective decision-making.

The County shall report annually on the changes in practices and the pollutant reductions resulting from the road maintenance program.

7. Public Education

The County shall continue to implement a public education and outreach program to reduce stormwater pollutants. Outreach efforts may be integrated with other

aspects of the County's activities. These efforts are to be documented and summarized in each annual report. The County shall within one year of permit issuance, develop a work plan to implement a public outreach and education campaign with specific performance goals and deadlines to:

- a. Establish and publicize a compliance hotline for the public reporting of suspected illicit discharges, illegal dumping, and spills.
- b. Provide information to inform the general public about the benefits of:
 - i. Increasing water conservation;
 - ii. The importance of community stormwater management facility maintenance;
 - iii. Proper erosion and sediment control practices;
 - iv. Increasing proper disposal of household hazardous waste;
 - v. Improving lawn care and landscape management (e.g., the proper use of herbicides, pesticides, and fertilizers, ice control and snow removal, cash for clippers, etc.);
 - vi. Car care;
 - vii. Improving private well and septic system management; and
 - viii. Proper pet waste management.
- c. Provide information regarding the following water quality issues to the regulated community when requested:
 - i. NPDES permitting requirements;
 - ii. Pollution prevention plan development;
 - iii. Proper housekeeping; and
 - iv. Spill prevention and response.
- d. Provide information regarding trash and littering as prescribed in Part III. E.4. above.

F. Watershed Assessment

1. The County shall conduct a systematic assessment of water quality within all of its watersheds. These watershed assessments shall include detailed water quality analyses, the identification of water quality improvement opportunities, and the development and implementation of plans to control stormwater discharges to the MEP. The overall goal is to ensure that each County watershed has been thoroughly evaluated and has an implementation plan to maximize water quality improvements. At a minimum, the County shall:
 - a. Within one year of permit issuance, provide a long-term schedule for the completion of detailed assessments of each watershed in Montgomery County. These assessments shall be performed at an appropriate scale (e.g., Maryland's hierarchical twelve-digit sub-basins). At a minimum, watershed assessments shall:

- i. Determine current water quality conditions;
 - ii. Identify and rank water quality problems;
 - iii. Identify and prioritize all structural and nonstructural water quality improvement opportunities;
 - iv. Include the results of a visual watershed inspection;
 - v. Specify how restoration efforts will increase progress toward meeting any applicable WLAs included in EPA approved TMDLs. The County shall modify restoration efforts based on program implementation effectiveness, implementation plans developed according to PART III. J. below, and any TMDLs that are changed during this permit term;
 - vi. Specify how the restoration efforts will be monitored and how those data collected will be used to document progress toward meeting applicable WLAs;
 - vii. Provide an estimated cost, a detailed implementation schedule, and benchmarks for anticipated pollutant load reductions to show progress toward meeting applicable WLAs for those improvement opportunities identified above; and
 - viii. Include a public information component.
- b. Perform watershed assessments based on the established long-term schedule until all land area in Montgomery County is covered by a specific action plan to address the water quality problems identified.
 - c. The County shall complete a detailed watershed assessment for the Great Seneca Creek and Muddy Branch watersheds within one year of permit issuance.
 - d. Report annually on the status of compliance with the watershed assessment schedule.

G. Watershed Restoration

The County shall implement those practices identified in PART III. F. above to control stormwater discharges to the MEP. The overall goals are to maximize the water quality in a single watershed, or combination of watersheds; use efforts that are definable and the effects of which are measurable; and show progress toward meeting any applicable WLAs developed under EPA approved TMDLs. At a minimum, the County shall:

- 1. By the end of this permit term, complete the implementation of those restoration efforts that were identified and initiated during the previous permit term to restore ten percent of the County's impervious surface area. The watershed, or combination of watersheds where the restoration efforts are implemented shall be monitored according to PART III. H. below to determine effectiveness toward improving water quality.
- 2. By the end of this permit term, complete the implementation of restoration in a

watershed, or combination of watersheds, to restore an additional twenty percent of the County's impervious surface area that is not restored to the MEP. Restoration shall include but not be limited to the use of ESD and other nonstructural techniques, structural stormwater practice retrofitting, and stream channel restoration. These efforts shall be separate from those specified in PART III. G.1. above and shall be monitored according to PART III. H. below to determine effectiveness toward improving water quality.

3. Report annually:

- a. The monitoring data and surrogate parameter analyses used to determine water quality improvements;
- b. The estimated cost and the actual expenditures for program implementation; and
- c. The progress toward meeting any applicable WLAs developed under EPA approved TMDLs in the watersheds established in PART III. G.1. and 2. above where restoration has occurred.

H. Assessment of Controls

Assessment of controls is critical for determining the effectiveness of the NPDES stormwater management program and progress toward improving water quality. Therefore, the County shall use chemical, biological, and physical monitoring to document progress toward meeting the watershed restoration goals identified in PART III. G. above and any applicable WLAs developed under EPA approved TMDLs. Additionally, the County shall continue physical stream monitoring in the Clarksburg Special Protection Area to assess the implementation of the *2000 Maryland Stormwater Design Manual*. Specific monitoring requirements are described below.

1. Watershed Restoration Assessment

The County shall continue monitoring in the Lower Paint Branch watershed, or, select and submit for MDE's approval a new watershed restoration project for monitoring. Monitoring activities shall occur where the cumulative effects of watershed restoration activities can be assessed. One outfall and associated in-stream station, or other locations based on a study design approved by MDE, shall be monitored. The minimum criteria for chemical, biological, and physical monitoring are as follows:

a. Chemical Monitoring:

- i. Twelve (12) storm events shall be monitored per year at each monitoring location with at least two occurring per quarter. Quarters shall be based on the calendar year. If extended dry weather periods occur, baseflow samples shall be taken at least once per month at the monitoring stations if flow is observed;

- ii. Discrete samples of stormwater flow shall be collected at the monitoring stations using automated or manual sampling methods. Measurements of pH and water temperature shall be taken;
- iii. At least three (3) samples determined to be representative of each storm event shall be submitted to a laboratory for analysis according to methods listed under 40 CFR Part 136 and event mean concentrations (EMC) shall be calculated for:

Biochemical Oxygen Demand (BOD ₅)	Total Lead
Total Kjeldahl Nitrogen (TKN)	Total Copper
Nitrate plus Nitrite	Total Zinc
Total Suspended Solids	Total Phosphorus
Total Petroleum Hydrocarbons (TPH)	Hardness
E. coli or enterococcus	

- iv. Continuous flow measurements shall be recorded at the in-stream monitoring station or other practical locations based on an approved study design submitted to MDE for review and approval. Data collected shall be used to estimate annual and seasonal pollutant loads and reductions, and for the calibration of watershed assessment models. Pollutant load estimates shall be reported according to Maryland's hierarchical eight-digit sub-basins.
- b. Biological Monitoring:
- i. Benthic macroinvertebrate samples shall be gathered each Spring between the outfall and in-stream stations or other practical locations based on an approved study design; and
 - ii. The County shall use the EPA Rapid Bioassessment Protocols (RBP), Maryland Biological Stream Survey (MBSS), or other similar method approved by MDE.
- c. Physical Monitoring:
- i. A geomorphologic stream assessment shall be conducted between the outfall and in-stream monitoring locations or in a reasonable area based on an approved study design. This assessment shall include an annual comparison of permanently monumented stream channel cross-sections and the stream profile;
 - ii. A stream habitat assessment shall be conducted using techniques defined by the EPA's RBP, MBSS, or other similar method approved by MDE; and
 - iii. A hydrologic and/or hydraulic model shall be used (e.g., TR-20, HEC-2, HEC-RAS, HSPF, SWMM, etc.) to analyze the effects of rainfall; discharge rates; stage; and, if necessary, continuous flow on channel geometry.
- d. Annual Data Submittal: The County shall describe in detail its monitoring

activities for the previous year and include the following:

- i. EMCs submitted on MDE's long-term monitoring database as specified in PART IV below;
- ii. Chemical, biological, and physical monitoring results and a combined analysis for the approved monitoring locations; and
- iii. Any requests and accompanying justifications for proposed modifications to the monitoring program.

2. **Stormwater Management Assessment**

The County shall continue monitoring the Clarksburg Special Protection Area for determining the effectiveness of stormwater management practices for stream channel protection. Physical stream monitoring protocols shall include:

- a. An annual stream profile and survey of permanently monumented cross-sections at an unnamed tributary to Little Seneca Creek to evaluate channel stability in conjunction with the residential development of Clarksburg;
- b. A comparison of the annual stream profile and survey of the permanently monumented cross-sections with baseline conditions for assessing areas of aggradation and degradation; and
- c. A hydrologic and/or hydraulic model shall be used (e.g., TR-20, HEC-2, HEC-RAS, HSPF, SWMM, etc.) to analyze the effects of rainfall; discharge rates; stage; and, if necessary, continuous flow on channel geometry.

I. **Program Funding**

1. Annually, a fiscal analysis of the capital, operation, and maintenance expenditures necessary to comply with all conditions of this permit shall be submitted as required in PART IV below.
2. Adequate program funding to comply with all conditions of this permit shall be maintained.

J. **Total Maximum Daily Loads**

1. Section 402(p)(3)(B)(iii) of the Clean Water Act (CWA) states that municipal storm sewer system permits must require stormwater controls to reduce the discharge of pollutants to the MEP. By regulation at 40 CFR §122.44, EPA further requires that BMPs and programs implemented pursuant to this permit must be consistent with applicable WLAs developed under EPA approved TMDLs. The overall goals of Maryland's NPDES municipal stormwater permit program are to control stormwater pollutant discharges by implementing the BMPs and programs required by this permit, show progress toward meeting

WLAs developed under EPA approved TMDLs, and contribute to the attainment of water quality standards according to the CWA.

In order to accomplish these goals, this permit requires in Part III. J. 2. below, that the County develop TMDL implementation plans that include estimates of pollutant loading reductions (benchmarks) to be achieved by specific deadlines and describe those actions necessary to meet the storm drain system's share of WLAs in EPA approved TMDLs. These implementation plans may be in addition or complementary to the watershed assessments required in PART III. F. above and include ongoing watershed restoration efforts required in this permit, as appropriate. Implementation plan benchmarks shall be based on data available to and generated by the County and used as interim goals for guiding adaptive management activities. All EPA approved TMDL's that establish WLA's applicable to the County's storm drain system are incorporated by reference into this permit.

2. Within one year of the effective date of this permit or the approval of an applicable TMDL by EPA, whichever is later, the County shall submit to MDE for review and approval a TMDL implementation plan for each EPA approved TMDLs for a watershed or portion of a watershed covered by this permit. The implementation plans shall include:
 - a. The actions and deadlines by which those actions must be taken to meet the required pollutant load reduction benchmarks and WLAs within the specified time frame;
 - b. A description of how ongoing watershed restoration efforts will be modified to address any applicable WLAs;
 - c. A schedule and cost estimate to implement the complete watershed restoration efforts necessary to meet established WLA benchmarks;
 - d. A description of a plan that will be used when benchmarks are not met and projected funding is inadequate;
 - e. A public participation component that includes:
 - i. Notice in a local newspaper and the County's web site outlining how the public may obtain information and provide comments to the County regarding implementation plans;
 - ii. Procedures for providing the plan to interested parties upon request;
 - iii. A minimum 30 day comment period; and
 - iv. A summary in the next annual report of how the County addressed or will address any material public comments received.
3. As reflected in PART III. H. above, the assessment to determine whether the conditions of this permit are satisfied, the MEP standard is reached, and whether

progress toward meeting applicable WLAs is realized is critical. Therefore, complete and accurate annual reporting, pursuant to PART IV of this permit is required to allow for regulatory review of the permittee's stormwater management program and continued assessment of waters of the State.

4. If EPA approved TMDL WLAs are not being met according to the benchmarks and deadlines contained in the County's TMDL implementation plans, an iterative approach shall be used where additional or alternative stormwater controls are proposed and implemented in order to achieve WLAs. The permittee shall evaluate and document progress toward meeting TMDL requirements within the jurisdiction on an annual basis. This assessment shall describe specific actions undertaken pursuant to the permit and if necessary, how these actions will be modified, and the deadlines by which they will be modified to achieve compliance with EPA approved TMDLs. This assessment shall include complete descriptions of the analytical methodology used to evaluate the effectiveness of restoration efforts; include summaries of monitoring data, descriptions of statistical analysis and/or other modeling approaches used to evaluate the data, and GIS data; and a detailed description of sampling protocols.
5. MDE shall review the annual assessment and any proposed modifications to the TMDL implementation plan and approve the modifications, if they are adequate.

PART IV. PROGRAM REVIEW AND ANNUAL PROGRESS REPORTING

A. Annual Reporting

1. Annual progress reports, required under 40 CFR 122.42(c), will facilitate the long-term assessment of Montgomery County's NPDES stormwater program. The County shall submit annual reports on or before the anniversary date of this permit that include:
 - a. The status of implementing the components of the stormwater management program that are established as permit conditions including:
 - i. Source Identification;
 - ii. Stormwater Management;
 - iii. Erosion and Sediment Control;
 - iv. Illicit Discharge Detection and Elimination;
 - v. Trash and Litter;
 - vi. Property Management;
 - vii. Road Maintenance;
 - viii. Public Education;
 - ix. Watershed Assessment;
 - x. Watershed Restoration;
 - xi. Assessment of Controls;
 - xii. Program Funding; and
 - xiii. Total Maximum Daily Loads.

- b. A narrative summary describing the results and analyses of data, including monitoring data that is accumulated throughout the reporting year;
 - c. Expenditures for the reporting period and the proposed budget for the upcoming year;
 - d. A summary describing the number and nature of enforcement actions, inspections, and public education programs;
 - e. The identification of water quality improvements and documentation of progress toward meeting applicable WLAs developed under EPA approved TMDLs; and
 - f. The identification of any proposed changes to the County's program when WLAs are not being met.
2. To enable MDE to evaluate the effectiveness and progress of implementation of permit requirements, the following information shall be submitted on databases (in a format) consistent with Attachment A. Annually, except where noted, the following shall be submitted:
- a. Storm drain system mapping (PART III. C.1.);
 - b. Urban BMP locations (PART III. C.2.);
 - c. Impervious surfaces (PART III. C.3.);
 - d. Watershed restoration project locations (PART III. C.5.);
 - e. Monitoring site locations (PART III. C.4.);
 - f. Chemical monitoring (PART III. H.1.);
 - g. Pollutant load reductions (PART III. H.1.);
 - h. Illicit discharge detection and elimination activities (PART III. E.3.);
 - i. Responsible personnel certification information (PART III. E.2.);
 - j. Grading permit information - quarterly (PART III. E.2.); and
 - k. Fiscal analyses - cost for NPDES related implementation (PART III. I.).
3. Because this permit uses an iterative approach to implementation, the County must evaluate the effectiveness of its programs in the Annual Report. BMP and program modifications shall be made if the County's Annual Report does not demonstrate compliance with this permit and show progress toward meeting

WLAs developed under EPA approved TMDLs.

B. Program Review

In order to assess the effectiveness of the County's NPDES program for eliminating non-stormwater discharges through the illicit connection program and reducing the discharge of pollutants to the MEP to protect water quality, MDE will review program implementation, annual reports, and periodic data submittal on an annual basis. Procedures for the review of local erosion and sediment control and stormwater management programs exist in Maryland's Sediment Control and Stormwater Management Laws. Additional evaluations may be conducted at MDE's discretion to determine compliance with permit conditions.

C. Reapplication for NPDES Stormwater Discharge Permit

This permit is intended to continue in effect for no more than 5 years. Continuation or reissuance of this permit beyond this permit term will require the County to reapply for NPDES stormwater discharge permit coverage in its fourth year annual report. Failure to reapply for coverage constitutes a violation of this permit.

As part of this application process, Montgomery County shall submit to MDE an executive summary of its NPDES stormwater management program that specifically describes how the County is meeting the overall goal to ensure that each County watershed has been thoroughly evaluated and its progress in implementing water quality improvements to the MEP. This application shall be used to gauge the effectiveness of the County's NPDES stormwater program and will provide guidance for developing future permit conditions. At a minimum, the application summary shall include:

1. Montgomery County's NPDES stormwater program goals;
2. Program summaries for the permit term regarding:
 - a. Illicit connection detection and elimination results;
 - b. Watershed restoration status including County totals for impervious acres, impervious acres controlled by stormwater management, the current status of watershed restoration projects and acres managed, and documentation of progress toward meeting WLAs developed under EPA approved TMDLs as of the date of issuance of this permit for watersheds or stream segments located in the County.
 - c. Pollutant load reductions as a result of this permit and an evaluation of whether TMDLs are being achieved.
 - d. Other relevant data and information for describing County programs.
3. Program operation and capital improvement costs for the permit term; and

4. Descriptions of any proposed permit condition changes based on analyses of the successes and failures of the County's efforts to comply with the conditions of this permit.

PART V. SPECIAL PROGRAMMATIC CONDITIONS

A. Tributary Strategies

With the renewal of the Chesapeake Bay Agreement in 2000, Maryland, along with Virginia, Pennsylvania, the District of Columbia, and the Chesapeake Bay Commission, continues to reduce the discharge of nutrients and sediments to Chesapeake Bay. Montgomery County lies predominantly within two of Maryland's ten major Chesapeake Bay tributary basins: The Middle Potomac and Patuxent River tributary basins. This NPDES permit encourages Montgomery County to assist with the implementation of the Tributary Strategy designed to meet the nutrient and sediment reduction goals of these tributaries.

B. Comprehensive Planning

The County shall cooperate with the Maryland National Capital Park and Planning Commission (Commission) during the development and completion of the Water Resources Element (WRE) of the Commission's comprehensive land planning process as required by the Maryland Economic Growth, Resource Protection and Planning Act of 1992 (Article 66B, Annotated Code of Maryland). Such cooperation shall entail all reasonable actions authorized by law and not restricted by the Maryland-Washington Regional District Act (Article 28, Section 7-101 through 7-121.1, Annotated Code of Maryland), including but not limited to reviewing and approving the plans prepared and presented to it by the Commission, appropriating funds, and guiding the work of the Commission by instructing it to include certain tasks within its action plan.

PART VI. ENFORCEMENT AND PENALTIES

A. Discharge Prohibitions and Receiving Water Limitations

The County shall prohibit non-stormwater discharges through its municipal separate storm sewer system. NPDES permitted non-stormwater discharges are exempt from this prohibition. Discharges from the following will not be considered a source of pollutants when properly managed: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated ground water infiltration to separate storm sewers; uncontaminated pumped ground water; discharges from potable water sources; foundation drains; air conditioning condensation; irrigation waters; springs; footing drains; lawn watering; individual residential car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash water; and fire fighting activities. The discharge of stormwater containing pollutants, which have not been reduced to the MEP, is prohibited.

The County shall not cause the contamination or other alteration of the physical, chemical, or biological properties of any waters of the State, including a change in temperature, taste, color, turbidity, or odor of the waters or the discharge or deposit of any organic matter, harmful organism, or liquid, gaseous, solid, radioactive, or other substance into any waters of the State, that will render the waters harmful to:

1. Public health, safety, or welfare;
2. Domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial use;
3. Livestock, wild animals, or birds; and
4. Fish or other aquatic life.

B. Duty to Mitigate

The County shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

C. Duty to Comply

The County shall comply with all conditions of this permit. Failure to comply with a permit provision constitutes a violation of the CWA and is grounds for enforcement action; permit termination, revocation, or modification; or denial of a permit renewal application. The County shall comply at all times with the provisions of the Environment Article, Title 4, Subtitles 1, 2, and 4; Title 7, Subtitle 2; and Title 9, Subtitle 3 of the Annotated Code of Maryland.

The County shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the County to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the County only when the operation is necessary to achieve compliance with the conditions of the permit.

D. Sanctions

1. Penalties Under the CWA - Civil and Criminal

The CWA provides that any person who violates any permit condition is subject to a civil penalty not to exceed \$32,500 per day for each violation. Any person who negligently violates any permit condition is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. Any person who

knowingly violates any permit condition is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both.

2. Penalties Under the State's Environment Article - Civil and Criminal

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the County from civil or criminal responsibilities and/or penalties for a violation of Title 4, Title 7, and Title 9 of the Environment Article, Annotated Code of Maryland, or any federal, local, or other State law or regulation. Section 9-342 of the Environment Article provides that a person who violates any condition of this permit is liable to a civil penalty of up to \$10,000 per violation, to be collected in a civil action brought by the Department, and with each day a violation continues being a separate violation. Section 9-342 further authorizes the Department to impose upon any person who violates a permit condition, administrative civil penalties of up to \$1,000 per violation, up to \$50,000.

Section 9-343 of the Environment Article provides that any person who violates a permit condition is subject to a criminal penalty not exceeding \$25,000 or imprisonment not exceeding 1 year, or both for a first offense. For a second offense, Section 9-343 provides for a fine not exceeding \$50,000 and up to 2 years.

The Environment Article, §9-343, Annotated Code of Maryland, provides that any person who tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$50,000 per violation, or by imprisonment for not more than 2 years per violation, or both.

The Environment Article, §9-343, Annotated Code of Maryland, provides that any person who knowingly makes any false statement, representation, or certification in any records or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$50,000 per violation, or by imprisonment for not more than 2 years per violation, or both.

E. Permit Revocation and Modification

1. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the County for a permit modification or a notification of planned changes or anticipated noncompliance does not stay any permit condition. A permit may be modified by MDE upon written request by the County and after notice and opportunity for a public hearing in accordance with and for the reasons set forth in COMAR 26.08.04.10.

After notice and opportunity for a hearing and in accordance with COMAR 26.08.04.10, MDE may modify, suspend, or revoke and reissue this permit in whole or in part during its term for causes including, but not limited to the following:

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- c. A change in any condition that requires either a temporary reduction or elimination of the authorized discharge; and
- d. A determination that the permitted discharge poses a threat to human health or welfare or to the environment and can only be regulated to acceptable levels by permit modification or termination.

2. Duty to Provide Information

The County shall furnish to MDE, within a reasonable time, any information that MDE may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit; or to determine compliance with this permit. The County shall also furnish to MDE, upon request, copies of records required to be kept by this permit.

F. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State, or local law or regulations.

G. Severability

The provisions of this permit are severable. If any provision of this permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this permit to any circumstance is held invalid, its application to other circumstances shall not be affected.

H. Signature of Authorized Administrator and Jurisdiction

Each application, report, or other information required under this permit to be submitted to MDE shall be signed as required by COMAR 26.08.04.01-1. Signatories shall be a principal executive officer, ranking elected official, or other duly authorized employee.

Jay G. Sakai, Director
Water Management Administration

Date



MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore MD 21230

410-537-3000 • 1-800-633-6101

9/10/08

Martin O'Malley
Governor

Shari T. Wilson
Secretary

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D.
Deputy Secretary

STATE OF MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT MONTGOMERY COUNTY, MARYLAND (009-DP-3320) (MD0068349)

TENTATIVE DETERMINATION TO ISSUE PERMIT

FACT SHEET

Permit Authority

According to 40 Code of Federal Regulations (CFR) §122.26, owners of large and medium municipal separate storm sewer systems must obtain a National Pollutant Discharge Elimination System (NPDES) Permit. This permit is a joint federal and State permit and subject to federal and State regulations. The Clean Water Act (CWA), federal regulations, and numerous guidelines and policies of the United States Environmental Protection Agency (EPA) provide the federal permit requirements. The Annotated Code of Maryland, Environment Article, Code of Maryland Regulations (COMAR), and policies and guidelines of the Maryland Department of the Environment (MDE) provide the State permitting requirements.

Permit History

Montgomery County is a large (population > 250,00) municipality and owns and operates a storm sewer system that serves the County and the Towns of Chevy Chase, Chevy Chase Village, Kensington, Somerset, and Poolesville; and the Village of Friendship Heights (co-permittees). The County's initial permit was issued on March 15, 1996 and reissued on July 5, 2001. This "second-generation" permit was subsequently modified on January 26, 2004 to include the co-permittees identified above. This permit action is in response to an application to renew submitted by Montgomery County on August 12, 2005. The proposed permit action is to issue a "third-generation" NPDES permit to Montgomery County to regulate the discharge of stormwater runoff from the storm drain system owned and operated by the County and its co-permittees.

A public informational meeting was held to discuss this permit on November 29, 2005. Based on comments received at this meeting, numerous discussions with the Maryland Stormwater Consortium and EPA, and building upon the framework established during the preceding permit terms, MDE has made a tentative determination to reissue Montgomery County's NPDES stormwater permit. This fact sheet

provides basic information about the requirements in Montgomery County's next permit and explains opportunities for public participation.

Stormwater System in Montgomery County

Montgomery County, according to the United States Department of Commerce's 1990 Census, had a total population of 757,021. The total population increased to 801,515 according to the 2000 Census and is projected to increase to 1,024,000 by the end of this permit term (2013). This rapid pace of growth and ensuing development presents many challenges. Significant pollutant reductions will be needed to maintain water quality in many of the County's waterways.

Montgomery County covers an area of 499 square miles and has approximately 11,000 miles of storm sewer pipes and 900 "major" outfalls. Major outfalls are identified on Attachment A and defined by federal regulations as:

- An outfall pipe with an internal diameter of 36 inches or greater; or
- A discharge from other than a round pipe that drains fifty acres or more; or
- An outfall pipe with an internal diameter of 12 inches or greater that drains an area that includes land zoned for industrial use.

Stormwater from these outfalls is discharged into two of Maryland's ten major Chesapeake Bay tributary basins: the Middle Potomac and Patuxent River basins. A number of stream segments in these basins are impacted by sediments, nutrients, fecal bacteria, toxics, and trash. Total Maximum Daily Loads (TMDLs) have been approved and waste load allocations established for Cabin John Creek, Rock Creek, and the Anacostia River for fecal bacteria impairments. A waste load allocation is that part of an impairing pollutant's total allowable discharge that is attributed to regulated point sources. TMDLs and waste load allocations have also been established for sediments and nutrients in the Anacostia River and for phosphorous and sediments to Clopper Lake.

The following TMDLs are pending EPA's approval: Lower Monocacy River for fecal bacteria; Triadelphia Reservoir for phosphorus and sediments; and Rocky Gorge Dam for phosphorus. A TMDL for sediments in the Lower Monocacy River is expected to be submitted to EPA by September 2008.

Other impairments to water bodies in, or partially in, Montgomery County to be addressed by future TMDLs include:

Basin Name	Basin Code	Impairment(s)
Rocky Gorge Dam	02131107	Biological
Potomac River Montgomery County	02140202	Nutrients, Sediments, PCBs, and Biological
Anacostia River (Nontidal)	02140205	Heptachlor Epoxide, PCBs, Biological, and Trash/Debris
Anacostia River (Tidal)	02140205	Trash/Debris
Rock Creek	02140206	Sediments, Nutrients, and Biological
Cabin John Creek	02140207	Sediments, Nutrients, and Biological
Seneca Creek	02140208	Sediments, Nutrients, and Biological
Lower Monocacy River	02140302	Nutrients and Biological

Maryland's NPDES Municipal Stormwater Permit Program (MS4)

The goals of Maryland's NPDES municipal stormwater permit program are to control stormwater pollutant discharges by implementing to the maximum extent practicable the best management practices (BMPs) and programs required by this permit, show a reduction of pollutants pursuant to EPA approved TMDLs, and improve water quality. Compliance with the conditions in this reissued permit will reduce pollutant discharges from Montgomery County's storm drain system. The proposed permit requires the County to develop and implement plans to reduce overall pollutant loadings and address approved waste load allocations.

Tentative Permit Requirements

The County will be required to regularly review and refine its BMPs to reduce pollutants to the maximum extent practicable. Therefore, a net reduction in pollutant loadings over the five-year permit term is required. Although EPA has not provided a precise definition of "maximum extent practicable," this permit requires measurable and steady reductions in pollutants and implementation plans to meet waste load allocations through an adaptive management process.

Where EPA approved TMDLs have been established, an iterative approach is required to identify where additional or alternative stormwater controls are implemented in order to achieve waste load allocations. The permittee shall evaluate and document progress toward meeting waste load allocations within its jurisdiction on an annual basis. This assessment is to describe specific efforts undertaken pursuant to the permit and how these efforts will be modified to achieve compliance with EPA approved TMDLs.

Sources of pollutants in stormwater runoff are required to be identified and linked to specific water quality impacts on a watershed basis. The County is required to conduct a systematic assessment of water quality for each watershed. These watershed assessments include detailed water quality analyses, identification of water quality improvement opportunities, and development and implementation of plans to control stormwater discharges to the maximum extent practicable.

Assessment of controls is critical to determine the effectiveness of the NPDES stormwater management program and progress toward improving water quality. Therefore, the County will use chemical, biological, and physical monitoring to document progress toward meeting its watershed restoration goals and any applicable WLAs developed under EPA approved TMDLs. Similarly, program activity measures will be used to monitor program implementation and progress. Activity measures are directly related to the BMPs implemented and source reduction efforts (e.g., tons of material removed from storm drain inlets, number of illicit discharge sources found and eliminated, and changes in recycling rates).

Management programs, designed to control stormwater discharges to the maximum extent practicable are required to be implemented and maintained for the term of this permit. These include implementation of the stormwater management design policies, principles, methods, and practices in the *2000 Maryland Stormwater Design Manual* and the provisions of Maryland's *Stormwater Management Act of 2007*. The Act requires that environmental site design, through the use of nonstructural BMPs and other better site design techniques, be implemented to the maximum extent practicable. Similarly, an approved erosion and sediment control program is to be maintained in accordance with the Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland. Additionally, the County is required to implement an inspection and enforcement program to ensure that all discharges to and from the municipal separate storm sewer system that are not composed entirely of stormwater are either permitted by MDE or eliminated. The

County is also required to continue to implement its program to reduce pollutants associated with road maintenance activities and implement a public education and outreach program to reduce stormwater pollutants.

A new permit condition requires Montgomery County to establish a program to support and implement regional strategies to reduce trash and increase recycling. In 2006, Montgomery County committed to the goal of a trash free Potomac River by 2013 and signed the *Potomac River Watershed Trash Treaty* with other Washington, D.C. metropolitan area jurisdictions. Activities to meet obligations under the Treaty are specified in the *Trash Free Potomac Watershed Initiative 2006 Action Agreement* and include establishing a trash pollution baseline within one year, trash abatement program implementation, education, and evaluation to improve the quality of the Potomac River and its tributaries.

Another new permit condition requires the County to cooperate with the Maryland National Capital Park and Planning Commission during the development and completion of the Water Resources Element (WRE) of the Commission's comprehensive land planning process as required by the Maryland Economic Growth, Resource Protection and Planning Act of 1992 (Article 66B, Annotated Code of Maryland). During the 2006 legislative session, the General Assembly enacted House Bill 1141 Land Use – Local Government Planning (HB 1141). This bill requires local jurisdictions to include their future plans for water supply, wastewater and stormwater in their comprehensive plans.

Summary

This permit represents another step forward for Montgomery County's NPDES municipal stormwater program. In 1996, the County's initial permit laid the foundation for a comprehensive approach to controlling runoff. This was done by inventorying and mapping storm drain system infrastructure; identifying sources of pollution; monitoring storm events to judge chemical, biological, and physical stream responses; and enhancing existing, and establishing new management programs. The second permit in 2001 used the previous five year term to build one of the most formidable municipal stormwater programs in the Mid-Atlantic Region. The County evaluated jurisdiction-wide water quality through a comprehensive biological stream assessment program, prioritized watersheds in order to perform more detailed analyses to guide management implementation, and began to restore ten percent of existing impervious area.

This proposed permit requires an additional twenty percent of the County's impervious area to be restored, a strategy for a trash free Potomac River by 2013 to be developed and implemented, and TMDL implementation plans to be developed and carried out according to the county's schedule in order to meet stormwater waste load allocations established for impaired waters. All of these requirements are in addition to existing countywide management programs and ongoing monitoring efforts and will go a long way toward making Montgomery County's NPDES municipal stormwater program arguably one of the best in the country.

OPPORTUNITY FOR PUBLIC COMMENT

The Maryland Department of the Environment (MDE) has reached a tentative determination to issue a National Pollutant Discharge Elimination System permit to Montgomery County to control storm drain system pollutant discharges. MDE has drafted a permit designed to comply with the United States Environmental Protection Agency's regulations and to control stormwater pollutant discharges from the County's storm drain system.

Under the conditions of the permit, Montgomery County is required to possess the legal authority to control storm drain system pollutants, continue mapping its storm sewer system, monitor stormwater discharges, and develop and implement comprehensive management programs. The permit also increases impervious area treatment goals, requires the support and implementation of regional trash reduction strategies, and requires implementation of environmental site design technologies for new and redevelopment projects to the maximum extent practicable. The County is also required to develop and implement plans to address waste load allocations established under EPA approved total maximum daily load estimates. Penalties for failure to comply with the terms of the permit are provided. The permit is issued for five years.

For more information on stormwater management in Maryland or to view this permit go to: <http://www.mde.state.md.us/Programs/WaterPrograms/SedimentandStormwater/index.asp> or contact Mr. Brian Clevenger at 410-537-3543 or 1-800-633-6101. Copies of the document may be procured at a cost of \$0.36 per page. MDE will hold a public hearing concerning this tentative determination if a written request is received by October 7, 2008. Written requests should be directed to Mr. Brian Clevenger, Maryland Department of the Environment, Water Management Administration, Sediment, Stormwater, and Dam Safety Program, 1800 Washington Blvd., STE. 440, Baltimore, Maryland 21230-1708. Written comments concerning this tentative determination will be accepted through October 17, 2008.

Montgomery County Stormwater Problems and Solutions
and the Role of the 2008- 2013 Stormwater Permit.

Diane Cameron
Coordinator, Montgomery County Stormwater Partners Network
Conservation Program Director
Audubon Naturalist Society¹

Monday, November 3, 2008

Montgomery County Council
Transportation and Environment Committee worksession

Montgomery County's waters are being heavily polluted and degraded by stormwater, even though we have been applying "stormwater best management practices" for the past 25 years. Statistics of water quality decline include: Of Montgomery's 22 major watersheds, about half, or 11, are significantly impaired, with more than 40% of their small streams indicating either "Fair" or "Poor" biological quality. The vast majority of these observed declines are due to stormwater pollution and degradation. We would say that the vast majority of our County's 1500 miles of streams are either threatened by stormwater damages, or are already degraded.

The Stormwater Partners Were Formed to Foster Collaborative Solutions to These Problems.

It's this picture of degradation both in the bugs and fish indicators that we've found – along with our own direct observations of flood damage to our backyard streams and properties – that prompted the Stormwater Partners to request a significant set of improvements to our County's Clean Water Act stormwater permit. Back in 2005 we organized the Stormwater Partners, bringing together 22 organizations including NRDC, and the Chesapeake Bay Foundation; the Civic Federation and all of our watershed groups like Friends of Sligo Creek; together we represent more than 55,000 Montgomery County residents.

We proposed a set of 12 changes to the previous permit – and we've seen roughly half of these points of change reflected in the draft permit that MDE published on September 2 of this year. **The new draft 2008-2013 Montgomery County stormwater permit is a big step forward in:**

- **cleaning up dirty and degraded rivers and streams (Trash and TMDLs);**
- **establishing enforceable requirements for restoration and protection;**
- **applying state-of-the-art stormwater solutions to protect our still-healthy streams from degradation.**

MDE worked closely with both Montgomery County and with the Stormwater Partners in crafting this permit, and we trust that this collaboration will continue.

¹ Ms. Cameron also consults to the Natural Resources Defense Council, Water Resources Program, as part of NRDC's work for more effective stormwater programs in the Anacostia and Patuxent watersheds.

Getting down to specifics, aspects of the draft permit that we strongly support include:

- * TMDLs (pollutant loading caps) – pollutant loading numbers incorporated by reference, along with required plans for meeting those reduced loads.
- * Incorporation of the Trash Treaty's "Zero Trash by 2013" commitment.
- * Environmental Site Design- the County must make code changes by dates certain to incorporate ESD into its stormwater, planning and zoning codes to implement the Stormwater Management Act of 2007– for much greener new development, redevelopment, and retrofits.
- * Inclusion of the public schools.

A few clarifying changes are still needed in order to make this permit a success here, and a model for other counties; including but not limited to: filling in of remaining gaps, notably – correcting the vague and confusing language in the Trash section; the need for meaningful deadline requirements for attaining the pollution loading (TMDL) reductions; and clarity on the role of MCPS as a co-permittee and specific stormwater duties for the School System.

There is an important citizen role in permit implementation – and in supporting the necessary stormwater utility rate increases. About ten years ago, the Montgomery County Council enacted our Water Quality Protection Charge after a lengthy effort led in large part by then-Councilmember Ike Leggett. This stormwater infrastructure utility fee has been incrementally raised by the Council each spring and is currently at the very low rate of \$35.50 per household per year. It must continue to be incrementally raised each year, with somewhat larger annual increases than in the past. We strongly urge you to consider this a necessary and mandatory investment in our future quality of life and in a sustainable Montgomery. **We also submit that this established dedicated funding mechanism means that this newly revised permit is at least a partially-funded mandate. We support additional stormwater funding at all levels of government, and stepped-up private investments – which will also help to create green jobs. We must provide for the mid-term and long-term sustainability of our economy, which depends in part on healthy water resources.**

One area of collaboration that we hope will grow considerably is inter-agency collaboration and coordination within Montgomery County itself. This ramped-up permit will require DEP, DPS, DOT, MCRA, MCPS, and other entities with significant land-management duties to work closely together; we stand ready to support that work as citizens, and we trust that interagency meetings will be open meetings.

Another problem we hope this permit will help us to tackle, through stepped-up public education and outreach, is the lack of public understanding of stormwater problems and solutions. Recent surveys of the public by professional pollsters in both Baltimore and the greater Washington, D.C. area indicate that very few people know that the storm drain across the street usually leads directly to a stream, often without a detour to a stormwater pond. Also, few people realize that walking their dog or dropping trash can contribute to major impairments downstream of waters like the Anacostia and Rock Creek. DEP needs to further collaborate with watershed and environmental groups to educate on these issues – including in our schools in collaboration with MCPS.

Our Department of Environmental Protection deserves kudos for its monumental work in maintaining hundreds of stormwater facilities that serve our public schools and parks and the private residential subdivisions built since the 1980s. Other key DEP programs that tackle stormwater include the Rainscapes Program; watershed restoration; and the stream biological monitoring program which includes significant volunteer efforts through Audubon Naturalist Society and watershed groups.

What's at stake? Our drinking water supplies' quantity and quality; the longevity of our water and wastewater infrastructure; the health of river boaters and stream waders; and the region's success in revitalizing the Anacostia – a commitment that Montgomery County has pledged to do its share to fulfill. The health of our region's economy depends to a significant degree on healthy, safe drinking water and a Bay and local waters teeming with fish and other life. What's at stake is also a lot of real estate: the stability of thousands of properties that border our streams are threatened with millions of dollars in losses due to flood-related damages, including outright loss of hundreds or thousands of acres of land as stormwater surges cause severe streambank erosion.

The total price tag for these problems is still being tallied, but we have a lengthening bill for these stormwater damages to our public infrastructure:

*** \$23 million that WSSC is investing to reach farther into the river for our drinking water supply**, in order to avoid stormwater pollution from Watts Branch

*** WSSC also estimates that it will cost \$8 million up to \$50 million to repair and armor their sewer trunk lines that are exposed in a stream due to stormwater** –caused channel erosion – and this is based on only one-half of the inventory being completed under the Sanitary Sewer Overflow Consent Decree.

*** As a dramatic private example of stormwater damage costs, the College Park Jiffy Lube, located on Paint Branch Creek, lost part of its back parking lot as the land literally slid into the stream due to severe bank erosion. The price tag for shoring up the streambank and repairing the property damage– incurred by Jiffy Lube and its insurers? A million dollars.** Much of the stormwater that caused this damage originated from uncontrolled impervious surfaces upstream in Montgomery County.

*** Climate Change is making droughts last longer and flash floods more intense in our local streams. The source of the stormwater problem is based in the twin processes of conventional sprawl development: 1) adding imperviousness and 2) taking down forests** – and these two factors exacerbate climate change effects and increase property damages and other damages that occur during increasingly severe storms.

*** The further decline of Seneca Creek, especially the Great Seneca and Little Seneca portions, is a harbinger of another possible loss of a formerly high-quality drinking water supply.** The middle Great Seneca in particular has suffered a loss of aquatic life over the past ten years and we attribute this mainly to stormwater-related damages –

mainly stream channel erosion and the smothering of the stream bottom with fine clay particles due to poorly-controlled construction runoff.

Other neighboring communities are investing significant sums in cleaning up their stormwater-related problems – notably, the District of Columbia Combined Sewer Overflow Long Term Control Plan is estimated to cost \$2.2 billion; about \$140 million has been spent thus far to good effect — they've reported a 40% reduction in CSOs. The District is also in the process of enacting a set of stormwater laws and regulations that are based heavily on the Low Impact Development - ESD approach, and least-cost solutions like citizen-based tree planting and private investments in green roofs are being specified, with numbers of trees to be planted (13,500 by 2014) spelled out in a stormwater permit agreement.

DC's Council is considering legislation to establish a stormwater utility fee that will be broader – covering more landowner categories – than Montgomery's WQPC currently covers, including private and public institutional sites like federal buildings and parking lots, and it will also provide incentives for landowners to retrofit LID solutions onto their own properties. Montgomery needs to closely study the District legislation and adapt similar coverage levels and LID incentives here.

Another major “stormwater solution” is land preservation; we urge greater use of this single most effective watershed protection approach through the Agricultural Reserve and Legacy Open Space Programs, but even there we cannot rest on our laurels and cannot automatically assume that stream-friendly land management will be used by our public and private land managers. Rather, we must require Environmental Site Design and ecologically-based care of our “green infrastructure” lands and facilities, and we must remain vigilant through public and private monitoring and enforcement of more-stringent stormwater permits. We look forward to working with the Montgomery County Council, DEP, and our other agencies and providing crucial citizen support as we move forward.

**Maryland Department of the Environment
National Pollutant Discharge Elimination System
Montgomery County Municipal Stormwater Permit
Response to Formal Comments – February 2009**

I. Introduction

In October 2008, the Maryland Department of the Environment (MDE) reached a tentative determination to reissue a National Pollutant Discharge Elimination System (NPDES) municipal stormwater permit to Montgomery County, Maryland. A public hearing to accept formal testimony regarding MDE's decision was held on November 19, 2008. Written comments were also accepted through December 2, 2008 on the County's draft NPDES stormwater permit. This document represents MDE's response to the testimony received at the public hearing and written comments submitted afterward.

A common introduction to both the public hearing testimony and written comments received regarding Montgomery County's stormwater permit mentioned the effects of excess stormwater runoff from urban areas. Stormwater was described collectively as the "... biggest form of pollution affecting the Anacostia River..." carrying trash and accumulated pollutants and causing flooding in low-lying areas of various watersheds throughout the County. Compelling photographic evidence was submitted to MDE regarding how excess runoff causes severe stream bank erosion in tributaries such as Little Falls, Cabin Branch, Whetstone Run, Great Seneca Creek, and both Branches of the Anacostia River. It becomes fairly easy for all organizations, individuals, and government agencies to agree that urban stormwater is a problem that must be addressed.

In both public hearing testimony and written submissions, the majority of commenters mentioned similar themes and concerns about Montgomery County's draft permit. Many cited the direct impacts to streams from runoff volume and pollutants, general concern that not enough is being done to address continually degrading stream systems, and called on MDE to obligate the County to comply with the most stringent permit conditions possible. Specific issues emerged as well. These included compliance with water quality standards; total maximum daily load (TMDL) schedules; antidegradation; watershed restoration; trash; monitoring; management programs like erosion and sediment control, stormwater management, and illicit discharges; and public participation. In addition to a response to the comments regarding the general direction of Montgomery County's NPDES stormwater permit, each of the specific issues is discussed in more detail below.

II. Maryland NPDES Municipal Stormwater Permits

Maryland's municipal storm drain system permit program continues to evolve, building on the cumulative efforts of all NPDES stormwater permittees to implement best management practices (BMPs), evaluate the efficacy of those practices, and improve performance over time by feeding the knowledge gained into continued system improvements. This cumulative effort within all NPDES jurisdictions, generally, and Montgomery County, specifically, is emblematic of the "adaptive management" approach endorsed by the U.S. Environmental Protection Agency (EPA). The technology-driving focus of the program has shifted over time to better incorporate our evolving knowledge and focus on water quality. Adapting its municipal stormwater permit program to meet Maryland's water quality objectives is a challenge that MDE has met head-on

in this permit. Montgomery County's NPDES permit will continue to push program implementation harder toward water quality improvement than any effort to date.

Many commenters suggested that both the Clean Water Act (CWA) and the Code of Federal Regulations (CFR) compel MDE to mandate that specific, numeric effluent limits be met in Montgomery County's permit. A common point of view received was "[t]he Permit must require compliance by the end of the permit term for those pollutants identified as at risk of violating water quality standards..." One comment also suggested that MDE is prohibited from issuing the permit "... until a demonstration that compliance with WQS (water quality standards) will be met." Water quality based effluent limits, it was pointed out, have been demanded in NPDES permits for over 30 years and must be used in the County's stormwater permit.

The CWA recognizes fundamental differences between municipal stormwater and other so-called point source discharges and does not mandate that EPA or any delegated state impose effluent limitations of any type (numeric or narrative) on discharges from municipal storm sewer systems. Rather, Section 402(p)(3)(B)(iii) of the CWA states that municipal storm sewer system permits must require stormwater controls to reduce the discharge of pollutants "to the maximum extent practicable" (MEP). By regulation at 40 CFR §122.44, EPA further requires that BMPs and programs implemented pursuant to the permit must be consistent with applicable waste load allocations (WLAs) developed under EPA approved TMDLs. The overall goals of Maryland's NPDES municipal stormwater permit program are to control stormwater pollutant discharges by implementing the BMPs and programs required by the permit, show progress toward meeting WLAs developed under EPA approved TMDLs, and contribute to the attainment of water quality standards.

Futhermore, it would be cost prohibitive and, in MDE's view, a poor use of scarce resources to monitor thousands of stormwater outfalls to verify compliance with any numeric water quality standards that might be established. It is far more effective to concentrate water quality protection resources on implementing BMPs and other stormwater controls and use limited monitoring and water quality modeling to verify compliance with WLAs set under the TMDL process. MDE believes that this water quality assessment approach combined with continuous improvement and program refinement (adaptive management) are the keys to long-term success and the current draft permit establishes the requirements for achieving this goal.

Montgomery County was first issued an NPDES municipal stormwater permit in March 1996. This original permit, and the one reissued to the County in July 2001, broke new ground for how stormwater program efforts were monitored and watershed restoration would be implemented. MDE believes that this current municipal stormwater permit will force Montgomery County to make major strides toward controlling urban runoff better than ever before. New conditions such as trash abatement jurisdiction-wide and requiring an additional twenty percent of the County's impervious area to be restored are major additions. Additionally, a firm commitment for TMDL implementation according to the plan that the County is required to develop within one year of permit issuance is the strongest evidence yet of what MDE believes will move these programs forward toward the ultimate goal of meeting water quality standards.

Section III. J. of Montgomery County's permit acknowledges the flexibility allowed by the CWA to use an iterative approach to reduce the discharge of pollutants to the maximum extent practicable. MDE believes that the County's permit lays out a specific process where

implementation plans are required to be developed subsequent to a TMDL being approved by the EPA. These plans will require those "benchmarks" suggested by commenters necessary to meet WLAs specified by approved TMDLs. Compliance schedules are required as well and will allow MDE to determine whether sufficient progress toward meeting water quality standards is being made.

III. Specific Issues

A. Water Quality Standards and TMDLs: Numerous commenters requested that Montgomery County's permit incorporate links to Maryland's water quality standards and TMDLs. Some suggestions included requiring the Montgomery County storm drain system to meet water quality standards within the permit term and not issuing the permit until it is demonstrated that the standards can be met.

As discussed above, MDE believes requiring Montgomery County's storm drain system to meet water quality standards in one permit term is unreasonable. Certainly, water quality standards form the basis of Maryland's permitting programs. MDE is responsible for establishing water quality standards and monitoring to determine if standards are being met. Water bodies not meeting water quality standards are placed on an impaired waters list. For each impaired water body, MDE is responsible for developing a TMDL. The comprehensive water quality models used for TMDL development set pollution thresholds and determine WLAs (for industry, urban runoff, farms, et al.) that are necessary for meeting water quality standards.

In large metropolitan jurisdictions like Montgomery County, urban stormwater is often a significant portion of a TMDL's allocation. The CWA requires that all EPA approved TMDLs be addressed in NPDES discharge permits. The current iteration of Montgomery County's permit has made TMDLs the guiding principle for all management efforts. Because TMDLs are directly linked to Maryland's water quality standards, meeting them is now explicitly stated throughout Montgomery County's stormwater permit.

B. TMDL Schedules: Many commenters requested that schedules be provided for meeting TMDLs by the end of the permit term and that MDE should set interim schedules and benchmarks, not Montgomery County.

There are currently TMDLs in Montgomery County requiring stormwater discharge reductions of sediment by 46%, nitrogen and phosphorus by 79%, and bacteria by 96%. As stated previously, it is impracticable to believe that these reductions can take place over a five-year permit term, especially in the instance of bacteria where DNA testing has shown that a significant portion of this load emanates from wildlife. CFR accounts for infeasible limitations placed on stormwater at 122.44(k) where it instructs that BMPs and not numeric effluent limits be required.

Nevertheless, MDE sees the clear value in requiring the County to establish timeframes for taking the steps needed to meet applicable TMDLs. To this end, the permit proposed under the Tentative Determination required the County to prepare implementation plans including timeframes for certain benchmarks toward achieving applicable WLAs. In light of the comments received as a result of public testimony and written comments, a change has been made to include deadlines to meet not only benchmarks *but WLAs themselves* in implementation plans

applicable to TMDLs. The referenced change can be found in PART III.J.2.a and is being made to provide consistency with PART III.J.1. of the permit.

MDE believes that TMDL benchmarks and schedules are most appropriately set by Montgomery County. Municipal professionals have intimate knowledge of local watershed management plans; the type and frequency of BMPs necessary to achieve pollutant reductions; budgets and other funding mechanisms; and appropriate construction timeframes. Schedules based on anything less by the State would be arbitrary. Furthermore, the permit has provided extensive opportunities for public participation in the development of these plans in concert with County personnel. As implementation occurs and monitoring and modeling data provide feedback, annual schedules can be validated and improved to ensure timely compliance with water quality standards.

The implementation plan is subject to MDE review and approval. MDE will ensure that the plan meets all permit requirements, is aggressive, and sets appropriate benchmarks to achieve WLAs as quickly as possible. MDE will also review each annual assessment to ensure that benchmarks are being achieved and if not, that appropriate revisions to the plan are made and implemented so that benchmarks and WLAs are achieved as originally planned.

C. Antidegradation Policy: Some commenters requested that Montgomery County use its authority for approving erosion and sediment control and stormwater management plans to ensure that new discharges will not degrade high quality receiving waters.

There are three Tier II or high water quality stream segments in Montgomery County requiring antidegradation review of discharge permits. Antidegradation regulations in Maryland stem from the CWA and are directly tied to the issuance of NPDES discharge permits. This permit requires the use of Environmental Site Design (ESD) to the MEP, consistent with the Maryland Stormwater Management Act of 2007 (Part III. E.1.b). It also requires in Part III. F. that the County carry out watershed assessments of each watershed and *“specify how restoration efforts will increase progress toward meeting any applicable WLAs included in EPA approved TMDLs”*. Finally, Part G. specifies requirements for restoring watersheds to the MEP using ESD and other practices.

In addition, MDE routinely reviews and approves (or denies) County water and sewer plans and amendments of those plans and has proposed new requirements for the Stormwater General Permit for Construction Activities. Both of which give MDE the authority it needs to ensure the protection of high quality waters through MD regulations requiring that: *“an applicant for proposed amendments to county plans or discharge permits for discharge to Tier II waters that will result in a new, or an increased, permitted annual discharge of pollutants and a potential impact to water quality, shall evaluate alternatives to eliminate or reduce discharges or impacts. If impacts are unavoidable, an applicant shall prepare and document a social and economic justification. The Department shall determine, through a public process, whether these discharges can be justified.”* (COMAR 26.08.02.04-1)

Taken together, the permit requirements, MDE’s county plan review, MDE’s review of notices of intent (NOIs) to discharge stormwater and administration of the antidegradation regulations are protective of the State’s high quality waters and meet antidegradation requirements.

D. Watershed Assessment and Restoration: Comments were received stating that the watershed assessment section of the permit needed more enforceable language and deadlines, expanded links to water quality standards, better reference to the restoration and control assessment sections, and increased public participation.

MDE believes that the permit clearly defines the level of effort expected for watershed assessment, restoration, and assessment of controls. The permit requires implementation of practices, established by the County's watershed assessment efforts, to control stormwater discharges for twenty percent of existing impervious surfaces not already treated to the MEP. The permit requires measurable and steady reductions in pollutants and implementation plans to meet WLAs through an adaptive management process. Additionally, the permit requires the County to use chemical, biological, and physical monitoring to document progress toward meeting its watershed restoration goals and any applicable WLAs developed under EPA approved TMDLs. These efforts coupled with management program implementation represents the maximum use of existing technologies within the economic capability of the permittee and will result in further progress toward eliminating the discharge of pollutants.

E. Anacostia Trash Treaty: Comments were received stating that the permit conditions for trash and litter abatement are not stringent or prescriptive enough and are not in compliance with water quality regulations. Other comments questioned why the permit focuses only on the Anacostia River and not the entire Potomac River and mentioned that the permit must be consistent with the requirements of the Potomac River Watershed Trash Treaty (Treaty), including the establishment of deadlines.

By reference, the Treaty and the Trash Free Potomac Watershed Initiative 2006 Action Agreement (Agreement) are incorporated into the permit. Therefore, the goals of the Treaty and the Agreement can be considered conditions of the permit. These goals include the development of a Trash Reduction Strategy for the Anacostia River as a model for other major watersheds. Other goals of the agreement include increasing public awareness about trash issues, recruiting businesses and organization to participate in developing an Action Plan, strengthening the collaboration between jurisdictions, and evaluating best trash management practices and technologies. Much of this work will be done jurisdiction-wide.

The permit goes further than the Agreement by requiring MDE's approval of Montgomery County's work plan and the submittal of an annual report detailing the County's trash and litter elimination efforts. MDE does not believe that it should prescribe the precise methods and technologies to be incorporated in the County work plan and that requiring MDE's approval is sufficient. The County currently implements a breadth of trash reduction strategies and knows best which are working and where improvements are needed. In addition, the Treaty calls for annual meetings to discuss and evaluate measures and actions, recognizing the need for a more fluid process.

As stated in Maryland's 2006 TMDL Implementation Guidance for Local Governments "[t]he desire to maintain local control over decisions is a basic principle whether that local control is of a State relative to the federal government, or local jurisdictions relative to the State. When complex decisions regarding water quality arise among states, it is ideal for the affected states to resolve the issue without forfeiture of control to federal authorities. The same can be assumed among local jurisdictions." (5-42)

Portions of Montgomery County's streams and rivers drain into the watersheds of the Anacostia, Monocacy, Upper and Lower Patuxent, and the Potomac River directly. It is infeasible to simultaneously develop trash reduction strategies and work plans specific to each watershed. Once the work plan is developed for the Anacostia, it can be used as the model for other watersheds, as noted in the Agreement.

F. Stormwater Monitoring: Many commenters believed that more extensive monitoring should be conducted in order to measure the progress toward meeting TMDLs. It was also suggested that all BMPs that are installed be monitored as well.

Montgomery County's permit follows NPDES requirements for representative monitoring. The County's storm drain system includes more than 3,000 major outfalls dispersed across 494 square miles. Monitoring every outfall and BMP would be cost prohibitive and siphon scarce resources from the implementation of management programs that improve water quality. The CWA acknowledges this need for balance and requires that municipalities conduct representative monitoring of storm drain systems and then extrapolate those data system-wide.

MDE has an extensive history of working with local municipalities and stakeholders for determining an appropriate level of monitoring. One result has been the pooling of chemical monitoring data from Maryland's 11 Phase I municipalities into a statewide monitoring effort. With shared resources, Maryland's NPDES stormwater community is now capable of monitoring the full spectrum of urban landscape, and by sharing data between jurisdictions, the aggregate results can be used by each municipality for its own program evaluation purposes and water quality modeling. These data along with State monitoring were integral in the development of Montgomery County's TMDLs. MDE will require that a commensurate amount of monitoring be required in Montgomery County's permit in order to ensure that existing TMDLs can be judged consistently with how they were developed.

G. Management Programs - General: Comments received indicated that management programs are narrative effluent limitations that contain essential requirements intended to reduce the discharge of pollutants to the MEP and must be subject to review by both the regulating entity and the public. Additionally, the permit must expressly declare that each management program is an integral part of the permit and that each and every requirement of the program be wholly incorporated. Conversely, comments were received stating that MDE should not federalize State and voluntary requirements.

The CWA does not mandate that EPA or any delegated state impose effluent limitations of any type (numeric or narrative) on discharges from municipal storm sewer systems [see 33 U.S.C. Sec. 1342 (p)]. Section 402(p)(3)(B)(iii) of the CWA states that municipal storm sewer system permits must require stormwater controls to reduce the discharge of pollutants to the MEP. By regulation at 40 CFR §122.44, EPA further requires that BMPs and programs implemented pursuant to the permit must be consistent with applicable WLAs developed under EPA approved TMDLs. The overall goals of Maryland's NPDES municipal stormwater permit program are to control stormwater pollutant discharges by implementing the BMPs and programs required by the permit, show progress toward meeting WLAs developed under EPA approved TMDLs, and contribute to the attainment of water quality standards.

EPA has repeatedly expressed a preference for regulating stormwater permits by way of BMPs and programs, rather than imposing either technology-based or water quality-based numeric effluent limitations. Therefore, management programs, designed to control stormwater discharges to the MEP, are required to be implemented and maintained for the term of this permit. These include, for example, implementing the stormwater management design policies, principles, methods, and practices in the *2000 Maryland Stormwater Design Manual* and the provisions of Maryland's *Stormwater Management Act of 2007*. Similarly, an approved erosion and sediment control program is to be maintained in accordance with the Maryland's sediment control law. Additionally, the County is required to continue to implement its program to reduce pollutants associated with road maintenance activities and implement a public education and outreach program to reduce stormwater pollutants. MDE believes that these management programs include appropriate management practices, control techniques, and design and engineering methods to reduce the discharge of pollutants to the MEP.

Maryland has well defined stormwater, erosion and sediment control, and industrial permitting and compliance monitoring programs. From a holistic perspective, program requirements are embodied in State law and regulations specific to the individual programs, and there is no need to restate entire statutes and regulations in this permit. In essence, all of these management program requirements are incorporated into the permit by virtue of its requirement that the permittee maintain an acceptable program.

MDE reviews program activity as part of the annual reporting process and as specified by State statute or regulation specific to the program activity. For example, the delegation of erosion and sediment control enforcement authority is granted for a maximum two-year period and continuation of authority is based upon evaluation by MDE. Maryland's sediment control law and regulations establish the general provisions for evaluating local programs for the purpose of delegating enforcement authority. Similarly, Maryland's stormwater management law and regulations establish the general provisions for evaluating local stormwater programs. Program activity measures directly related to the BMPs implemented and source reduction efforts (e.g., tons of material removed from storm drain inlets, number of illicit discharge sources found and eliminated, and changes in recycling rates) will also be used to monitor program implementation and progress.

Management Programs - Erosion and Sediment Control: Comments were received stating that the permit should include measurable goals to ensure effective and prioritized erosion and sediment control inspections. Comments also indicated that the permit does not specify what information is required for earth disturbances exceeding one acre or more. Additionally, a commenter cited a 1990 study that found the sediment removal efficiency of six sediment traps and basins evaluated in Maryland to be just 65%.

Through the delegation process, a determination is made whether the County is capable of enforcing erosion and sediment control requirements. Information to be submitted for earth disturbances exceeding one acre is contained in Attachment A of the permit and is specific to grading permit information. This information is used by MDE, in part, to ensure that general permit coverage is being obtained by the local development community. The 1990 study was conducted for MDE by the Metropolitan Washington Council of Governments and served as the basis for doubling the storage volume of sediment traps and basins, as well as other design improvements made during the development of the *1994 Standards and Specifications for Soil*

Erosion and Sediment Control. MDE has recently committed to immediately initiate an evaluation and revision of these standards to be completed by May 2010.

Management Programs - Stormwater: Comments were received regarding the adverse impacts of stormwater on water supply and wastewater infrastructure. Numerous comments were received regarding the need for managing runoff and that flow should be controlled before stream restoration or stabilization. Commenters also suggested that the permit should establish standards regarding land use, new development, and significant redevelopment.

MDE agrees that uncontrolled stormwater has an adverse impact on water supply and wastewater infrastructure and that there is a need for further runoff reduction. Under proposed stormwater management regulations, post development runoff volumes for new development will roughly mimic forested runoff conditions and the watershed restoration requirements should go a long way toward reducing flows. MDE also agrees that efforts should be made to control flows, where practicable, as a prelude to stream restoration or stabilization.

The permit requires the County to cooperate with the Maryland National Capital Park and Planning Commission during the development and completion of the Water Resource Element (WRE) of the County's comprehensive land planning process as required by the Maryland Economic Growth, Resource Protection and Planning Act of 1992 (Article 66B, Annotated Code of Maryland). During the 2006 legislative session, the General Assembly enacted House Bill 1141 Land Use – Local Government Planning (HB 1141). This bill requires local jurisdictions to include, through the WRE, future plans for water supply, wastewater, and stormwater into their comprehensive plans and should effectively deal with local land use issues. Additionally, the stormwater management design policies, principles, methods, and practices in the *2000 Maryland Stormwater Design Manual* and the provisions of Maryland's *Stormwater Management Act of 2007* establish standards for new development and redevelopment.

Management Programs - Illicit Discharge Detection and Elimination: Comments were received indicating that illicit discharge detection and elimination efforts should be focused where TMDLs exist, outfall reconnaissance investigation should be used, smaller diameter outfalls should be evaluated, and industrial operations should be inspected by Montgomery County. Additionally, commenters thought that the permit should include provisions for reducing discharges associated with the application of fertilizers, herbicides, and pesticides to the MEP.

The County is required to implement an inspection and enforcement program to ensure that all discharges to and from the municipal separate storm sewer system that are not composed entirely of stormwater are either permitted by MDE or eliminated. The permit includes requirements for field screening outfalls and provisions for developing alternative approaches for identifying and eliminating illicit discharges. Regarding industrial operations, MDE has well established permitting and enforcement processes to control the discharges from industrial facilities. MDE believes that having two agencies enforce industrial discharge permits would be duplicative and County resources could be better used to implement the management programs required by the permit. Similarly, regulatory programs, administered by the Maryland Department of Agriculture, exist for the control of pesticide and herbicide application. The public education requirements of the permit should be sufficient to deal with public application of fertilizer, herbicides, and pesticides.

H. Public Participation: Some commenters suggested that there is insufficient opportunity in the permit for public participation.

MDE believes ample opportunity for public comment and participation has been provided during the development of the permit and will continue throughout the entire term. A public informational meeting for the reissuance of Montgomery's County permit was held on November 29, 2005. At least five meetings were held between this date and February 26, 2007 with various government agencies and interested parties. Additional meetings and opportunities for comment were made available throughout 2007 and 2008. Testimony received during the public hearing for the tentative determination of the permit, held on November 19, 2008 acknowledged the incorporation of public comment into the current permit.

The permit requires the submittal of an annual report detailing the implementation status of the management programs found in Part III. The annual reports also include information on monitoring, watershed restoration, grading permits, program effectiveness, and a wealth of other information. Annual reports from 2001-2005 can be found on Montgomery County's website. Copies of the County's first two permits and the most recent annual report review are available on MDE's website.

In addition to the annual report, the permit provides ample opportunities for public participation, both explicitly and implicitly. Part III.4. explicitly requires the County to create a public participation process for the development of a trash reduction strategy including a public comment period. Part III.F. states that a public information component will be included in watershed assessments. Part II.J.2.e. includes a public notice and a comment period for TMDL implementation plans.

Part III.E.1.b. requires compliance with the *Stormwater Management Act of 2007*. These provisions include avenues for public participation throughout the sediment control and stormwater management plan approval processes. As described in Part IV.C., all information submitted for the reapplication of this permit is included in the County's fourth annual report and therefore, available to the public.

Almost any information not directly available as a condition of the permit can be requested through MDE or Montgomery County. MDE welcomes and appreciates public comments and suggestions throughout the development and term of all its permits and believes this is reflected in the process of the last three years and the current permit conditions.

IV. Summary

MDE appreciates the efforts of those involved in the permit's development and recognizes that some comments reflect strong differences of opinion regarding how best to approach Montgomery County's stormwater activities. However, the permit exceeds both the CWA and CFR requirements and as previously noted, a change has been made to clarify that deadlines are intended to meet benchmarks and WLAs in implementation plans applicable to TMDLs. While MDE acknowledges that improvement can always be realized, it is believed that the water quality necessary to achieve WLAs for stormwater will be accomplished through the program refinements established in this permit.

The permit requires an additional twenty percent of the County's impervious area to be restored, a strategy for a trash free Potomac River by 2013 to be developed within one year and implemented, and TMDL implementation plans to be developed within one year and carried out according to the County's schedule in order to meet stormwater WLAs established for impaired waters. All of these requirements are in addition to existing countywide management programs and ongoing monitoring efforts and will go a long way toward making Montgomery County's NPDES municipal stormwater program arguably one of the best in the country.

MDE believes that the permit is a major step forward for Montgomery County's NPDES municipal stormwater program and clearly demonstrates that Maryland is taking strong, comprehensive action to further reduce polluted stormwater runoff. Therefore, MDE has reached a final determination to issue an NPDES permit to Montgomery County to control storm drain system pollution. The permit will be issued as final unless MDE receives a request for a contested case hearing by March 20, 2009.



February 12, 2009

Honorable Isiah Leggett
County Executive
Executive Office Building
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Rockville, MD 20850

Honorable Phil Andrews
President
Montgomery County Council
100 Maryland Avenue
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Dear Sirs;

I have the honor of transmitting the Annual Report of the Montgomery County Water Quality Advisory Group. The Report summarizes the Group's activities over the last year and highlights key water quality challenges in the year ahead. As you will see from the Report, the WQAG is a remarkably capable, diverse and hard working advisory group.

The next two years present extraordinary challenges and opportunities in the area of water quality policy here in Montgomery County and throughout the State of Maryland. The members of WQAG are eager to help the Council and Executive respond to the needs of the time in a way that protects our environment and enhances the quality of life for all County residents.

Respectfully submitted,

Larry J. Silverman

Water Quality Advisory Group

January 2009

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Water Quality Advisory Group

January 2009

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WATER QUALITY ADVISORY GROUP

- CREATED: Montgomery County Code, Section 19-49, Adopted November 1994
- PURPOSE: To protect, maintain, and restore high-quality chemical, physical, and biological conditions in the waters of the state in the County; reverse past trends of stream deterioration through improved water management practices; maintain physical, chemical, biological and stream habitat conditions in County streams that support aquatic life along with appropriate recreational, water supply, and other water uses; restore County streams damaged by inadequate water management practices, by reestablishing the flow regime, chemistry, physical conditions, and biological diversity of natural stream systems as closely as possible; help fulfill interjurisdictional commitments to restore and maintain the integrity of the Anacostia River, the Potomac River; and the Chesapeake Bay; and promote and support educational and volunteer initiatives that enhance public awareness and increase direct participation in stream stewardship and reduction of water pollution. Recommends to the Executive and the Council by March 1 each year water quality goals, objectives, policies and programs.
- MEMBERSHIP: 18 members, including non-voting representatives of government agencies and up to three representatives each of the public-at-large, academic and scientific experts, environmental groups, the agricultural community, and the business community.
- FINANCIAL DISCLOSURE: Not required.
- TERMS: Three year terms—no compensation.
- MEETINGS: Second Monday night of each month (no meeting in December) at the DEP Offices.
- STAFF: Meosotis C. Curtis, 240-777-7711, DEP meosotis.curtis@montgomerycountymd.gov



**Summary of 2008 Recommendations from the Montgomery County Water Quality
Advisory Group to the County Executive and County Council**

February 12, 2009

The Montgomery County Water Quality Advisory Group (WQAG) is divided into three subcommittees

- Technical and Regulatory
- Education and Outreach
- Land Use and Planning

Each subcommittee provides the County Council and County Executive with the following recommendations and input for 2008:

Technical and Regulatory: The Technical and Regulatory subcommittee focused its efforts on how the county can best equip itself to meet the expanded requirements of the new stormwater (MS4) permit that will go into effect this year. These new rules require a very strong administrative and planning staff to manage initiatives, plan new ones, and monitor progress. The key will be to maintain management capability even in the face of budget crises.

To that effect, the subcommittee recommends that the County:

1. Maintain planning and administrative funds, so that federal monies can be accessed and administered.
2. Evaluate the structure of the Water Quality Protection Charge. This charge currently serves as a key source of revenue for stormwater management, but it could be enhanced in order to fulfill additional obligations under the expanded MS4 permit.

Education and Outreach: This subcommittee looked at two major issues: the role of the schools in water quality and the need to reach out to the wider public with messages vital to achieving water quality goals, particularly in relation to the MS4 permit.

In doing so, WQAG recommends that the County:

1. Build support through a vocal champion and demonstrated stewardship.
2. Target audiences, such as housing groups, business and professional groups, and other constituencies, to enable change.

WATER QUALITY ADVISORY GROUP

3. Appoint a Montgomery County Public Schools representative to a regular WQAG position, as recommended by Resolution.
4. Leverage the resources and reach of the County's many excellent non-profit organizations that work with the public on water issues.
5. Set performance measures for public outreach.

Land Use: The land use subcommittee focused on the Healthy and Sustainable Communities Initiative, Sustainability Working Group issues, and amendments to the Forest Conservation Law.

WQAG developed a series of recommendations on the Forest Conservation Law, which we shared with Council and the Executive and with the Sustainability Work Group, the Energy and Air Quality Advisory Committee and the Forest Conservation Advisory Committee. WQAG recommends that:

1. Forest and tree policies establish water quality goals and other environmental indicators, and be revisited and evaluated on the basis of the statement of goals and measures.

WATER QUALITY ADVISORY GROUP



ANNUAL REPORT
Montgomery County Water Quality Advisory Group
February 12, 2008

Executive Summary:

The Montgomery County ordinance that created the Water Quality Advisory Group (WQAG) requires us to report once a year to the County Executive and Council on our activities and findings. This year's Annual Report weighs especially heavy on the members of WQAG. Many events that will profoundly shape water quality and the quality of life in Montgomery County have been set into motion within the past year.

- The Maryland Department of Environment is on the cusp of issuing a new storm water permit, MS4. This is the most far-reaching and demanding permit ever issued by the State of Maryland to a County government. It may be the toughest storm water permit ever issued in the United States.
- The County's Department of the Environment (DEP), as the MS4 permit coordinator, must expand its efforts to engage all County agencies and the general public to comply with Permit requirements and to continue as a local leader in stormwater management and watershed protection.
- New laws direct the County and the M-NCPPC to integrate a water resource element into all planning and zoning decisions, *in a way that has never been done before*.
- The Environmental Protection Agency and the Bay states are developing Total Maximum Daily Loads (TMDLs) for nutrients and sediments for the Chesapeake Bay and its tributaries. These TMDLs will include 'local allocations' that may have implications for Montgomery County beyond existing legal requirements of the MS4 permit and the State's Water Resources Element legislation.
- The County is poised to adopt a new Road Code and a new Forest Conservation Law, both of which will have great impact on water quality, as well as a suite of policies responding to the climate crisis.
- Land use and development patterns are changing in fundamental ways, presenting new issues and questions.
- Montgomery County government finances face severe constraints.
- Our nation is in economic crisis.
- We have a new President, whose administration is committed to rapid funding of new infrastructure, especially projects that improve the environment and energy future, and which are ready to go.

Your WQAG, watching this situation unfold, has worked very hard to learn about water quality issues and related programs in the County. A list of meeting topics and guest speakers is attached (see *Attachment D*). In addition to this ambitious public effort, the

Group worked informally through subcommittees, correspondence, and research not formally documented, but important in the formulation of these recommendations. Our single goal has been to prepare to provide you with the best and most informed advice on how you *as elected officials* could respond to the sea changes in our water systems.

WQAG Approach: We divided our Group into three subcommittees:

- Technical and Regulatory
- Education and Outreach
- Land Use and Planning

In addition, WQAG welcomed speakers from the Department of Environmental Protection, Department of Park & Planning, and Washington Suburban Sanitary Commission (WSSC) who discussed their programs, budget, outreach, and process issues with us.

Here is a summary of our findings:

Technical and Regulatory: Maintaining water quality and compliance with the laws will require tremendous effort not just from the County but the people of the County, our businesses, and our institutions. The Technical and Regulatory subcommittee focused its efforts on how the county can best equip itself to meet the expanded requirements of the new stormwater (MS4) permit that will go into effect this year. These new rules require a very strong administrative and planning staff to manage initiatives, plan new ones, and monitor progress. Montgomery County has presented ready-to-go projects to the new Congress and Administration that can greatly aid water protection efforts. The key is to maintain management capability even in the face of budget crises (see *Attachment A*). To that effect, the subcommittee recommends that the County:

1. Maintain planning and administrative funds, so that federal monies can be accessed and administered. A cut in planning and administration at this time could be incredibly costly to the County.
2. Evaluate the structure of the Water Quality Protection Charge. This charge currently serves as a key source of revenue for stormwater management, but it could be enhanced in order to fulfill additional obligations under the expanded MS4 permit.

The subcommittee also reviewed the Water Resources Element (WRE), mandated in HB 1141, that must be adopted in the county and municipalities comprehensive plans by October 2009.

Education and Outreach: This subcommittee looked at two major issues: the role of the schools in water quality and the need to reach out to the wider public with messages vital to achieving water quality goals, particularly in relation to the MS4 permit.

Schools can play a double role as property owners and managers, as well as educators. The WQAG visited the County's first LEED certified school, Great Seneca Elementary School, and witnessed how the two functions complement each other.

Specific recommendations were developed for the outreach portion of the MS4 permit (see *Attachment B*). The demands of the MS4's outreach goals are many and varied. In order to ensure that these goals are met in a timely and cost-effective manner, the subcommittee recommended that the County implement a targeted public awareness campaign on water quality issues. WQAG recommends that the County:

1. Build support through a vocal champion and demonstrated stewardship.
2. Target audiences, such as housing groups, business and professional groups, and other constituencies, to enable change.
3. Appoint a Montgomery County Public Schools representative to a regular WQAG position, as recommended by Resolution (see *Attachment E*).
4. Leverage the resources and reach of the County's many excellent non-profit organizations that work with the public on water issues.
5. Set performance measures for public outreach.

Land Use: The land use subcommittee focused on the Healthy and Sustainable Communities Initiative, Sustainability Working Group issues, and amendments to the Forest Conservation Law. With regard to the goals and indicators embodied in the Healthy and Sustainable Communities Initiative, in particular, stream-by-stream, WQAG evaluated the question of what is the County explicitly trying to achieve. The Montgomery County Water Quality Advisory Group will continue to study water quality indicators that are useful for public policy purposes (see *Attachment C*).

WQAG believes that elected officials can take a lead role in articulating shared assessments of our water resources and shared goals. Attorney General Doug Gansler's tour of Great Seneca Creek is a good model. But much more needs to be done by the Council and the County Executive.

WQAG also developed a series of recommendations on the Forest Conservation Law, which we shared with Council and the Executive and with the Sustainability Work

Group, the Energy and Air Quality Advisory Committee and the Forest Conservation Advisory Committee (see *Attachment F*). Our analysis revealed an increase in forested stream buffers with an overall small loss in total forest cover countywide. The group recommends that:

1. Forest and tree policies establish water quality goals and other environmental indicators, and be revisited and evaluated on the basis of the statement of goals and measures.

Washington Suburban Sanitary Commission: A representative of WSSC sits on our group. Earlier in 2008 and at our January 12, 2009 meeting, we heard presentations from the chief financial officer of WSSC. He advised us on the timing of critical budget decisions and made a WSSC presentation of proposed budgets. Members would like to know more about WSSC *leadership, governance, funding, and plans to address the apparent rapid deterioration of the system's pipelines so evident in both Counties this winter.*

Although the WQAG has not taken an official position on the WSSC budget, we did look at the proposed 2010 budgets, which the commission prepared in response to the 9% increase recommended by Montgomery County and the 6% increase in rates recommended by Prince George's. WQAG members were concerned that in either case, WSSC would be compelled to make steep cuts in pipeline inspection, protection and maintenance; the very activities, some of us thought, that should be increased in this period of 1,600 to 2,000 significant breaks annually.

Future activities:

- We will continue to work with the Department of Environmental Protection (DEP), supporting their efforts for protection of water quality, and provide recommendation on their resources needs.
- We will follow the WSSC issue very closely, and report back to you as you deliberate WSSC budget.
- We will continue to meet with school representatives and learn more about the work they are doing.
- We will continue to work with other advisory groups. One of our members serves on the Forest Protection advisory group. We have had a joint meeting with the Energy and Air Quality Advisory Committee. Members attend and participate in the Sustainability Work Group, with whom we shared our report on Forests and Trees. We will redouble this effort to develop a wide consensus and present the water quality aspects of issues that we know the Council and Executive will be considering.
- We will continue to recommend outreach investments.
- We will visit stormwater management facilities on the new Montrose Parkway and the Inter County Connector, and report back our impressions of their efficacy.

- We will continue to learn about and evaluate the efforts and resources of executive agencies.

Please consider the WQAG as a resource. The County Executive nominated and the County Council confirmed an outstanding team of water quality advisors. They are not only qualified, they are committed. We welcome visits and agenda recommendations from the Executive and Members of Council. You are the people we are working to provide with the best recommendations that a volunteer citizen board can provide.

Attachment A

Recommendations from the Technical and Regulatory Subcommittee

Background:

The federal Clean Water Act requires that municipal governments who own large and medium storm sewer systems obtain a stormwater permit under the National Pollutant Discharge Elimination System (NPDES) program. MS4 permits – Municipal Separate Storm Sewer System – are issued by the Maryland Department of the Environment (MDE), under authority of state law and as the recipient of delegated federal powers. In a matter of days or weeks, Montgomery County will be issued a new MS4 permit. Montgomery County's new permit is described as a "third generation." It builds on the previous permit but goes much, much further. MS4 permits run for five years. The new permit attempts to regulate how the County moves stormwater into its pipes and how it discharges it to streams, lakes, groundwater and reservoirs. It also requires the County to take steps to reduce the environmental damage done by its stormwater system.

The new permit for Montgomery County sets rigorous goals for pollution reduction and will serve as an important step toward cleaning up local waterways and restoring the Chesapeake Bay.

The MDE will be responsible for evaluating/judging the County's progress toward achieving permit compliance. This permit is also enforceable in federal court by the state, by the US EPA, and by interested citizens.

Major new requirements of the MS4 permit include:

- Doubling the requirement for retrofitting existing developed land with stormwater management practices to 20 percent, in addition to completing the 10 percent requirement in the previous permit, for a restoration goal of 30 percent of impervious surfaces within the five-year permit period. In other words, the drainage systems for a little less than a third of the County's most densely settled areas need to be reconfigured and re-engineered.
- Developing and implementing a trash elimination plan for the Anacostia River to support regional strategies to reduce trash and increase recycling as set forth in the Trash Free Potomac Watershed Initiative 2006 Action Agreement. Permit requirements for Montgomery County's portion of the Anacostia Watershed include establishing a trash pollution baseline within one year after the permit is issued, implementing a trash abatement program, expanding education to citizens, and monitoring efforts to ensure that programs continue to progress toward a trash-free Potomac.

- Restoring impaired waterways by developing County implementation plans to reduce stormwater pollutant loading to levels needed to meet water quality standards (known as Total Maximum Daily Loads).
- Establishing a long-term schedule for completing comprehensive water quality assessments that include identifying sources of pollution and water quality improvement opportunities for all watersheds in the County.
- Assuring that local stormwater management ordinances and regulations and planning and zoning codes allow and promote the implementation of Environmental Site Design (ESD) to the maximum extent practicable.

Building public input and support will be critical to success in achieving all of the above. Targeted audiences, such as builders, will need training and direction. The public at large will also need to change habits and perceptions — including changes in landscaping practices, driveway and roof replacement, oil changes, and many other routine activities. Moreover, the public is entitled to clear and understandable explanations of fee increases in stormwater charges. The Outreach and Education Section contains a further discussion of this issue.

Cost Implications:

The expanded provisions required under the new permit have significant cost implications. Funding for permit-required programs since FY03 has ranged from \$10 to \$16 million per year and the permit has been successful in achieving substantive improvements in stormwater management. However, it is clear that what has been accomplished to this point will not be sufficient to achieve compliance with these new permit conditions.

The Department of Environmental Protection (DEP) is currently developing its implementation plan and estimating costs, so at the current time cannot precisely estimate the total cost of compliance over the next 5 years. Director Robert Hoyt presented an estimate for an additional **\$108 million** to meet the watershed restoration requirement to the Transportation, Infrastructure, Energy, and Environment Committee at a meeting on November 3, 2008.

Sources of County funding include \$30 million of current funding in the FY09-14 Capital Improvement Projects (CIP) for stormwater retrofit including Low Impact Development (LID) and stream restoration projects. About \$2 million per year of the CIP comes from the Water Quality Protection Charge (WQPC), the stormwater charge for residential and associated non-residential properties. The total WQPC for FY09 is approximately \$9 million and is used primarily for inspection/maintenance of existing and incoming stormwater facilities. The Charge was increased from \$27 to \$35 per unit in FY09.

The County has been successful in the past obtaining state/federal funding through grant programs, but recognizes the increased competition for these funds; and the uncertainty in terms of how much funding will be available to the County from these sources, how it will be conditioned, potential match requirements, and how funds distribution will be timed.

The County has a number of competitive advantages when it comes to grants and other aid.

1. It has well developed plans as a result of long term and constant effort by DEP and Park & Planning staff.
2. It has some available capital to meet matching requirements or otherwise fund unfunded elements of grants.
3. It has a dedicated enterprise fund.

While all these elements can be improved, they represent very substantial assets, especially as compared to other communities.

New opportunities and approaches:

The coming federal stimulus package may be a once in a lifetime opportunity to fund capital projects. The projects that offer the best claims for funding are the ones that are ready to go and well-thought out. These funds may be able to offset some of the more expensive elements of the County's program.

1. WQAG recommends that the County maintain planning and administrative funds, so that federal monies can be accessed and administered. A cut in planning and administration at this time could be incredibly costly.

The WQPC currently serves as a key source of revenue for stormwater management, but it could be enhanced in order to fulfill additional obligations under the expanded MS4 permit. We need to evaluate bringing the commercial sector into the program in ways that improve stormwater quality without unduly burdening the business community.

2. WQAG recommends that the WQPC be re-evaluated.

To leverage funding for the MS4 permit requirements, the County could consider expansion of the Water Quality Protection Charge, funded primarily on a cost recovery basis. This model seems to have worked well in the wastewater and drinking water context. A fee-based system would be transparent, independent and not subject to restraints on tax increases, and would not be in direct competition with other tax-supported programs.

Attachment B

Recommendations from the Education and Outreach Subcommittee

The recommendations developed by the Education and Outreach Subcommittee of the WQAG are based on the public education goals listed under the MS4 Permit. The WQAG recommends that Montgomery County embark on a major public education program to inform the public and involve everyone in actions to ensure a healthy natural environment, clean water in our streams, and a safe drinking water supply.

What is required by the MS4 Permit?

The public education goals, established by the MS4 permit, require the development of implementation plans, performance goals, and deadlines related to:

- Establishing and publicizing a compliance hotline for the public reporting of suspected illicit discharges, illegal dumping, and spills.
- Providing information to inform the general public about the benefits of:
 - Increasing water conservation;
 - Maintaining community stormwater management facilities;
 - Practicing proper erosion and sediment control;
 - Increasing proper disposal of household hazardous waste;
 - Improving lawn care and landscape management (e.g., the proper use of herbicides, pesticides, and fertilizers, ice control and snow removal, cash for clippers, etc.);
 - Maintaining automobiles;
 - Improving private well and septic system management; and
 - Disposing of pet waste.
- Providing information regarding the following water quality issues to the regulated community when requested:
 - NPDES permitting requirements;
 - Pollution prevention plan development;
 - Proper housekeeping; and
 - Spill prevention and response
- Increasing residential and commercial recycling rates, improving trash management, and reducing litter.

What is Montgomery County already doing?

- Hot line for reporting of illegal dumping
- Rainscapes Program (voluntary Low Impact Development (LID) practices)
Workshops, Pilot projects, Web site

- Public retrofit and restoration Projects
Public meetings, field visits, fact sheets
- Water Quality Advisory Group
Examines water quality issues, recommends to county leadership
- Enforcement
Hotline follow-up, illegal dumping signs, fact sheets
- Solid Waste
Recycling, grasscycling, composting
- Keep Montgomery County Beautiful Task Force-Public Works
Grants for local sites, Adopt-A-Road, Storm Drain Marking
- Coordination with other jurisdictions
COG, WSSC, MC-MNCPPC,
- Cooperation with and Support for watershed groups within Montgomery County and the Chesapeake Bay watershed
Stormwater Partners Coalition
- Montgomery County Public Schools
Residential program for 6th graders, monitored recycling in schools, watershed education imbedded in curriculum, Green Schools, GSES --a LEED certified school

Challenges

Ultimately, these programs aim to change individual behavior and industry practice, both of which are equally diverse in the county. But citizens and businesses may not necessarily see the benefit of changing their behavior for the sole purpose of maintaining environmental standards, especially if some of the practices will require drastic change, effort, or monetary investment.

New Opportunities and Approaches: Public Awareness Campaign Recommended

A successful public outreach program requires a comprehensive plan, strong program leadership, attainable goals, baseline data collection, targeted projects, multi-media approaches, measurable indicators, on-going assessment of progress, and reflective evaluation. It also requires a strong positive public image, rewards and motivations, and acceptance that success will require cooperation from nearly everyone.

Ensuring success of these efforts will require County leadership and staff to:

1. Build wider support through strong leadership.

We believe that a vocal “champion” for clean water will impress upon the public and industry the importance of maintaining water resources by addressing the issues in simple terms and attracting media coverage. The champion can be the well-publicized face to everyone in the county, providing needed information, promoting a positive clean-water image, and encouraging everyone to become part of the solution.

Other cities and watersheds have found great success through the leadership of a champion. The mayor of Annapolis (Ellen Moyer) initiated a GreenScaping program

over 10 years ago that annually brings communities together to improve public land in their neighborhoods. Other cities, such as Kansas City, have promoted rain gardens through the active participation of the mayor. Other communities have invested in water infrastructure (Atlanta, GA), and restoring natural areas along the Anacostia River (Prince George's County, MD).

Opportunities exist for all county council members, elected officials, and committee members to inspire needed change. Such opportunities include leading by example and acting as environmental stewards at home and work; publicizing green public buildings, parks, and school grounds; and, encouraging media coverage of success stories.

2. Achieve specific goals by targeting audiences.

Change will need to come from all sectors and communities. So while the public champion can build support from the wider audience, Montgomery County should identify and reach out to specific target groups, including the landscape management and construction industries, community groups, homeowners, renters, small-shop owners, shopping centers, and government facilities.

3. Involve Montgomery County public schools.

As one of the largest landholders in Montgomery County, and the provider of education to 140,000 students, MCPS plays two major roles in the health of our watersheds. WQAG strongly urges the appointment of an MCPS representative to a regular WQAG position, so that issues involving the school properties and/or the educational component can be included in our discussions. MCPS students should also be encouraged to participate in conserving natural resources by performing environmental work for their SSL credit.

4. Leverage existing capacity to minimize funding constraints.

Tremendous human resources exist in the expertise, dedication, and energy of individuals and groups in the volunteer organizations in the county, including watershed and environmental groups, youth groups, homeowners associations, and faith-based groups which can provide resources and linkages to communities that might otherwise be difficult to reach. Montgomery County should consider establishing a mechanism to utilize and coordinate across these groups, such as providing a forum that facilitates collaboration across organizations, or a grant program that encourages cooperation by requiring partnering of groups.

5. Set performance measures for public outreach

Setting performance measures and designing evaluation methods must be integrated into the first planning stages, as these elements are critical to achieving program goals. Evaluation efforts would benefit from taking a business-like approach, which utilize social marketing techniques that are designed to show actual behavior change.

Baseline data is critical to supporting evaluation, as it offers a condition against which to compare. Montgomery County would benefit from gathering existing data or collect new data through public surveys and environmental monitoring to ensure establishing a baseline to demonstrate actual changes, as opposed to estimated ones. Such comparisons also allow Montgomery County to adapt their efforts if the established goals are not being achieved.

Attachment C

Background information from the Land Use Subcommittee

The purpose of this section is to provide background information to the Montgomery County Executive and the Council on which water quality indicators might be used by the County to assess progress towards goals and requirements. We provide an overview of water quality indicators, recommend criteria for selecting water quality indicators, and recommend specific water quality indicators.

Water Quality

Montgomery County, Maryland is often cited as a leader in water quality management. It has some of the most advanced stormwater management requirements and generally has one of the strongest water quality protection programs in the country. Stormwater management is a particular concern and for a highly developed area such as Montgomery County it must focus not only new development but also on developed areas and areas being redeveloped.

Stormwater management is a particular challenge to maintaining water quality. To deal with this major source of water pollutants, the *Clean Water Act* (1972) established the National Pollutant Discharge Elimination Systems (“NPDES”) and its required system for Municipal Separate Storm Sewage Systems (“MS4”) discharge permitting process. Montgomery County’s own MS4 five-year permit was first granted on July 5, 2001 and is now up for renewal. According to the required annual report for 2006, the County's Permit was scheduled for reissuance in July 2006. However, Maryland Department of the Environment (“MDE”) has been in negotiations with the U.S. Environmental Protection Agency Region 3 since November 2005 to provide Permit language that includes a closer link between program and project implementation and achieving any established total maximum daily loads and water quality standards.¹

Water quality assessment as a matter of public policy is based on intended uses and applicable federal, state and local monitoring requirements. Water uses include aquatic life and wildlife; recreation including swimming; drinking water; and fish/shellfish consumption. Various properties of water can be examined to derive conclusions about its quality. Biological, chemical, and physical indicators including pH, temperature, dissolved oxygen (DO), suspended solids, pathogens, and various other indicators can be measured.

¹ *Annual Report for 2006 NPDES Municipal Separate Storm Sewer System Permit*, Montgomery County Department of Environmental Protection for the Maryland Department of the Environment, March 2008.

The *Healthy and Sustainable Communities* report released by the Montgomery County Planning Department recognized the importance of “high quality streams” because in that they, “help maintain fish populations, reduce flooding and erosion, provide recreation and protect our water supply.” This report presented a three-point clean water goal was presented for the County:²

1. Protect and improve County water resources and drinking water.
2. Reduce damage to stream ecology.
3. Reduce the amount of pollutants that flow into the Chesapeake Bay.

This report presented data from four indicators of water quality: percent of streams rated good to excellent; nitrogen contribution to the Bay; phosphorous contribution to the Bay; and sediment contribution to the Bay. In addition to these indicators, several other potential indicators discussed were actual counts of fish and other species; degraded waters as designated by the State; stormwater runoff volumes; and percent of streams rated good to excellent analyzed by community income levels.

Water Quality Indicators

We present a series of water quality indicators here that are in use in Montgomery County and/or the State of Maryland.

Maryland Department of the Environment

Maryland Environmental Indicators

<http://www.mde.state.md.us/aboutmde/reports/indicators.asp>

Water Quality Indicators (Winter 1999)

- Nutrient Inputs to Mainstem and Tributary Waters
- Nitrogen Concentration Trends in the Tidal Waters of Maryland's Chesapeake Bay (new)
- Phosphorus Concentration Status and Trends in the Tidal Waters of Maryland's Chesapeake Bay (new)
- Chesapeake Bay Program Toxics Releases -- Maryland
- Extent to Which Designated Uses of Maryland's Surface Waters Are Being Met
- Atmospheric Nitrogen Loading to the Chesapeake Bay
- Contribution of Dissolved Oxygen Levels to Water Quality Impairment

² *A Framework for Action: Healthy and Sustainable Communities*, Montgomery County Planning Department in cooperation with Montgomery County Department of Environmental Protection and the Maryland-National Capital Park and Planning Commission, September 2008.

Water Quality – Ecosystem Health (Summer 1999)

- Designated Uses of Surface Waters
- Dissolved Oxygen and Water Quality Impairment
- Nutrient Inputs to Main stem and Tributary Waters
- Cropland Acres Under Nutrient Management Plans
- Phosphorus Concentration in Maryland's Chesapeake Bay
- Nitrogen Concentration in Maryland's Chesapeake Bay
- Atmospheric Nitrogen Loading
- Cropland Acres Under Integrated Pest Management

Criteria for Water Quality Indicators

Indicators are most useful when they meet specific criteria.

For purposes of Montgomery County, we propose water quality indicators include these criteria:

1. Relate to Montgomery County's water quality goals and assessment of relative progress toward meeting these goals.
2. Address relevant federal, state and local monitoring and reporting requirements (e.g., MS4 Permit).
3. Measurable in a cost-effective manner that is scientifically valid and reliable.
4. Can be compared and contrasted with water quality indicators from other areas such as Maryland counties or other state and local jurisdictions.
5. Water quality indicators include assessments that are intuitive and meaningful to the public.

Montgomery County Maryland National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Discharge Permit

The MS4 Permit ("Permit") for Montgomery County covers stormwater discharges. The Permit requires that:

1. Montgomery County shall contribute to Maryland's understanding of stormwater runoff and its effect on water resources by conducting a monitoring program.
2. County continue its systematic assessment of water quality within all of its watersheds and to maximize water quality benefits in priority subwatersheds using efforts that are definable and the effects of which are measurable.

Water Monitoring

Montgomery County uses several water quality indicators to characterize storm flows for MS4 reporting purposes including both water chemistry and biological monitoring.

Water Chemistry Monitoring

Water chemistry monitoring assesses the mean storm event mean concentrations (EMCs) and base flow mean concentrations (MCs) for nutrients, suspended solids, and indicator metals in mg/L for both the outfall and in-stream monitoring stations. The indicators are:

1. Total Nitrogen (TN)
2. Total Phosphorus (TP)
3. Total Suspended Solids (TSS)
4. Zinc (Zn)
5. Copper (Cu)

Biological and Habitat Monitoring

In addition to water chemistry, Montgomery County also conducts biological and habitat monitoring for its MS4 Permit. For biological and habitat monitoring, Montgomery County's Department of Environmental Protection uses eight measurements of community structure and function to make up its Benthic Index of Biological Integrity (BIBI). Each measurement responds in a predictable way to increasing levels of stressors. Examining the details of the benthic communities provides more information on possible impairing factors than available just from the BIBI score. The five FFGs usually examined in a bioassessment are collector gatherers, filtering collectors, shredders, scrapers, and predators. These measurements include:

1. Functional feeding groups (FFGs)
2. Taxa richness
3. Diversity
4. Composition
5. Pollution tolerance.

In addition to biological and habitat monitoring, DEP monitors water quality parameters most closely related to stream biology health. These measures include:

1. Dissolved oxygen (> 5mg/l).
2. % Dissolved Oxygen Saturation (> 80)
3. pH (6.5-8.5)
4. Temperature (deg C)
5. Conductivity (\leq 300 umhos).

In the table below from the 2006 MS4 Annual Report, we can see an example of results from these water quality indicators.

Table III-D5. Water Quality Measurements in 2006 for Biological Monitoring Stations for Long Term Discharge Characterization						
STATION	PBPB104 (tributary)		PBPB309B (upstream)		PBPB310A (downstream)	
	Benthic	Fish	Benthic	Fish	Benthic	Fish
DATE	3/15/2006		3/15/2006	7/12/2006	3/15/2006	7/12/2006
Dissolved Oxygen (> 5 mg/l)	8.7	*	10.2	7.98	10.75	8.49
% Dissolved Oxygen Saturation	78	*	90	93	96	90
PH (6.5-8.5)	6.73	*	7.15	7.4	7.25	7.11
Conductivity (<= 300 umhos)	529	*	163	170	163	180
Air Temperature (deg C)	14	*	14	27	12	19
Water Temperature (deg C)	10.6	*	10.1	23.2	10.5	12.8

* PBPB104 was not monitored for fish in 2006

There are many other water quality indicators that could be used but may vary in practicality and usefulness. Maryland's Department of Natural Resources presented a summary of various water quality indicators and their relative strength in making conclusions about water quality.³

³ *A User's Guide to Watershed Planning in Maryland*, Chapter 5: Field Assessment Methods, Maryland Department of Natural Resources, February 16, 2006.

Table 5.5: Examples of Sentinel Indicators to Measure Progress Toward Goals

<i>Indicator</i>	<i>Indicator Strength</i>	<i>Potential Source of Information*</i>
<i>Dry Weather Water Quality</i>		
Fecal coliform (or other pathogen indicator)	●	CBP, MD DNR
Nutrients (nitrogen or phosphorus concentrations)	●	EPA, MD DNR
Algal growth (Chlorophyll a or plankton)	◎	CBP
Dissolved oxygen	◎	MD DNR
Chemical concentrations (pesticides, metals, etc.)	○	CBP
Chemical concentrations in sediment (pesticides, metals, etc.)	○	CBP, USGS
Total Suspended Solids	◎	CBP, EPA, MD DNR
Water clarity (turbidity)	◎	CBP
<i>Biological</i>		
Fish diversity (F-IBI)	●	MD DNR
Aquatic insect diversity (B-IBI)	●	MD DNR
Single indicator species (e.g., striped bass, blue crab, shellfish)	●	MD DNR
Spawning or migration success	◎	MD DNR
Submerged Aquatic Vegetation (SAV) Coverage	◎	CBP
Riparian plant diversity	◎	CBP
Finfish/shellfish contaminant monitoring (metals and pesticides)	○	MDE, MD DNR
<i>Physical and Hydrologic</i>		
Stream habitat index (RBP or RSAT)	●	MD DNR
Riparian habitat index	◎	MD DNR
Channel/Bank stability (in Physical Habitat Index or SCAI)	◎	MD DNR
Summer stream temperature	◎	CBP, MD DNR
Average summer baseflow	○	USGS
<i>Community</i>		
Trash and debris levels during annual cleanup	●	
Recreational use	◎	
Public access	●	
Citizen attitudes toward streams	◎	
<p>Key</p> <p>● = Excellent indicator, meets all of the selection criteria</p> <p>◎ = Decent indicator, meets 2 or 3 of the selection criteria</p> <p>○ = Specialized indicator, meets only one selection criteria</p> <p>* Resources presented here were selected from Tier 1 of the Monitoring Resources in User's Guide Tool 3.</p> <p>CBP = Chesapeake Bay Program; MD DNR = MD Department of Natural Resources; EPA = U.S. Environmental Protection Agency; USGS = United States Geological Survey.</p>		

Attachment D

Meeting Date	Guest Name	Affiliation	Purpose
1/14/2008	Ben Stutz	Policy Analyst for Councilwoman Ervin	To meet with the WQAG on behalf of Councilwoman Ervin, and to emphasize the Councilwoman's support of increasing minority awareness of and involvement in environmental issue
	Lianne Reisner	IMPACT Silver Spring	To introduce the work of the IMPACT Silver Spring to the WQAG and the relationships they have built with minority communities
	Ansu John	MC DEP, Outreach Coordinator	To introduce DEP's outreach priorities and discuss water-related needs, implementation, and audiences
2/11/2008	Marc Elrich	County Council	To present the Councilman's proposed changes to the County's Forest Conservation Law and discuss any water-related issues raised by the law
	Dale Tibbetts	Council Aide for Marc Elrich	
3/10/2008	Bob Hoyt	MC DEP, Director	To introduce DEP's existing/on-going efforts on forest and tree preservation in the county, and to answer any questions that the WQAG members had related to such broad preservation efforts and any changes to the Forest Conservation Law
	Laura Miller	MC DEP, Forest Preservation Coordinator	
5/12/2008	Mark Symborski	MNCPPC Planning	To present on the timeline and plan of action for developing a Water Resources Element for inclusion in the Functional Master Plan for the County's Comprehensive Plan
	Anya Caldwell	MCPS, Green Buildings	To present on the Montgomery County Public Schools' "Green School" program and its approach to incorporate source control stormwater management practices as a standard design requirement
	Craig Shulman	MCPS, Division of Construction	
6/4/2008	Laura Miller	MC DEP, Forest Preservation Coordinator	To present on MNCPPC's existing and proposed changes to clarify roles within and among agencies addressing forest conservation, enforcement, and amendments from Councilmember Elrich which were intended to increase oversight and mitigation for tree loss



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	Sue Gander, David Faerberg, Walt Auburn, Jody Foster	MC Energy and Air Quality Advisory Group	To attend Ms. Miller's presentation on the Forest Conservation Law, and coordinate recommendations and timelines with the WQAG
	Martin Chandler	WSSC	To present on a repeated power failure of a pumping station in PG County and WSSC's efforts to implement a basin-by-basin study to rehabilitate their infrastructure
7/14/2008	Sean Gallagher	MCPS	To lead a tour of Great Seneca Elementary School, one of the county's green schools
	Anya Caldwell	Former MCPS Green Buildings Coordinator	
	Mark Symborski	MNCPPC Planning	To provide updates on the status of the timeline for the Water Resources Element Functional Master Plan
	Stan Edwards	MC DEP	To present an overview of the ongoing effort to amend the County's Road Code, including reviews of the stormwater revisions, final recommendations and proposed standards from the Stakeholder Workgroup
8/11/2008	Tom Traber	WSSC	To provide an overview of the budget process for WSSC and their significant infrastructure maintenance and repair needs
	Bob Hoyt	MC DEP, Director	To provide updates on DEP's reorganizational efforts due to the inclusion of the Solid Waste Services Division and to review the five main goals of County Stat
	Greg Drury	Wholeness for Humanity	To present on the EcoTour project that Wholeness for Humanity was sponsoring and to solicit participation from the WQAG at the DC GreenFest Town Hall meeting
10/6/2008	Mark Symborski	MNCPPC Planning	To provide an update on the Healthy and Sustainable Communities initiative led by MNCPPC
	Meo Curtis	MC DEP	To present a summary on the County's stormwater permit program, including accomplishments under the previous two permits and the new conditions proposed under the third generation permit

WATER QUALITY ADVISORY GROUP

12/8/2008	Ted Graham	MWCOG	To provide information on a workshop to address LID potential for redevelopment in the Anacostia water and request input and comments from the WQAG on the proposed agenda.
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Attachment E

Water Quality Advisory Group

MISSION: To recommend policies, programs, and priorities that protect, maintain, and/or restore the biological, chemical and physical integrity of County streams, rivers, wetlands, groundwater, lakes, and other water resources.

October 6, 2008

WHEREAS, The Water Quality Advisory Group (WQAG) was established by County ordinance in part to enhance the public participation element in connection with the National Pollution Discharge Elimination System (NPDES) Stormwater Permit;

AND WHEREAS, The ordinance establishing the WQAG mandates participation by certain public agencies with responsibilities relevant to permit compliance, including the Washington Suburban Sanitary Commission, the County Department of Environmental Protection, and the Maryland-National Capital Park and Planning Commission (M-NCPPC);

AND WHEREAS, The Maryland Department of Environment is about to issue a new NPDES Stormwater Permit which explicitly recognizes the role of the Montgomery County Public Schools in permit compliance;

AND WHEREAS, The WQAG's deliberations have been greatly enhanced by members who are also teachers in the MCPS system;

BUT WHEREAS, The MCPS has never been officially represented on the WQAG, or participated in WQAG deliberations;

AND WHEREAS, the WQAG believes that the MCPS is a major stakeholder with a critical role to play in permit compliance, both as the owner of lands and buildings which impact the stormwater problem and as educators of the children of Montgomery County;

AND WHEREAS, The members of the WQAG believe that the WQAG would better carry out its duty to make recommendations for improving water quality in the County if a representative of the MCPS participated in a regular way in WQAG deliberations;

NOW THEREFOR BE IT RESOLVED, That the County Executive and County Council be and hereby are urged to amend the ordinance creating the WQAG to add regular participation by an appropriate representative of MCPS.

Adopted by unanimous vote of the WQAG on October 6, 2008 at a regular meeting of the WQAG.

WATER QUALITY ADVISORY GROUP

255 Rockville Pike, Suite 120 • Rockville, Maryland 20850 • 240-777-7700, FAX 240-777-7752

(67)

Attested to by:

Larry J. Silverman
Chairman
Date:

Dusty Rood
Vice Chairman
Date:

WATER QUALITY ADVISORY GROUP

255 Rockville Pike, Suite 120 • Rockville, Maryland 20850 • 240-777-7700, FAX 240-777-7752



Attachment F

July 17, 2008

Council President Mike Knapp
Montgomery County Council
100 Maryland Avenue
Rockville, MD. 20850

Re: Proposed Forest Conservation Law
Amendments

Dear County Council Members:

The Water Quality Advisory Group (WQAG) is hereby submitting comments for your consideration on the proposed amendments to the County's Forest Conservation Law. Recognizing that this is an extremely complicated environmental and land use statute with significant water quality impacts, the WQAG undertook substantial efforts to understand and analyze the Law and the proposed Amendments. We heard presentations from Councilmember Elrich's staff, MCDEP staff, and held a joint meeting with the Energy and Air Quality Advisory Committee with MNCPPC experts also in attendance and actively participating and informing the discussion.

First and foremost, it is clear that the County does not have, or at least does not follow, an over-arching and science-based forest conservation objective. What is the appropriate and necessary amount of forest cover in this County? Where do we stand relative to this benchmark? How much of this should be riparian, or stream side, forest cover? Absent such an over-arching objective it is difficult to evaluate these amendments.

The WQAG believes that forest cover constitutes the most desirable land use from a purely water quality perspective. We also recognize the importance of the landscape-location of forests – such as the enhanced water quality benefits forests along streams offer relative to upland forests and the benefits of forests in the County's headwater tributaries. Our review of the data suggests that while we, as a County may be slightly losing total forest cover (-7% since this was tracked in 1994), there has been an increase in forest cover along streams.

We also recognize that the type of development in Montgomery County is changing. Montgomery County has experienced significant development of open, undeveloped and forested properties ('greenfields') since 1994, which has resulted in the 7% loss of forested resources. It is our understanding that very few greenfield projects remain and the focus going forward will be on redevelopment and urban infill. We believe that this planning approach will inherently help to protect the County's existing forest resources while generating additional forest resources through afforestation. The County should complement these planning efforts by identifying critical forest protection and afforestation opportunities.

Any amendments to the Forest Conservation Law should recognize the delicate balance inherent to land planning and encourage the type of development and resource protection mentioned above.

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Our evaluation of this law also revealed that the law, as written, is extremely confusing and unclear. When the law applies, when you're exempt and what you have to do to comply is entirely unclear to us, let alone unknowing citizens, neighbors and others potentially regulated by this law. We support MNCPPC's proposal to clarify this law which, in and of itself, should result in additional protection of forest resources.

Thank you in advance for your consideration of our recommendation and insights. If there is anything else that we can do to support your review of this legislative amendment, please do not hesitate to contact us.

Sincerely,
Water Quality Advisory Group

Larry J. Silverman
Chair
7308 Birch Avenue
Takoma Park, MD 20912
301-346-3757

Cc: County Council
County Executive

Attachment: Summary of Member Views

WATER QUALITY ADVISORY GROUP

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The Forest Conservation Law from the Perspective of the Water Quality Advisory Group
Summary of Member Views
July 17, 2008

The purpose of this attachment is to provide more detailed comments from the Water Quality Advisory Group regarding proposed amendments to the Forest Conservation Law (FCL) and related matters.

1. Importance of the Subject: The conservation of forests and the protection of street trees are vital to the achievement of water quality goals. It is difficult to imagine that the goals of the proposed stormwater discharge permit can be met without a robust public and private program to enhance forest resources in the County.

2. Need for a Statement of Goals: What is the long term goal of the County with regard to forest cover and tree canopy? What role will forest policy play in the achievement of water quality obligations? We urge the Council and Executive to address these questions as best they can. It will give shape to regulatory decisions, promote consistency through different agencies of government, provide developers and residents with critical guidance and direction, and insure some measure of accountability for the decisions the Council and Executive make on this matter.

3. Need for Comprehensive Program: The practice of Montgomery County and the State of Maryland is to deal with forests and trees through different laws and with separate approaches. Thus the proposed FCL as well as Park & Planning's draft proposals on green infrastructure deal only with forests and not with trees. Whatever the merits of this approach in terms of timing and sequence, WQAG urges to the County Council to pursue more comprehensive treatment of these interrelated matters. We believe it is vital to develop a County program and appropriate ordinances to enhance the urban tree canopy and increase forested lands in the County. We cannot afford to lose sight of the forest or the trees. Both are needed to achieve clean water goals.

4. Need for Science Based Policy and Timely Data: Our review of the data suggests that while the County may be slightly losing total forest cover (-7% since this was tracked in 1994), there has been an increase in forest cover along streams¹. This conclusion must be tempered by the realization that the information base for forestry decision making is weak. The Advisory Group believes that policy should be built on accurate and timely information. While information can never be as good as what one might need, we believe that rapid improvement in the data is a necessary element as the County moves forward on its tree and forest programs. We understand

¹ The '7% overall forest loss' is based on an analysis of plans approved by MNCPPC since 1994. The 'increase in forest cover along streams' is based on the Law's sequencing priority emphasizing reforestation along streams and is supported by a University of Maryland study indicating a 13% increase in forests within the 100' stream buffers in Montgomery County.

that DEP is rolling out a new remote sensing system that will provide timely and accurate information. Unfortunately the progress is very slow, completing a “very tiny portion of the County for one year.” WQAG recommends that this program be supported and expedited and encourages the County to continue to seek state and federal help in insuring the essential data is useable and timely.

Timely data and science are essential to effective planning and decision making. Professor Glenn Moglen, who represents the academic community on our Group, gives the following example of data driven planning and the sound decisions that it can guide:

Planning for forest conservation should mean the following things:

PRESERVATION

- Identifying critical existing forest resources (forests draining to high quality streams or to drinking water sources) and earmarking/rezoning such lands to "no development" status.

REFORESTATION

- Identifying riparian buffer areas that could be reforested and targeting such areas for reforestation programs. Such areas should be simply reforested if they are on public lands, and easements or other mechanisms should be used to encourage reforestation on private lands.

- Identifying privately held agricultural land draining to high quality streams or streams that would be vulnerable to significant damage if development were to take place upstream. Like the riparian buffers, such lands should be put on top priority lists for easements or other mechanisms to encourage reforestation.

5. High Priority to Water Quality: Improvements to Water Quality should be an explicit priority of the proposed law. This means that forested areas that provide the most water quality benefits should be given the highest levels of protection. In practice this means that the current policy of Park & Planning to protect riparian buffers should be continued and expanded. Moreover, the County must recognize that some forested and treed areas around storm drains that run underground to streams function as riparian buffers even though they may be remote from the stream. The Advisory Group agrees with Member Eileen Straughan, an environmental engineer and consultant, that rules based on thorough ecological assessments are superior and more likely to achieve their objectives than cookie cutter, one-size-fits-all solutions.²

²For forest cover, this recognition should not be cookbook regulation, but instead should be scientifically/biologically/ecologically thought through. By that I mean maintaining forest cover in FUNCTIONAL forest buffers (not visually attractive riparian buffers through which we pass large storm drains that discharge stormwater into stream meander bends and blow out opposite stream banks and cause channel instability! Instead, when the County applies its policy and regulation, it should evaluate site development plans considering demonstrated fluvial geomorphic realities...that streams with access to their natural forested floodplains during flood provide significant water quality benefits (long term nutrient and carbon sequestration/sediment deposition among them) , and those that are disconnected DO NOT...Thus, Montgomery County’s regulations, both on the forest conservation and stormwater management/low impact development, should mandate preservation of streams that are currently connected to natural forested floodplains, and reconnection/ re-establishment of forested riparian buffers for those that are not.)

6. Renew the Tree Canopy As former WQAG Chair, Charles Andrews, has noted, the County currently has over 300,000 street trees, but lacks a comprehensive program to maintain and enhance these trees. For instance, the average street tree has a lifespan of about 50 years; therefore to maintain the current number of trees about 6,000 new trees need to be planted each year. For the past many years the County has only planted about 1,500 new trees each year, far less than the replacement level. In addition to County initiatives, there should also be incentives and/or requirements for private landowners in urban areas to avoid the unnecessary cutting of mature trees and to plant additional trees. The Advisory Group recommends that the County develop a program of education aimed at helping citizens understand the value of the tree canopy for water quality, cooling, and climate protection purposes. This should be followed by a program of strong regulation on tree removals and aggressive planting programs on public lands, including rights-of-way.

The current RainScapes program, which provides incentives for planting shade trees on private lands should be promoted and expanded. A number of WQAG members have personally participated in events associated with this program and can attest to the high quality and great value of RainScapes.

The WQAG is gratified that the new laws, originally sponsored by Council Member Berliner, passed to mitigate climate change, include a tree canopy element. We believe that the County should establish clear goals for the extent of the tree canopy, and develop programs to implement them. A good starting point is the goals set out in the Forest Preservation Strategy Update 2004. The Advisory Group is also concerned that the average age of Montgomery County trees, especially in the older neighborhoods, make the County especially vulnerable to catastrophic loss of tree cover, should a major storm or epidemic reach this area. WQAG urges the County to develop plans to mitigate this potential for massive catastrophic loss.

7. Animal Control Issue Must be Recognized: WQAG Member Mike Smith, a volunteer with the Friends of Sligo Creek, has noted that many tree planting programs are thwarted by deer predation. Laura Miller, the forester at DEP concurs. Reforestation/afforestation programs must take account of animal control issues. The Advisory Group heard evidence that many tree planting and forest restoration efforts, some of them in response to regulatory requirements, have failed because of predation. Failure to address the two issues in tandem will result in unsuccessful forestry programs. As a practical matter in deciding on mitigation measures for developers or publicly funded replanting programs, decision makers should anticipate deer predation and impose additional measures to account for it. The longer term solution is to manage the deer herd so that new forests have a chance to develop, and to manage the forests so as to restore balance to the different populations. Park & Planning is working hard on this issue. But the task is difficult. These population explosions are a cause and perhaps a symptom of the general unhealthiness of the County's forests.

8. Protection of Agriculture: We believe that the County should continue and expand its efforts to assist farmers and other commercial landowners in protecting riparian buffers and developing ways of improving profitability without sacrifice of environmental values. Former WQAG Member Lonnie Luther, a Montgomery County farmer, urges the Council not to impose permit requirements on farmers for timbering operations. The current practice of requiring only notice,

and not a permit application, for commercial non-development forest cutting should be continued. The WQAG believes that there is a great potential in the County for a sustainable forestry program, associated especially with agricultural property. Dr. Luther, who is also a food scientist at FDA, provided this example of sustainable forestry and of cooperation between County government and County agriculture:

A farmer's perspective: I have 20 acres of forest which will be harvested for lumber in a few years. I plan to thin out the smaller trees from time to time to permit the larger and more desirable species to grow and mature faster. I also have 4 acres of forest along a creek, and I am replanting it, as a riparian buffer, with 1400 trees and shrubs. The Soil Conservation District is providing cost share monies for the riparian buffer, including fencing and stream crossing expenses. I think Federal, State, and County monies are wisely spent on any forestry project, resulting in improved water quality.

WQAG concurs that projects of this sort are of very great value to the County and should be supported.

9. Incentives and Goals for Tree Planting: David Plummer, Montgomery County Soil Conservationist and a member of WQAG and the Forest Advisory Committee, has called for a program of

... incentives (rebates, free trees, coupons for trees from local nurseries, etc.) for people to plant trees on their property. The trees would come with planting and care instructions. This could be coordinated with the tree planting efforts that DPW&T does along the public road right-of-ways. I also believe that the hundreds of acres of open public land should be reforested – highway cloverleaves and medians, school grounds, unused sections of parks, etc.

Planting trees can help to instill a greater appreciation for our environment, so to the extent possible, this County sponsored tree planting campaign should involve volunteers from the local area where trees are being planted.

The Advisory Group believes that tree planting programs are an excellent investment for Montgomery County. WQAG recommends that the Forestry Conservation Advisory Committee and others develop a set of goals for tree planting programs, identify sources of funding and volunteer efforts, including highway agencies, developers, DEP, non-profit organizations, Natural Resources Conservation programs, individual citizens and property owners, and others. Clear goals, a million new trees in five years for example, should be set and a financing and labor strategy should be developed that will ensure successful achievement of the goals.

9. Rule Clarification: Our evaluation of the current Forest Conservation Law also revealed that the law, as written, is extremely confusing and unclear. As WQAG Vice Chair Dusty Rood points out, "When the law applies, when you're exempt and what you have to do to comply is entirely unclear to us, let alone unknowing citizens, neighbors and others potentially regulated by this law. We support MNCPPC's proposal to clarify this law which, in and of itself, should result in additional protection of forest resources."

Clarification and simplification should be approached as part of a comprehensive policy review. The draft Stormwater Permit, the Road Code, the Water Resources Element will all be coming into effect at about the same time as the Forest Conservation Law may come into effect, if it evolves in the Council. Montgomery's forests and trees appear as a whole to be in a serious condition in terms of their health and functions. The combination of changing policies and at-risk resources seems to require a comprehensive plan and program. Members of WQAG submit these observations in the hope that they will assist the County Council and County Executive in formulating and carrying out such a strategic approach to forestland and water management.

Thank you for the opportunity to comment on this vital Council initiative, and thank you for your hard work on this subject.