



November 29, 2012

**MEMORANDUM**

**DATE:** November 16, 2012

**TO:** Montgomery County Planning Board

**VIA:** Mary Bradford, Director of Parks *Mary Bradford*  
Michael F. Riley, Deputy Director, Administration  
Dr. John E. Hench, Ph.D., Chief, Park Planning and Stewardship Division  
Doug Redmond, Natural Resources Manager, Park Planning and Stewardship Division *Doug Redmond*

**FROM:** Geoffrey Mason, Senior Natural Resources Specialist, Park Planning and Stewardship Division *Geoffrey Mason*

**SUBJECT:** *Geoffrey Mason*  
**National Pollutant Discharge Elimination System Program Status**

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**BACKGROUND**

As per the request from Commissioner Amy Presley at the FY14 budget work session on 10/11/12, staff have prepared an Executive Summary of the Department of Parks' National Pollutant Discharge Elimination System (NPDES) Program and proposed FY14 budget initiatives. The Summary emphasizes the following points:

1. Program Overview
2. Permit Progress and FY14 Budget Initiatives

With aid of a PowerPoint presentation, staff will go through the Executive Summary with the Board on 11/29/12. The Executive Summary is attached.

## **Executive Summary of National Pollutant Discharge Elimination System Program M-NCPPC, Department of Parks, Montgomery County**

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M-NCPPC, Department of Parks, Montgomery County  
10/14/2012

### **Program Overview**

The Department of Parks received its first National Pollution Discharge Elimination System Small Separate Storm Sewer System (NPDES MS4) permit from the Maryland Department of the Environment in the spring of 2010. The purpose of this permit, which is based in the Federal Clean Water Act, is to reduce stormwater pollution coming from impervious surfaces and thereby improve water quality. The permit requires the Department to develop Best Management Practices for each of the six Minimum Control Measures which include: Personnel Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination, Construction Site Runoff Control, Post Construction Stormwater Management, and Pollution Prevention and Good Housekeeping. Although the Department was required to obtain this permit and fulfill its requirements, no federal or state funds were available to offset this mandate.

Accordingly the Department was appropriated \$1.5 million in FY12 from the Montgomery County Water Quality Protection Fund to offset costs associated with ongoing water quality related work across M-NCPPC's 35,630 acre park system and implementation of the Department's new NPDES MS4 permit. Ongoing water quality related work included maintenance and management of streams, lakes, non-tidal wetlands, and stormwater management facilities on M-NCPPC parkland as well as the implementation of the Department's NPDES industrial permit for its 12 maintenance yards. The new funding was used to offset approximately 10 work-years of ongoing work and fund 4.5 new work-years associated with the Department's NPDES MS4 permit.

New work associated with implementation of the Department's NPDES MS4 permit included the development of educational resources for operations staff to provide a connection between work program duties and stewardship of natural resources, design and implementation of stormwater retrofits and stream restoration projects, and continued support of volunteer efforts in Parks. Specific details associated with the Department's permit and associated progress can be reviewed in the Annual Report [http://www.montgomeryparks.org/PPSD/Natural Resources Stewardship/ stormwater/documents/fy12-mncppc.npdes.annual.report.pdf](http://www.montgomeryparks.org/PPSD/Natural%20Resources%20Stewardship/stormwater/documents/fy12-mncppc.npdes.annual.report.pdf).

Funding in FY13 was increased by \$49,300 to cover benefit costs associated with the aforementioned workyears.

While many improvements have been initiated under the permit, some major deficiencies remain. These deficiencies occur primarily within the following Minimum Control Measures: Pollution Prevention and Good Housekeeping, Post Construction Stormwater Management, and Public Involvement and Participation. Further

progress is stifled by a lack of dedicated crews and insufficient contract funds that focus on this type of specialized water quality related maintenance work.

These constraints continue to pose challenges in meeting the requirements of the new NPDES MS4 permit and are the basis of the Department's new FY14 NPDES MS4 related budget initiatives. See Table 1 below.

**Table 1:**

<b>Minimum Control Measure</b>	<b>BMP Selected</b>	<b>Program Deficiency</b>	<b>Lead Division(s)</b>	<b>New Positions/ Workyears</b>
<b>Pollution Prevention and Good Housekeeping</b>	Pesticide Safety and Integrated Pest Management	Implementation of green management practices and procedures	Horticultural, Forestry and Environmental Education	1.0 WY  1 Full Time Term Position
<b>Post Construction Stormwater Management</b>	Ensure all stormwater management (SWM) facilities on Parkland are monitored and properly maintained to provide maximum stormwater treatment efficiency.	Management of nuisance wildlife	Park Planning and Stewardship	1.0 WY  1 Full Time Term Position
<b>Post Construction Stormwater Management</b>	Ensure all stormwater management (SWM) facilities on Parkland are monitored and properly maintained to provide maximum stormwater treatment efficiency. (Currently 348 SW facilities; 90 in remote areas and maintained by contract; remaining 258 maintained reactively, not proactively)	Regular and routine maintenance of stormwater facilities	Northern Parks and Southern Parks	4.5 Seasonal WYs  (6 seasonals for 9 months – Mar-Nov)
<b>Public Involvement and Participation</b>	Stream Trash Cleanups	Coordination of stream cleanups	Public Affairs and Community Partnerships	0.4 WY  Convert Existing PT Term position (0.6 WY) to FT Career (1.0 WY)

The increased funding request of \$479,262 for NPDES activities includes the costs for the personnel noted above plus additional funding for equipment, cleaning of oil/grit separators, and interpretive signage/website improvements. A breakdown of the funds is shown in the chart below.

**Table 2**

New FY14 NPDES Funding Request	Personnel	Supplies	Services/ Contracts	Capital Outlay	Total
Northern & Southern	122,000	20,000	40,000	70,000	252,000
Park Planning & Stewardship	70,881	3,000	30,000		103,881
Public Affairs & Community Partnerships	27,500		25,000		52,500
Horticultural, Forestry and Environmental Education	70,881				70,881
<b>TOTAL</b>	<b>291,262</b>	<b>23,000</b>	<b>95,000</b>	<b>70,000</b>	<b>479,262</b>

**Permit Progress and FY14 Budget Initiatives**

In FY12 the Department assembled its NPDES team. Since then, staff from across various Park Divisions have come together to meet the requirements of the permit. Significant progress has been made considering the current resources. Information on the specific progress can be found in the NPDES Annual Report at [http://www.montgomeryparks.org/PPSD/Natural\\_Resources\\_Stewardship/stormwater/documents/fy12-mncppc.npdes.annual.report.pdf](http://www.montgomeryparks.org/PPSD/Natural_Resources_Stewardship/stormwater/documents/fy12-mncppc.npdes.annual.report.pdf).

As mentioned above, while many improvements have been initiated under the permit, some major deficiencies remain – mostly due to budgetary constraints. These deficiencies occur primarily within activities listed in Table 1. These constraints required that new initiatives be created to ensure that Parks meets the requirements of the Permit and are the basis of Parks’ FY14 NPDES new initiatives.

The new initiatives were developed through review of our current requirements under the permit and identification of the Best Management Practices (BMPs) that were not being accomplished. These initiatives were evaluated to determine if the best avenue for compliance was through contract, seasonal staff, term employees, or full-time career employees.

In the following section, progress in each area will be charted along with the need for the 2014 Budget Initiatives.

**Stormwater Facility Inventory and Maintenance**

The expanded team has allowed the Department to fully inventory its stormwater management facilities and better understand the existing infrastructure. Using GIS databases and analysis, maps were created to help park managers understand the extent and complexity of stormwater facilities in their management areas. Based on further analysis of information therein, staff has developed maintenance protocols specific to each of 18 types

of stormwater facilities across M-NCPPC's park system. These basic protocols have been further "refined" into discrete, seasonal tasks which are scheduled using SmartParks work order system.

This exercise revealed to the NPDES team that stormwater facility maintenance requires specialized training, skills, and time commitments. The work is both technical and labor intensive. Increased attention to this new program was quickly diverting attention from traditional park maintenance activities associated with clean and safe parks. It became clear to the NPDES team that additional maintenance resources were needed in both Northern and Southern Parks. The team also noted that this need was greatest in the spring, summer, and fall seasons.

#### *Stormwater Maintenance Crew*

Maintenance responsibility for stormwater management facilities is divided up into structural and non-structural maintenance. Under a Memorandum of Understanding with the County, the Montgomery County Department of Environmental Protection conducts all structural maintenance of these facilities; this work consists of infrequent maintenance and repair of the major structural components including, maintenance of concrete and metal pipes, repairing earthen dams, and conducting major sediment dredging to restore storage capacity. Parks is responsible for all of the frequent non-structural maintenance including mowing, weeding, and brush and trash removal activities required to maintain adequate function of the facilities. These maintenance tasks are varied in scope and frequency due to the large variety of types (18 different types) of stormwater management facilities on parkland.

Maintenance activities required to ensure proper function include dam embankment mowing, woody vegetation control around structures, sediment removal from inlets and filter media, vegetation control and removal from filter media, removing weeds and invasive plants from bioretention facilities, removing debris and vegetative matter from facilities (especially sand filters and bioretention), tilling and raking filter media, and trash pickup. Many of these tasks require specialized skills including plant identification, knowledge of specific stormwater facility design, and operating equipment. Parks has created a preliminary maintenance task spreadsheet that identifies approximately 70 maintenance tasks for the various facility types, some of which need to occur monthly or more frequently due to on-site conditions. Currently Parks manages the facilities to the highest level possible with the available resources but this has generally been in a reactive manner of dealing with problems as they arise. In order to be good environmental stewards and manage these facilities properly Parks is trying to implement a proactive maintenance work program.

Of Parks' approximately 350 stormwater management facilities, 90 stormwater ponds (which are the least complex to maintain) are under contract for bi-annual mowing and monthly trash removal. However, Parks staff still must apply resources to these facilities when maintenance needs occur between the bi-annual maintenance contractor visits. Typically additional work on these facilities involves additional mowing and tree removal and cleanup. The other approximately 260 facilities are completely maintained internally by Park staff. One of the FY12 new initiatives was to create stormwater management facility maintenance standards and incorporate them, along with maintenance schedules, into the SmartParks work order system.

Now that Parks fully understands what it takes to adequately maintain this growing number of facilities, the best method of doing so is a) to contract out the maintenance of additional facilities (approximately 100 total), specifically those located in remote areas that are away from the daily path of maintenance crews and b) to have a crew of seasonal workers dedicated and trained specifically to maintain the remaining facilities (approximately 250 total). In addition to ponds, these facilities include bioretention systems, infiltration

trenches and sand filters, which require specialized skills. The addition of facilities to the contract will require additional funds, however in order to effectively manage the continually increasing number of stormwater facilities, adding facilities to the contract is necessary. In the FY12 initiatives 2 of the 4.5 new work years went to hiring two new water quality managers, one in the Northern Parks Division and one in the Southern Parks Division. This new seasonal crew will report to them and will provide us the opportunity to fully leverage their positions and increase their ability to manage and oversee our stormwater management facility maintenance responsibilities.

### Stream Valley Clean-ups

Over the past three years, the Volunteer Services Office (VSO) has worked to increase the number of stream cleanups and trash removed from M-NCPPC's stream valley parks. These efforts have been managed by a part-time non-career volunteer coordinator. The "transitory" nature of this position has made it challenging to maintain ongoing relationships with community watershed groups which provide much of the labor and support for these and other stewardship efforts.

### *Volunteer Services Coordinator*

The FY12 new initiatives identified the creation of a part-time Volunteer Services coordinator. This position is essential to strengthening and developing long-standing relationships and partnerships with leaders and members of local watershed and other community groups. The position is tasked with coordinating volunteer stream cleanups as well as the new volunteer storm drain labeling program, tree planting programs and coordinating other stewardship opportunities which are in high demand by volunteers. Success in this regard requires the establishment of long term personal relationships with key leaders in each environmental group. Additionally Parks is experiencing increased demand from volunteers and groups to engage in environmental stewardship, tree planting and other efforts. It is critical that career staff be available to perform this role.

### Green Practices

Over the past three years, the Department has worked to improve the way maintenance operations are conducted through the development and implementation of BMPs. It has become clear that there is variation in how BMPs are applied. Parks follows an Integrated Pest Management (IPM) policy but does not have a unified tracking system for pesticide usage.

### *Green Management Coordinator*

A Green Management Coordinator position is necessary to ensure compliance with permit conditions related to pesticide safety and integrated pest management (IPM). This position would develop a pesticide database in SmartParks for the entire Department of Parks and analyze data about pesticide use to reduce Parks' reliance on pesticides and employ more environmentally sensitive practices. It will also research and develop best management practices and work to transition Parks operations to green cleaning products. Staff determined that work conducted by a Green Practices Coordinator could be completed by a two year term position.

### Nuisance Wildlife

Stormwater management facilities can be prone to colonization by nuisance wildlife. Beavers and muskrats clog stormwater facility outfalls and groundhogs undermine pond dam embankments. This nuisance wildlife has a great impact on the facilities and requires significant management and trapping.



***Nuisance Wildlife Position***

Increases in these animal populations at stormwater management facilities and the requirement to remove these animals necessitate hiring a full-time term contract employee who can manage a nuisance wildlife program specifically for stormwater management facilities. In addition to the term contract employee, additional contract money will be necessary in support of any trapping and removal of nuisance wildlife that will be required.

Funds for these new initiatives are intended to come from the Montgomery County Water Protection Fund, not the Park Fund.

**Summary**

The Department of Parks is dedicated to reducing stormwater pollution by abiding by our NPDES MS4 permit. We have initiated a significant amount of new programs and accomplishments with the 4.5 new work years allotted to us in FY12. With those new initiatives however, came awareness of our inability to fully comply with the requirements of our permit based on budget deficiencies. The new initiatives presented and approved by the Planning Board for FY14 will allow us to implement new programs and BMPs identified in our Permit so we can better steward the 35,630 acres of land entrusted to us.

PC:

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