

**MONTGOMERY COUNTY PLANNING DEPARTMENT**  
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

**MCPB**  
**Item # 8**  
**2/21/08**

**MEMORANDUM**

**DATE:** February 12, 2008

**TO:** Montgomery County Planning Board

**VIA:** Gwen Wright, Chief, Countywide Planning Division  
Jorge Valladares, Chief, Environmental Planning, Countywide Planning Division  
Mary Dolan, Master Planner/Supervisor, Countywide Planning Division *MD*

**FROM:** Stephen D. Federline *SD* and Candy Bunnag *CB*, Environmental Planning, Countywide Planning Division

**SUBJECT:** Environmental Review of the Intercounty Connector (ICC) Segment within and Draining to the Upper Rock Creek Special Protection Area (SPA)

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This memorandum is a review of the environmental and water resource protection measures that SHA has proposed as part of the Intercounty Connector (ICC) project within and draining to the Upper Rock Creek Special Protection Area (SPA). The purpose of this review is to:

- Provide public information regarding the State's proposed measures for protecting environmental resources within the Upper Rock Creek SPA;
- Allow public and Planning Board review and comment to the Maryland Department of the Environment (MDE) to influence details of the roadway design prior to MDE approval of final design plans; and,
- Provide information to the Maryland Department of Natural Resources (MDNR) regarding forest conservation.

This analysis will identify how the proposed project compares to the environmental protection requirements, standards, and guidelines that cover this SPA.

The ICC project is a state project and, as such, is not subject to County laws and regulations. However, SHA has recognized the local significance of the SPA and has indicated that it will follow the intent of the SPA law and regulations, proposing a series of protection, mitigation and stewardship measures that seek to provide the best possible protection for the resources of the Upper Rock Creek. This review provides feedback to the state and federal permitting agencies and SHA as to how well this overall objective is achieved from the local perspective with recommendations designed to better achieve protection and enhancement of SPA environmental resources.

This review evolved from an agreement between MNCPPC Chairman Hanson and SHA Administrator Pedersen in January 2007 to conduct a public hearing process for environmental review of the ICC portions within the SPAs in a collaborative manner that reflects the Design/Build (D/B) process and schedule, and results in the highest quality of resource protection possible.

Neither the Planning Board nor Department of Permitting Services is required to approve a SPA water quality plan for this project. The regulatory review and approval of the stormwater management (SWM) plans and sediment and erosion control plans lie with the Maryland Department of the Environment (MDE). In addition, the project is subject to the Maryland Reforestation Act (Maryland Natural Resources Article, Section 5-103), which is administered by the Maryland Department of Natural Resources (MDNR). The ICC is not subject to Montgomery County's laws and regulations relating to forest conservation, stormwater management, or sediment and erosion control.

However, SHA has submitted various plans and reports to staffs of DPS, M-NCPPC, and DEP for review and comment. SHA has incorporated some, but not all, of the review comments generated by these agencies into the project.

Plans, reports, and documents for this SPA review may be accessed at the following website:

[http://www.mcparkandplanning.org/Transportation/icc/upper\\_rock\\_creek\\_spa.shtm](http://www.mcparkandplanning.org/Transportation/icc/upper_rock_creek_spa.shtm)

## **RECOMMENDATIONS**

**Staff recommends that the Planning Board submit the comments below to the Maryland Department of the Environment (MDE) and the Maryland Department of Natural Resources (DNR) for their consideration prior to permit release.**

If the ICC is to more closely follow SPA requirements and guidelines, and given the project's proposed location within the SPA, staff recommends that the following measures be incorporated into the project to help further reduce impacts to natural resources.

Staff's recommendations relate to project commitments that SHA has made in the Record of Decision (ROD). The specific commitments are referenced in each of staff's recommendations below. The full listing of all commitments is available on the website ([http://www.iccproject.com/PDFs/attachment\\_e.pdf](http://www.iccproject.com/PDFs/attachment_e.pdf)).

It should be noted that, as part of the on-going "over-the-shoulder" review, the staffs of M-NCPPC and DPS will continue to review and comment on the plans and information that are provided by SHA. The major comments that have been generated to date and apply to the Upper Rock Creek SPA and watershed are listed below:

### **Overall SPA Comments**

1. Staff supports the inclusion of mitigation and stewardship projects within the larger watershed draining to the Upper Rock Creek SPA. These projects include water quality treatment in existing subdivisions with older stormwater management controls and stream restoration within the watershed draining to the SPA. The projects lie within the

watershed east of North Branch of Upper Rock Creek to just west of Georgia Avenue draining to the SPA. Staff supports this inclusion of the larger SPA watershed, as it provides further opportunities that directly benefit SPA waters, consistent with ROD Commitment #116.

### **Stormwater Management/Sediment and Erosion Control**

2. Input from DPS with respect to the adequacy of both SPA stormwater management and sediment and erosion control should occur during the design stage, through direct coordination and discussion with MDE and SHA.
3. DPS has noted that the project does not meet minimum SPA water quality requirements and is not in accord with the previously proposed stormwater concept. SHA should set up a meeting that includes MDE and County DPS to address the technical comments identified in DPS letter dated February 12<sup>th</sup>, 2008 (Attachment A) prior to MDE final approval of stormwater management plans.
4. All outfalls from stormwater management facilities should be designed to ensure non-erosive conditions inside and outside the limits of disturbance (LOD) and/or ICC right-of-way. This may require field adjustments to meet field conditions. A process providing for minor revisions to the impacts authorized by the MDE permit should be established to allow such beneficial adjustments to prevent erosive conditions downstream.
5. Design the bike path with porous asphalt or comparable semi-porous materials.

### **SPA Environmental Buffers**

6. All plans should identify the County's SPA environmental and wetland buffers as sensitive areas, with notes recommending avoidance and minimization measures. This approach is consistent with the intent of ROD Commitments #91, #92, and #100, and the SPA process, to avoid or minimize adverse impacts to environmentally-sensitive areas. Where disturbance is unavoidable, the use of best management practices for working in "nontidal wetlands, the nontidal wetland buffer, waters of the State, and 100-year floodplain" should also be applied to all County environmental buffers in the SPA in the same manner as would be applied to buffers and sensitive resources defined by state and federal authorities.
7. Staff has pursued lengthening the proposed bridge (Bridge #21) over the tributary of North Branch to avoid filling the wetland. However, the Federal and State permits and Table IV-68 in the Final Environmental Impact Statement set the designed bridge length as sufficient to protect the resource. If SPA requirements were fully applied, the bridge should be lengthened to avoid filling of 0.5 acre of a 1.1-acre forested wetland in the North Branch stream valley, consistent with the intent of Commitments #20 and #54 in the ROD.

8. Clearing and grading activities within the ROW, including grubbing the ROW, installing perimeter sediment and erosion control measures, and installation of the haul road, should not occur between April and August, in order to meet the intent of ROD Commitment #93 to avoid impact to interior forest habitat during specific times of the year: *“Impacts to interior forest habitat and their buffers should be avoided during construction, when possible, from April to August, which is the breeding season for most forest interior dwelling species (FIDS).”*

### **Reforestation**

9. Staff recommends that SHA use Attachment B to guide reforestation activities on M-NCPPC parkland, on land to be conveyed to M-NCPPC, and on any properties within or draining to the SPA, consistent with the intent of Commitment #158.
10. Continued coordination shall occur with the MNCPPC Department of Parks to examine additional opportunities for reforestation in the Upper Rock Creek SPA watershed to achieve a total of 87.5 acres of reforestation (47.5 acres more than currently proposed).
11. Reforestation areas shall be planted at the earliest possible opportunity, consistent with the SPA objectives in the Planning Board’s Environmental Guidelines. Accelerated reforestation is consistent with SHA commitments for stewardship projects to provide mitigation during or before impacts occur, rather than after completion of the project.

### **Water Quality Monitoring**

12. Revise the water quality monitoring program to specifically address how each Performance Goal will be measured and analyzed, as recommended in Montgomery County Department of Environmental Protection’s correspondence dated February 11, 2008 (Attachment C).

It should be noted that even if SHA incorporates all of the recommended measures into the project, it is staff’s opinion that these measures will still result in adverse impacts to sensitive environmental resources in the Upper Rock Creek SPA:

- A 176.4-acre interior forest stand, designated as a Biodiversity Area and Best Natural Area in M-NCPPC parkland, will become two separate interior forest stands, with a total size of about 120 acres. There is a net decrease in the amount of interior forest that remains within the SPA, as well as a decrease in the quality of the forest stands that remain.<sup>1</sup> Although reforestation is proposed within parkland in this SPA, the reforestation will most likely not recreate the high quality characteristics, including the

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<sup>1</sup> According to the M-NCPPC Parks wildlife ecologist, the loss of interior forest habitat will not only adversely affect the stream system, but will reduce the value of the forest for a host bird species that are in serious decline regionally. Creation of a new edge of forest makes the area highly vulnerable to the establishment of non-native invasive plants. Such plants potentially threaten mature trees on the forest edge which can be killed by aggressive vines, reduce biodiversity, outcompete native species that supply food and nesting habitat to native wildlife.



presence of unique plant and animal life, of the current Biodiversity and Best Natural Area.

- The project will create a high-impervious use through four environmental buffers and a significant, high quality forest stand. It relies heavily on engineered measures (stormwater management and sediment and erosion control facilities) to provide environmental protection. From Montgomery County Department of Environmental Protection's (MCDEP) monitoring of SPA developments in the County, MCDEP observes that "solely relying on engineered structures will not be 100 percent successful in maintaining good to excellent stream conditions. The structures must be fully integrated into environmentally sensitive site designs from the start." ("Special Protection Area Program Annual Report 2006", MCDEP).
- The ICC includes six environmental stewardship projects within the watershed that drains to the SPA streams, four of which are SWM facility retrofits and two are stream improvement projects. Such projects will result in improvements to the stream segments within the immediate vicinity of the projects themselves. Although stewardship projects do provide an environmental benefit, these projects cannot be used to directly offset or mitigate imperviousness of the road itself under current Planning Board SPA policies. In addition, DPS in its letter of February 5, 2008, states that "it is unlikely that offsite stewardship projects would be viewed as acceptable mitigation for storm flow increases on SPA projects."

## BACKGROUND

The ICC has had a long history of reviews and decisions. An east-west major highway through Montgomery County and western Prince Georges County was first proposed as part of an Outer Beltway around Washington, D.C. in the 1950s. The concept of an Outer Beltway was dropped, but the ICC continued to be included in County master plans. Three separate Federal National Environmental Policy Act (NEPA) studies have been conducted for this project. Only the current NEPA study, initiated in June 2003, has resulted in a final Environmental Impact Statement (EIS) and Federal Highway Administration's (FHWA) Record of Decision (ROD) in 2006.

Through the long history of this project, there have been changes in Montgomery County law that affect development within two watersheds through which the ICC traverses. The Special Protection Area (SPA) Law and Regulations and the Environmental Overlay Zones in upper Rock Creek and Upper Paint Branch affect land use development projects that are proposed within these watersheds. These laws, regulations, and zones were adopted by the County beginning in the mid-1990s.

A Special Protection Area is defined as a "geographic area where: (1) existing water resources, or other environmental features directly relating to those water resources, are of high quality or unusually sensitive; and (2) proposed land uses would threaten the quality or preservation of those resources or features in the absence of special water quality protection measures which are closely coordinated with appropriate land use controls." A land use project in an SPA must include the following components to demonstrate how the project proposes to provide

appropriate water quality protection measures: stormwater management (SWM) concept plan; erosion and sediment control plan; documentation showing avoidance or minimization of impacts on environmentally-sensitive areas and priority forest conservation areas as specified in the Planning Board's "Environmental Guidelines"; an analysis of available alternatives and a plan showing conformance to imperviousness limits as specified in the applicable Environmental Overlay Zone.

Both the Upper Rock Creek and Olney Master Plans recognize the importance of the North Branch of Rock Creek as a significant resource worthy of protection. The plans cite the high quality stream resources and the significant biodiversity area, interior forest and riparian resources that protect the stream system (see Attachment D for excerpts from the master plans and a more detailed description of the resources). Particularly important are:

- The North Branch (and indeed all of the Upper Rock Creek above Muncaster Mill Road) are Use III streams, or "Natural Trout Waters," capable of supporting natural trout populations, including propagation, and their associated food organisms.
- The North Branch of Rock Creek harbors a rich variety of high-quality wetlands. The combination of large forested wetlands, high-quality scrub-shrub and emergent wetlands, and large vernal pool areas make the wetlands of the North Branch especially valuable for the provision of habitat for aquatic, semi-aquatic, and terrestrial life forms.
- The Maryland Department of Natural Resources Natural Heritage Program has identified parkland areas containing unusual plant communities or plants considered rare, threatened or watchlist species on lists maintained by the state. Fragmentation of these areas or disturbance of their edges leads to displacement of the native plants with non-native invasive species. The North Branch Valley biodiversity area is such an area at the eastern most headwaters of the North Branch of Rock Creek, extending beyond Olney into the Upper Rock Creek Planning Area. This area supports a good quality forest with forest interior species and a small population of chinquapin. The North Branch area extends north from Muncaster Mill Road along the stream valley to Norbeck Country Club. This is a good quality, maturing forest that supports larger trees with wide-spreading canopies suitable for forest interior dwelling species, as well as a well-developed understory. At least four watchlist species occur here including shingle oak and chinquapin. A large floodplain wetland occurs here containing a diversity of wetland plants.

### **EIS and Record of Decision Process Including Federal and State Permits**

In an effort to gain consensus on SHA's proposed environmental impacts and minimizing efforts, the ICC study team initiated coordination with Federal, State, and local agencies. In July, 2003, a series of Interagency Working Group (IAWG) field and office meetings were set up to review avoidance and minimization alternatives, mitigation and environmental stewardship opportunities, and to address specific agency information and requirements associated with the project. This effort was designed to maintain a partnership with the Lead Agencies to assure that the avoidance, minimization and mitigation efforts accomplished through the NEPA process are carried through.

In an advisory capacity, M-NCPPC attended these meetings and offered many suggestions on methods and techniques to reduce impacts along the ICC right of way. M-NCPPC worked closely with the USACE, MDE, EPA, DNR, USFWS, and NPS<sup>2</sup> to achieve maximum minimization efforts. There were times when these agencies agreed with our suggestions and supported our comments. At other times, the IAWG reached concurrence on a position different than M-NCPPC staff. Therefore, while some of staff's recommendations have been incorporated into the project; others have not.

## **PROJECT DESCRIPTION**

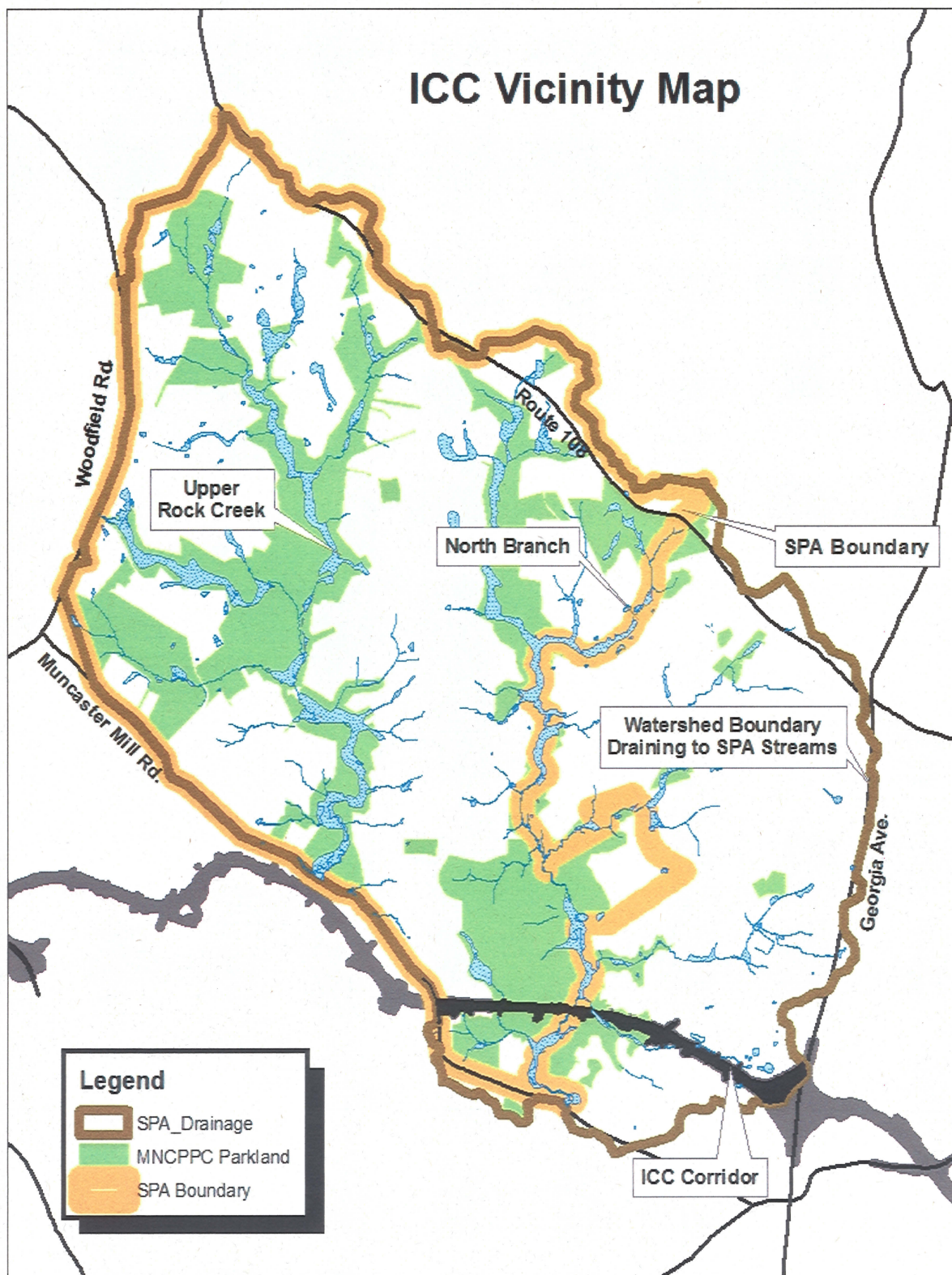
The ICC through the Upper Rock Creek SPA (from Muncaster Mill Road east to North Branch) is approximately 4360 linear feet. Additional ICC roadway of approximately 7483 linear feet, with additional roadway associated with the interchange on the west side of Georgia Avenue, drain to the SPA watershed from west of Georgia Avenue to North Branch. In total, 11,843 linear feet (or over 2.2 miles) of ICC roadway, and more than 33 acres of imperviousness, drain to the Upper Rock Creek SPA.

On-site SWM controls are proposed within the ICC ROW. They include SWM facilities that provide water quantity and quality controls. In addition, about 40 acres of forest planting are proposed within the SPA on M-NCPPC parkland.

In addition, SHA proposes six Environmental Stewardship (ES) projects which exceed mitigation required by Federal and State Laws. Six ES projects are included within the SPA watershed and associated with already developed areas. They include four SWM retrofit projects and two stream restoration projects affecting approximately 1640 linear feet of stream. The locations and descriptions of these projects are shown in Attachment E.

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<sup>2</sup> USACE -- U.S. Army Corps of Engineers; MDE -- Maryland Department of the Environment; EPA -- U.S. Environmental Protection Agency; DNR -- Maryland Department of Natural Resources, USFWS -- U.S. Fish and Wildlife Service; NPS -- U.S. National Park Service



## ANALYSIS

### **Review of the ICC Segment in the Upper Rock Creek SPA**

*As stated above, the purpose of this review is to compare the proposed ICC segment within and draining to the Upper Rock Creek SPA to the SPA requirements, criteria, and guidelines that are applied to those development projects that are subject to County laws and zoning ordinance.*

The overarching question that this memorandum covers is: Does the ICC project provide comparable environmental protection measures that are normally required of a development project that is subject to the SPA law?

#### ***Review Process for a Public Project That Is Subject to the SPA Law and County Zoning Ordinance***

A public project that is subject to the SPA Law and the Upper Rock Creek Environmental Overlay Zone, must submit a SPA water quality plan if it proposes land disturbing activities. The SPA water quality plan consists of several elements, which include, but are not limited to, the following:

- SWM concept plan;
- Sediment and erosion control concept plan;
- Plan of the proposed project which minimizes impervious area and, if applicable, meets impervious limits for the project as are required in a land use plan, watershed plan, Comprehensive Water Supply and Sewer System Plan, or the zoning ordinance.
- Documentation showing avoidance or minimization of impacts on environmentally sensitive areas and priority forest conservation areas as specified in the Planning Board's "Environmental Guidelines", and an analysis of available alternatives;
- Documentation of any other mitigation techniques proposed by the applicant or required by applicable guidelines, law, or regulations;
- Documentation of anticipated performance on water quality of each proposed measure;
- Proposed best management practices monitoring plan

The review authority for the SPA water quality plan rests with three agencies: DPS is the lead agency for SWM and sediment and erosion control plans; M-NCPPC is the lead for protection of environmental buffers, imperviousness, and forest conservation; and DEP reviews the monitoring plan. After DPS and DEP reviews and approves their components of the water quality plan, the Planning Board holds a public hearing and acts on its components of the water quality plan.

In reviewing a proposed project for meeting the goals for environmental protection in the SPA, the three County agencies identify land use and land cover restrictions, protection of environmentally-sensitive areas, and stormwater management and sediment and erosion control best management practices (BMPs) as complementary environmental resource protection tools of



equal importance. All of these tools must be incorporated into a land development project in order for the environmental resources to be adequately protected.

### ***Review of the ICC***

The ICC project incorporates some but not all of the environmental protection tools that are applied to land development projects which are subject to County law. The ICC recognizes the SPA requirements for stormwater management in the Final Environmental Impact Statement (FEIS) and the Record of Decision (ROD). However, it does not recognize the full County environmental buffers as environmentally-sensitive areas that should be protected. In addition, by virtue of its location through four environmental buffers and a significant, high quality forest stand, the ICC cannot fully avoid the environmental buffers and other environmentally-sensitive areas. Within the SPA, the ICC relies heavily on stormwater management and sediment and erosion control measures to provide the environmental protection tools. The project does not include complementary or equal protection measures with respect to protection of environmentally-sensitive areas because it does not fully avoid county SPA environmental buffers and other environmentally-sensitive areas.

As described above, the ICC detailed design is part of a streamlined design/build process that allows limited time for review and response before actual construction begins. SHA has set up a process in which staffs of DPS and M-NCPPC receive all plans generated by SHA's consultants. These plans range from sediment and erosion control plans, clearing and grubbing plans, SWM plans and reports, grading plans, to lighting plans, utility relocation plans, hydrology and hydraulic plans. Staff is reviewing all these plans to identify those that are relevant to the SPA review criteria. The turn-around time for such reviews ranges from a day to about one week. In addition, there are regular meetings that SHA holds with staffs of DPS and M-NCPPC for the purpose of reviewing plans within an SPA.

The plans generated by SHA's consultants follow specifications that are identified in the Final Environmental Impact Statement (FEIS) and the Record of Decision (ROD). These two documents do not include all of the county's SPA performance goals, including those related to MNCPPC's areas of responsibility per the County SPA regulations.

M-NCPPC staff and DPS staff have made comments on various plans and documents to date. Some of these comments have been incorporated and some have not. Because the county agencies' roles are advisory for the most part, SHA decides what changes can be accommodated. The only exception is for those parts of the project that directly affect existing M-NCPPC parkland.

For the purposes of this review, staff is analyzing the entire watershed of Rock Creek north of Muncaster Mill Road in both the Upper Rock Creek and Olney master plans. By using this scope, the project's environmental impacts and mitigation measures that will have actual effects on the SPA streams and their associated environmental resources will be considered in the review.

### **Site Performance Goals**

The SHA document, "Mandatory Referral Package for Upper Rock Creek Special Protection Area" (January 2007) identifies all 10 site performance goals that are listed in the County

Executive Regulations for Water Quality review – Special Protection Areas (Regulation No. 29-95; effective date October 24, 1995) as applicable to this project. The SHA document provides general descriptions of how the project is proposed to meet each goal and can be found on our website:

[http://www.mc-mncppc.org/Transportation/icc/documents/MR\\_URC\\_Report\\_Final\\_012607.pdf](http://www.mc-mncppc.org/Transportation/icc/documents/MR_URC_Report_Final_012607.pdf)

### **Storm Water Management and Sediment and Erosion Control**

DPS' review of stormwater and sediment control proposals for the Upper Rock Creek SPA have progressed from earlier reviews of rough preliminary concepts, to more recent reviews of detailed designs. In a letter dated February 26, 2007 (Attachment A), the County Department of Permitting Services concurred that the process used by SHA to establish criteria for the proposed ICC meets the intent for water quality requirements for stormwater management and sediment and erosion control in the Upper Rock Creek Special Protection Area.

Recent correspondence from DPS includes a review of conceptual SWM and sediment control practices (letter dated February 5, 2008); review of more detailed Erosion and Sediment Control Plans (letter dated February 7, 2008); and review of the detailed SWM approach for this SPA (letter dated February 12, 2008). All four DPS letters are included in Attachment A. In the February 5<sup>th</sup>, 2008 letter, DPS staff reinforced their earlier position by noting that the conceptual SWM and sediment and erosion control approaches outlined in the "Mandatory Referral Package for the Upper Rock Creek Special Protection Area" are in general conformance with SPA practice. The letter caveats this statement by noting that the application of these conceptual elements will be important in assessing the effectiveness of the sediment control and stormwater approaches as they relate to typical SPA practice in Montgomery County.

Moving from the conceptual to more detailed designs, DPS staff has reviewed the "Final Roadway Plans for ICC Contract A, Segment D1 and D2" and, based on information available for DPS to review, has reached the following overall conclusions:

- While the project may meet minimum design requirements for water quality control per the 2003 MDE Stormwater Manual, it does not meet minimum SPA water quality requirements, and is not in accord with the previously proposed stormwater concept.
- The plans as presented to DPS for review for conformity with typical SPA design do not reflect minimum SPA design requirements for water quality, recharge, or channel protection.
- These plans would not be approved by DPS without significant design modification, if DPS were the approval authority.
- DPS reviews of Erosion and Sediment Control Plans finds them to be in general conformance with typical SPA practice.

DPS recommends that SHA should inform DPS of any proposed changes to the plans and allow DPS an opportunity to comment on these revisions as they relate to SPA practices.

In addition, in reviewing the most current plans, staff have identified specific areas where proposed SWM outfalls, as shown on the plans, may create erosive conditions in or near M-NCPPC parkland downstream of these outfalls. Staff recommends that the locations of these outfalls are set and adjusted in the field to ensure that erosive conditions do not occur. Staff also recommends that a process providing for minor revisions to the impacts authorized by the MDE permit should be established to allow such beneficial adjustments to prevent erosive conditions downstream.

### **Imperviousness**

Based on staff's estimates of the most recent grading, drainage, and paving plans, roughly 12.2 acres of impervious surfaces will lie within the SPA, and over 21 additional acres (not including impervious surfaces associated with the interchange on the west side of Georgia Avenue) will lie within the watershed that drains to the North Branch Rock Creek outside the SPA.

These impervious surfaces result in an imperviousness of over 31% within the SPA proper, and over 20% overall (not including any impervious surfaces of the interchange) draining to the SPA streams.

The Environmental Overlay Zone for the Upper Rock Creek SPA sets a limit of 8 percent for most private land development projects that are served by sewer. For public projects, County zoning law stipulates that there is no set limit, but an applying agency must demonstrate that the imperviousness be kept *"to the minimum needed to accomplish the public purpose intended."*

The cross-section for the roadway is set by state standards. The bike path is 10 feet wide in accordance with county standards for a major east-west bike trail. The imperviousness shown is the minimum needed to serve the roadway design and the bike path within the specified standards.

SHA has proposed to count impervious surface credit for the environmental stewardship projects located within the part of the watershed draining to the SPA streams. It is retrofitting four SWM facilities that treat roughly 21.73 acres of total impervious surfaces in existing residential subdivisions.

Impervious surface coverage is an indicator of a land use's impact to a stream system. While SWM controls on other parts of the watershed will reduce pollutant loading, they can only partially mitigate the impacts of impervious surfaces on a stream system, so these improvements cannot be counted as an offset for creating other impervious surfaces. In addition, the Planning Board has determined, as a matter of policy, that if a project proposes impervious surfaces that exceed a regulatory limit, the project can offset the excess impervious surfaces only by removing existing impervious surfaces elsewhere in the SPA.

### **Environmental Buffers**

#### ***Basis for County Review of Environmental Buffer Protection***

The Montgomery County regulations on water quality review in SPAs (Article V of the Montgomery County Code) states that a project that is required to comply with Article V must provide documentation showing avoidance or minimization of impacts on environmentally

sensitive areas as specified in the Planning Board's "Environmental Guidelines" and an analysis of available alternatives (Section 19-64 of Article V).

Environmental buffers, as defined in the Planning Board's "Environmental Guidelines", are intended to identify and protect environmentally-sensitive areas that affect stream systems. Such buffers include streams, steep slopes, 100-year floodplains, wetlands, wetland buffers, seeps, and springs. The Planning Board's environmental buffers are typically wider than state-defined buffers around wetlands.

Typically, development projects that lie in the SPA have the flexibility of avoiding environmentally-sensitive areas such as environmental buffers. Proposed subdivisions are configured to cluster development away from environmentally-sensitive areas and create open spaces to protect such areas. Typically, the only unavoidable encroachments are permitted as part of a development approval, such as access roads, stormwater discharge channels, natural surface trails, important hard surface trail connections and sewer lines.

Considerable effort has been devoted to protecting the environmental resources in the North Branch of Rock Creek. For example, in the Olney Master Plan, Cherry Valley Drive Extended was deleted from the master plan because of its environmental and community impacts: *"The environmental impacts associated with the Cherry Valley Drive extension are also substantial, especially on the North Branch Biodiversity Area and the North Branch Stream. Given the environmental and community impacts it is not desirable to extend Cherry Valley Drive across the North Branch of Rock Creek."* Cherry Valley Drive Extended would have crossed the North Branch and its stream valley roughly 2500 linear feet upstream of the ICC crossing.

For projects that do not have the flexibility of configuring a development to avoid disturbance of environmentally-sensitive areas, staff has recommended and the Planning Board has supported the use of minimization measures to reduce impacts in these areas. For example, for the mandatory referral review of the Montrose Parkway East on November 1, 2007, the Planning Board supported staff's recommendation of lengthening a proposed bridge from 350 feet to 535 feet to span the floodplain and stream valley buffer of a forested stream valley of lower Rock Creek. DPWT will be studying a longer bridge at this crossing and have requested funding that would cover the construction of a longer bridge.

### ***ICC Protection of Environmental Buffers***

SHA has not delineated the environmental buffers on its plans for the ICC, but M-NCPPC has provided this information so that SHA can incorporate into their plans. SHA has agreed to add these boundaries on final design plans, but not on its sediment and erosion control plans.

The sediment and erosion control plans that cover clearing and grubbing activities include notes defining sensitive areas and specifying that care should be taken for work that is conducted in such areas. The notes identify sensitive areas as "floodplains, wetlands (tidal, nontidal and associated buffers), critical areas, forested areas, archaeological sites, historic sites, parkland and open water." Staff recommends that the sensitive areas definition on these plans should be expanded to include environmental buffers, as defined in the Planning Board "Environmental Guidelines" within the SPA and the North Branch stream valley that drain to the SPA. Identifying environmental buffers as sensitive areas, as well as having the environmental buffers

delineated on the plan drawings, will make it clear to the contractors at the construction site that this area is to be treated in the same manner as state and federally defined buffers and other environmentally sensitive resources.

## **Forest Conservation**

### ***Basis for County Review of Forest Conservation***

Section 19-64(a)(3) of the County SPA Law identifies the avoidance of impacts on priority forest conservation areas as an important goal. The Montgomery County Forest Conservation Regulations (Section 107) includes the following type of forest as having the highest priority for retention and protection: “a forest area which has been designated as priority for retention in master plans or functional plans, or in the absence of such plans, a forest which exhibits all of the following characteristics as further described in the most recent version of the *Trees Technical Manual*:

- (a) high structural species diversity;
- (b) few alien or invasive species present;
- (c) very good overall stand health; and
- (d) high potential to provide a significant amount of habitat for forest interior dwelling plant, animal and bird species...”

The forest that will be affected by the ICC is part of M-NCPPC North Branch Stream Valley Unit 2 Best Natural Area<sup>3</sup> and the North Branch Biodiversity Area<sup>4</sup>. It is a 176.4-acre, large, interior forest stand that provides habitat to RTE plant species and four known forest interior bird species. It contains both high quality mixed deciduous forest and high quality forested wetlands. This forest meets the criteria of forest that has the highest priority for retention and protection under the County Forest Conservation Regulations.

### ***Review of ICC Forest Impacts***

Based on current plans, about 20.5 acres of forest will be cleared within the SPA. Most, but not all, of this forest is associated with the high-quality interior forest stand. In addition, 67 acres of forest within the watershed draining to the SPA streams will be cleared. The total forest cleared on land within and draining to the SPA is roughly 87.5 acres.

Per the Final Environmental Impact Statement (FEIS), approximately 17.2 acres of the 176.4-acre interior forest stand would be cleared. An additional 39.2 acres of interior forest would be

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<sup>3</sup> A Best Natural Area is an area of high quality land within the Montgomery County parks system. It contains large acres of high quality, contiguous forest; RTE plant species; Biodiversity Areas; unique plant and wildlife habitat; high quality wetlands; good aquatic biological areas; or special trout management areas.

<sup>4</sup> A Biodiversity Area is an area within the Montgomery County parks system which contains at least one of the following features: RTE plant or animal species, watchlist species, or those species having a high local importance, unique or unusual habitat areas, or natural communities of high quality or significance.



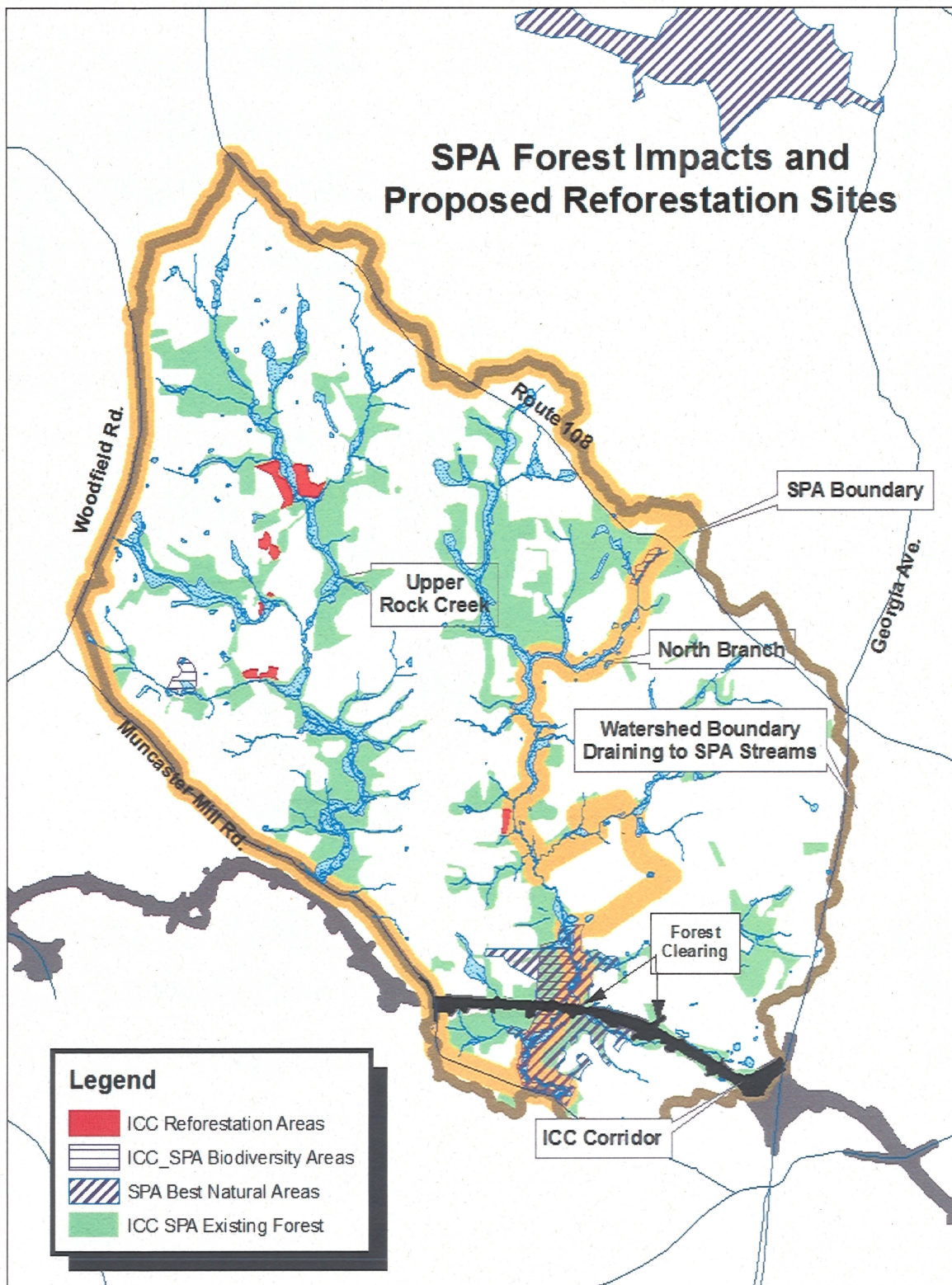
converted to edge habitat. The remaining forest would become two separate forest interior stands of 58.3 acres and 61.7 acres.

The loss of high priority forest is not consistent with SPA standards, requirements, and guidelines, unless such loss is unavoidable. SHA proposes to plant a total of 40 acres of forest within the SPA. The proposed planting areas are located in M-NCPPC parkland. The loss of 56.4 acres of interior forest habitat within the SPA is permanent and irreplaceable. In addition, the loss of the quality as well as quantity of forest in the SPA cannot be adequately mitigated within the SPA by SHA's proposed forest planting plan. At their meeting on September 15, 2005, the Planning Board agreed that interior forest loss on parkland can be compensated for outside the SPA watershed.

Staff recommends that clearing and grading activities, including grubbing of land within the ROW, clearing for the haul road, and installation of perimeter sediment and erosion control measures should not occur between April and August in order to meet the intent of ROD Commitment #93 to avoid impact interior forest habitat during specific times of the year: *"Impacts to interior forest habitat and their buffers should be avoided during construction, when possible, from April to August, which is the breeding season for most forest interior dwelling species (FIDS)."* Since the project schedule has been changing, it is unclear whether this recommendation can be met.

### ***Reforestation***

As previously noted, SHA proposes to reforest a total of 40 acres of M-NCPPC parkland within the SPA. Staff recommends that SHA continue to examine additional reforestation sites with M-NCPPC Department of Parks so that the amount of reforestation that occurs within the Upper Rock Creek SPA watershed is at least equal to the total forest cleared (87.5 acres) within the watershed.



The FEIS (January 2006, page II-137) acknowledges the forest conservation requirements that are applied to projects that are subject to the SPA law:

*“In addition to standard requirements of the County Forest Conservation law and regulations, the entire environmental buffer must be retained or planted in forest and any forest planting must be done as soon as possible after grading permits are issued. Maintenance is required for five years with emphasis placed on control of invasive species.”*

Although SHA has agreed to the five-year maintenance period for forest plantings within the SPA, it does not consider the five-year maintenance to be a standard requirement for the ICC. It has designated the five-year maintenance as a new stewardship project and is pursuing a re-evaluation of measures in other stewardship projects with M-NCPPC staff.

The specifications for forest planting sites within parkland and sites in the SPA should follow those identified in Attachment B. Primary components of these reforestation specifications include:

- Size, density, and species of forest plantings,
- Tree protection, a five year maintenance period,
- A staggered survival performance standard for years 1 (90%); 2 (80%); and 5 (75%), with 100% replacement if not achieved in any of those three years, and
- Performance documentation.

Staff's recommendations for control of non-native invasives (NNI) include a prioritized list of methods that place a higher priority for the use of non-chemical measures than the use of herbicides. It should be noted that in the opinion of the M-NCPPC parks forest ecologist, there are certain instances where herbicide use is necessary to effectively eliminate and/or control the growth of large and very dense stands of NNIs. Staff's recommended NNI control measures are consistent with the intent of Commitment #158 to control non-native invasive plants.

Documentation of how well a reforestation site meets the survival standard for a specific year will be shared between SHA and M-NCPPC, and will be based on joint field reviews. If there is disagreement that cannot be resolved at staff level on survival rates or how non-native invasive plants should be controlled at a reforestation site, the resolution will be accomplished at a higher level in both agencies.

A staff recommendation (Attachment B) to resolve remaining details on control of non-native invasives (NNI) has been forwarded to SHA for consideration. SHA's formal response is not yet available at the time of this report.

Two of the environmental mitigation projects proposed within the North Branch watershed that drain to the SPA streams involve stream restoration that includes the “improvement of riparian buffer.” SHA has not provided the details of any of these proposed environmental mitigation projects. If improvement of riparian buffer involves forest planting, staff recommends that the forest planting specifications (Attachment B) that apply to sites within the SPA should also apply to these stream restoration sites that drain to the SPA streams.

### **Monitoring of Best Management Practices**

DEP recommends that the ICC Water Quality Monitoring Plan is revised to more closely follow SPA requirements and guidelines (Attachment C). The current monitoring plan does not specifically address how each Performance Goal will be measured. DEP provides specific recommendations on how monitoring for streams, wetlands, SWM facilities, groundwater levels, hazardous materials, and precipitation events should be set up.

## **List of Attachments**

Attachment A -- Montgomery Co. Dept. of Permitting Services (DPS) letters:

1. February 26, 2007 letter on the process used by SHA to establish criteria for the ICC
2. February 5, 2008 letter on the "Mandatory Referral Package for Upper Rock Creek Special Protection Area"
3. February 7, 2008 letter on the erosion and sediment control plans for "Intercounty Connector Contract A Segment D Clearing and Grubbing"
4. February 12, 2008 letter on the "ICC Contract A, Segment D1-D2 Final Roadway Plans" and associated computations related to stormwater management controls

Attachment B -- M-NCPPC Staff's Recommendations for SHA Reforestation Proposal for Current and Future MNCPPC Property

Attachment C -- Montgomery Co. Dept. of Environmental Planning (MCDEP) memorandum dated February 11, 2008 on ICC monitoring plan for areas within SPAs

Attachment D -- Summary of master plan recommendations on the environmental resources in the North Branch of Rock Creek

Attachment E -- List and map of proposed Environmental Stewardship Projects in the North Branch watershed draining to the SPA





DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett  
County Executive

February 26, 2007

Reginald Jetter  
Acting Director

Ms. Karuna Pujara, Chief  
Highway Hydraulics Division  
Maryland Department of Transportation  
State Highway Administration  
707 North Calvert Street  
Baltimore, Maryland 21202

Dear Ms. Pujara:

The Department of Permitting Services (DPS) concurs that the process used by the State Highway Administration (SHA) to establish criteria for the proposed Intercounty Connector (ICC) meets the intent of water quality plan requirements for stormwater management and sediment control in the Upper Rock Creek Special Protection Area (SPA), Montgomery County Code, Chapter 19, Article V.

This concurrence is based on a review of the substantial amount of documentation submitted and the interactions with SHA (including consultants), the Montgomery County Planning Board and staff, county agencies, and the Federal Highway Administration. A separate DPS concurrence pertaining to the Upper Paint Branch SPA will be given upon review of that SHA process to establish criteria that meet the intent of water quality plan requirements.

As you know, the Planning Board and local agency participation will continue through the mandatory referral process and DPS will also remain involved. If you have questions or comments please contact Rick Brush at 240-777-6343.

Sincerely,

  
Reginald Jetter  
Acting Director

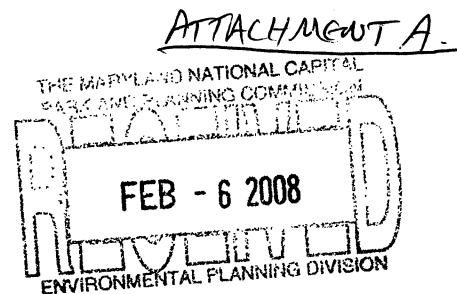
RJ:dm

cc: Stan Wong, DPS  
Rick Brush, DPS  
Fariba Kasirri, DEP  
Edgar Gonzalez, DPWT  
Robert Simpson, DPWT  
Mary Dolan, MNCPPC  
Dan O'Leary, NMP Engineering Consultants, Inc





DEPARTMENT OF PERMITTING SERVICES



Isiah Leggett  
County Executive

Carla Reid Joyner  
Director

February 5, 2008

Ms. Candy Bunnag  
Environmental Planning Section  
M-NCPPC  
8787 Georgia Avenue  
Silver Spring, MD 20910

Candy –

I have reviewed the “**Mandatory Referral Package for Upper Rock Creek Special Protection Area**” for the ICC project, dated January 2007.

MCDPS finds the conceptual stormwater management and sediment control approaches outlined in the report to be in general conformance with typical SPA practice. The report includes specific mention of each of the 10 Performance Goals included in Executive Regulation 29-95 and discusses how each goal will be addressed in the design of the ICC project. Application of these conceptual elements, however, will be important in assessing the effectiveness of the sediment control and stormwater approaches as they relate to typical SPA practice in Montgomery County.

While we find the conceptual approaches in the report to be generally acceptable, we do have some relatively minor concerns. The following comments relate to areas in the report that may not be entirely consistent with typical SPA approaches to sediment control and stormwater management in SPA areas:

**Introduction:**

**Page 3 of 13** – The report indicates waivers of Channel Protection may be sought for portions of the roadway. It would be generally inconsistent with SPA practice to consider granting such waivers except under extremely unusual conditions. We are not aware that any such waivers have been sought.

**Page 8 of 13** – It is unlikely that offsite stewardship projects would be viewed as acceptable mitigation for storm flow increases on SPA projects. While we do sometimes consider mitigation of existing areas in lieu of onsite controls, the proposed areas of offsite mitigation must be reviewed on a case by case basis to ensure that the areas being mitigated represent a beneficial trade-off. Offsite mitigation areas would have to be areas of similar or “dirtier” use and be of comparable size in order to be considered. Also, the likelihood of those areas being redeveloped in the near future would need to be assessed, since they would have to provide stormwater management anyway as part of the redevelopment process.

We would also comment that, while the referenced Special Conditions of the MDE permit (MR-URC-Appendix A) do indeed provide reinforcement of the SPA criteria, they are generally very specific to the Upper Paint Branch.

**Page 13 of 13** – While we understand MNCPPC is the lead agency in impervious area compliance for the ICC, DPS would not consider the “Compensatory Mitigation and Environmental Stewardship” projects as offsets to the 33% impervious percentage generated by the project. They have no effect on the real amount of impervious percentage increase.

**Part 3, Design Requirements:**

**Page 22** – The Bioretention Soil Mix (BSM) is not consistent with DPS requirements. Having said that, as long as the mix has been used successfully elsewhere and has been shown to provide adequate filtering and support of a healthy vegetative cover we would not object to its use.

**Page 47** – Stormwater Management Design Approvals. DPS's role in the review process needs to be stated. Concurrence with SPA practice goes beyond conceptual compliance. Concurrence hinges on correct and appropriate sizing and placement of stormwater and sediment control approaches.

**Page 49** – ICC Water Quality Bank. DPS is unfamiliar with the "MDE/SHA Stormwater Quality Management Banking Agreement" dated June 2, 1992, amended March 1, 1994 and thus can not comment on its appropriateness in an SPA approach. If offsite areas are being proposed for water quality treatment in lieu of onsite areas we may agree to the proposal so long as the offsite areas are within the SPA, are of comparable size, and are of equal or dirtier use.

**Page 59** – Regarding sediment control, the design-builder is required to "participate in coordination with Montgomery County regarding design and construction within SPAs". It is implied that this coordination would take place during the construction phase of the project. Input from DPS with respect to the adequacy of sediment control approach should be done at the design stage and should be coordinated by MSHA.

Overall we find the "**Mandatory Referral Package for Upper Rock Creek Special Protection Area**" for the ICC project, dated January 2007, appears to reflect knowledge understanding of the conceptual goals and requirements for sediment control and stormwater management in Special Protection Areas in Montgomery County.

If you have any questions or need further information, please let me know.



Mark Etheridge, CPESC, CPSWQ  
Senior Permitting Services Specialist  
Water Resources Section  
Department of Permitting Services  
255 Rockville Pike, 2<sup>nd</sup> fl.  
Rockville, MD 20850-4166  
240-777-6338  
240-777-6339 fax

ATTACHMENT A.

## DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett  
County Executive

Carla Reid Joyner  
Director

February 7, 2008

Ms. Candy Bunnag  
Environmental Planning Section  
M-NCPPC  
8787 Georgia Avenue  
Silver Spring, MD 20910

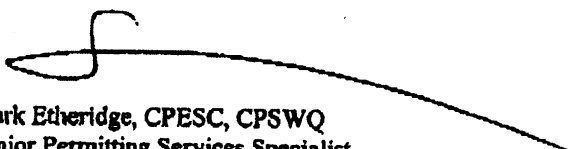
Candy -

DPS has reviewed the Erosion and Sediment Control plans for "Intercounty Connector Contract A Segment D Clearing and Grubbing" and finds these to be in general conformance with typical SPA practice. The sediment control design includes diversion of offsite flows, including piped diversions where required. Trapping devices are provided for most of the proposed disturbed areas. Baffles are included in the design of the traps to increase their efficiency. Dikes and swales are included in the design to direct flows to the trapping devices. The sequencing is clearly written and seems feasible, there are adequate notes on the plans to direct the contractor and inspector, and the plans are clear and easy to interpret. These techniques and plan preparation details are consistent with normal requirements for sediment and erosion control on SPA projects in Montgomery County.

It should be noted that MCDPS has not had opportunity to review the sizing computations for the elements of the rough grading plan, including sizing of the offsite clean water diversion pipes, and there were no pipe profiles included in the plan set that was delivered to MCDPS for review. Our assumption is that the diversions are properly sized and the pipes can be placed where shown.

Note No. 14 on plan sheet CG\_D\_DR\_ES\_GN-01 reads, "The contractor shall submit modifications to the erosion and sediment controls to SHA for approval prior to submission to MDE. No modifications shall be implemented until all approvals from SHA and MDE are obtained." We suggest MSHA should inform MCDPS of any proposed changes to the plans to allow MCDPS an opportunity to comment on the appropriateness of the revisions as they relate to general SPA practices.

If you have any questions or need further information, please let me know.



Mark Etheridge, CPESC, CPSWQ  
Senior Permitting Services Specialist  
Water Resources Section  
Department of Permitting Services  
255 Rockville Pike, 2<sup>nd</sup> fl.  
Rockville, MD 20850-4166  
240-777-6338  
240-777-6339 fax



## DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett  
County Executive

February 12, 2008

Carla Reid Joyner  
Director

Ms. Candy Bunnag  
Environmental Planning Section  
M-NCPPC  
8787 Georgia Avenue  
Silver Spring, MD 20910

Candy -

I have reviewed the ICC Contract A, Segment D1-D2 Final Roadway Plans and associated computations for conformance with typical stormwater management approach for projects in Special Protection Areas and offer the following comments.

**Water Quality Requirements:**

Water quality for SPA projects requires some form of redundant treatment, and it was toward this goal that MSHA proposed meeting minimum water quality requirements through the use of open section roadway and grassed swales designed to meet MDE water quality credits, and to construct the swales as "bio swales" or "linear bio filters" to enhance their design and meet the redundancy requirement. These swales were to have included relatively numerous inlets to help minimize channel velocities. The final design plans show only grassed swales as water quality treatment, and provides no means of redundant control.

In addition, it was agreed that in the SPA areas water quality storage was to be computed based of 1.5" runoff, rather than the normal 1". No water quality storage computations are included in the design computations and in fact there does not appear to be any water quality volume storage provided for the project. The water quality swales, which appear to be the sole water quality feature for the roadway, are not designed any differently whether the volume storage requirements are 1" or 1.5".

The "sand storage BMP's", "linear sand storage BMP's" and "linear sand filters" shown on the project plans are not designed as water quality devices and there are no water quality volume computations for them. In fact, Section 3.2 of the stormwater management report, which describes the water quality approach for the project, states, "Note that sand storage BMP's, linear sand storage BMP's and linear sand filters are not discussed here as they provide quantity control and thermal treatment."

In summary, while the project may meet minimum design requirements for water quality control per the 2000 MDE Stormwater manual, it does not meet minimum SPA water quality requirements and is not in accord with the previously proposed stormwater concept.

It is the opinion of MCDPS that the plans as presented are not representative of typical SPA stormwater management water quality design requirements.

**Recharge Requirements:**

Groundwater recharge is an important element in SPA stormwater management design due to the desire to maintain stream base flows. Maintenance of stream base flow is a specific design goal outlined in





## DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett  
County Executive

Carla Reid Joyner  
Director

Montgomery County Executive Regulation 29-95, and is specifically addressed in the "Mandatory Referral Package for Upper Rock Creek Special Protection Area" for the ICC project. In the Mandatory Referral document it is proposed that recharge will be augmented by providing dry swales and/or bio swales beneath the grass "water quality" channels. According to the Mandatory Referral document, "Bioswales will include a shallow depth of stone beneath the underdrain to allow infiltration to occur, thereby recharging groundwater." In fact, the plans submitted for review offer no modification of the drainage swales to enhance their water quality and recharge value.

Drainage Area D-1-2, which is within the SPA portion of the project, is proposed to be re graded such that surface water runoff from this area will be redirected to an outfall point which is outside the SPA. Typically when this is allowed to occur in SPA projects, groundwater recharge is still required to be provided due to the assumption that subsurface flows will continue to migrate toward the SPA and provide a source of groundwater to maintain stream base flows. This is referenced in the Mandatory referral document (see March 19, 2004 meeting minutes, appendix D). Recharge for this area was not addressed in the current design submission.

It should also be noted that the stormwater management report indicates that this new impervious area in DA D-1-2 was not counted toward the total imperviousness added to the SPA, since it will be graded to drain away. This would not be in concurrence with typical SPA practice.

Where groundwater recharge appears to have been addressed, it was done so through the provision of additional stone storage below the proposed sand BMP's. Typically this storage area is only 6-inches in depth, and it is not normal practice for Montgomery County to approve projects to concentrate recharge areas in this way. It is much preferable to spread the recharge throughout the project to better replicate pre developed hydrology. Additional storage below a treatment facility can be part of a successful recharge approach but is usually not the only component used, especially on SPA projects.

Judging from the submitted geotechnical report, the proposed areas for groundwater recharge would not likely prove to be very beneficial. The borings show existing groundwater elevations at or very close to the design bottom of the proposed facilities. The majority show measured groundwater elevations less than 4 feet from the proposed bottom elevations, and many are either at the proposed bottom or within 2 feet of it.

It is well known that groundwater elevation rises and falls with the seasons. Therefore, in attempting to determine seasonally high groundwater elevations the borings are usually taken in the months of February and March. The borings for this project were taken in early August of 2007, which could be expected to provide unrealistically low groundwater elevations. Therefore the proposed BMP's would most likely expose and drain off groundwater in wetter periods of the year. Groundwater intrusion into the storage areas of these facilities would also reduce the available storage area designed for meeting the Channel Protection Requirements. Channel Protection will be addressed below.

It is the opinion of MCDPS that the plans as presented are not representative of typical SPA stormwater management water recharge requirements.

#### Channel Protection Requirements:

Channel protection requirements are generally addressed through dispersion of flow or through storage and release of runoff. Dispersion is the preferred method, but in some cases collection and release is required to be provided. The documents presented for review propose two ponds and seven sand storage areas to



## DEPARTMENT OF PERMITTING SERVICES

Carla Reid Joyner  
Director

Isiah Loggett  
County Executive

meet the requirements of channel protection and to address thermal mitigation. Linear Sand Filters are proposed as temperature mitigation devices.

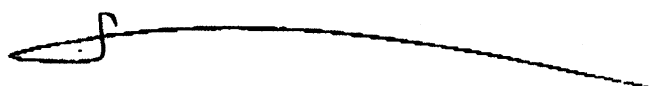
**Ponds:** The two proposed ponds are two-celled facilities with the majority of the storage below ground, within stone void storage areas. It has already been mentioned that groundwater intrusion into the proposed storage areas below these facilities may limit their effectiveness. In addition, MCDPS has serious concerns about the ability of these facilities to function without significant maintenance, and that the design does not facilitate easy access and inspection.

MCDPS has not implemented facilities of this nature and therefore we do not have direct field experience on which to draw conclusions about the designs. However, we are concerned that the control orifice for these facilities, computed to be between 2- and 3-inches in diameter, will be located approximately seven feet below grade, accessible only via a standard inlet manhole structure. Currently MCDPS does not allow Channel Protection Volume (CPv) to be stored in stone voids due to the fact that stone void storage space can not be easily inspected and maintained, and the quality and placement of the stone can have severely negative impacts on the storage areas that are truly available after construction. The proposed pond designs are overly complex, are likely to be impacted by groundwater, and will be difficult to inspect and maintain. MCDPS would suggest that the designs of these ponds be revised such that the control orifice and all required CPv be provided at the surface. Additional void space may be incorporated below the bottom of the facility wherever practical in order to maximize recharge, but this area should not be credited toward CPv storage requirements. It is imperative that the proposed stormwater facilities be easy to inspect and maintain.

**Sand Facilities:** MCDPS has many of the same concerns about the proposed sand CPv structures with respect to maintenance and inspection of the facilities. It should be noted that the proposed control orifice calculated for each of these facilities is less than 2-inches in diameter and would not be approved by MCDPS if we were the review authority. In cases where the required orifice size is less than our 2-inch minimum allowable size we would encourage the applicant to revise the proposed site layout to avoid the necessity of providing a storage facility.

**Summary:** The ICC Contract A, Segment D1-D2 Final Roadway Plans submitted to MCDPS for review for conformity with typical Special Protection Area design do not reflect minimum SPA design requirements for water quality, recharge and channel protection, and would not be approved by MCDPS without significant design modification were we the review authority.

If you have any questions or need further information, please let me know.

  
Mark Etheridge, CPESC, CPSWQ  
Senior Permitting Services Specialist  
Water Resources Section  
Department of Permitting Services  
255 Rockville Pike, 2<sup>nd</sup> fl.  
Rockville, MD 20850-4166  
240-777-6338  
240-777-6339 fax

## **SHA Reforestation Proposal for Current and Future MNCPPC Property (Includes M-NCPPC Staff Recommendations of 2/5/08)**

### **Densities/Size:**

- 200 trees/acre (5' min ht., CG)
- 20 trees/acre (2.5" cal., B&B)

### **Tree Species:**

- See "Planting Requirements for Land-Disturbing Activities and Related Mitigation on MNCPPC Montgomery Parkland" (Revised January, 2008) for tree species approved by MNCPPC.
- Shrubs will not be planted due to prevalence of deer predation and poor survivability.
- Planting materials are to be inspected by qualified personnel upon delivery to the site before planting to determine that plants meet species and size specifications.

### **Supplemental Tree/Shrub Seeding:**

- Seeding of native trees/shrubs may be conducted at suitable sites to supplement forest establishment. Site preparation will include mowing and/or disking prior to planting.

### **Tree Protection:**

- Tree sleeves made of heavy-duty plastic open weave mesh, 4'tall, 6" diameter will be installed on all trees; tree sleeves should be staked on all small stock:  
<http://www.amleo.com/index/item.cgi?cmd=view&Words=bg48>.
- MNCPPC will remove tree sleeves to prevent trunk damage once trees are large enough to withstand deer browse/rub (4-6 years+/-).

### **Invasive Control:**

- NNI control will occur prior to planting in order to permanently remove as many existing vine, shrub and herbaceous NNIs as possible. NNI control will occur for plant species identified on the State's noxious weed list. In addition, NNI control will be implemented for climbing vines (e.g., mile-a-minute, porcelain berry, oriental bittersweet). MNCPPC will assist SHA in control efforts of other NNI plants such as: autumn olive, bush-honeysuckle, multiflora rose, Japanese knotweed.
  - A joint evaluation will be conducted by MNCPPC and SHA to determine the need for additional NNI treatment, if necessary. This evaluation will be conducted during the joint site-investigation (see Documentation and Verification for schedule).
  - In areas where an effective NNI control program is in place, additional NNI control measures will be implemented as outlined in MNCPPC's "Best Management Practices for Control of Non-Native Invasives" (January, 2008) during the 2 year and/or 5 year maintenance periods.
- As outlined in the document referenced above, herbicide/pesticide use will be conducted only when it is determined by SHA and MNCPPC Parks Forest Ecologist, or other appropriate park staff, that mechanical measures alone are not sufficient to remove the targeted non-native invasive plant species. The specific herbicides to be used, the specific

areas where herbicides will be applied, and the methods for and extent of herbicide application will be coordinated with the MNCPPC Park Forest Ecologist or other appropriate park staff prior to use on MNCPPC property.

**Survival Rate/Maintenance Period:**

- **90%** survival at the end of the 1st year of maintenance & **80%** at the end of the 2nd year of maintenance on all sites.
- Additional requirement of **75% survival** at the end of 5th year of maintenance for SPA sites.
- If less than required survival % in any year, area will be replanted to 100%. SHA will notify MNCPPC of the schedule for replanting.
- Maintenance may include watering, pruning, pest management, weeding, plant replacement, etc.
- Forest planting, maintenance, and survival requirements will apply universally to all SPA plantings, in and outside parkland.

**Documentation and Verification:**

- A joint site-investigation with MNCPPC and SHA representatives will be conducted at the end of year 1 and 2 at all sites, and year 5 at SPA sites demonstrating the survival rates in this agreement are achieved. In addition, the following documentation will be prepared (including survival rates):
  - Year 1: SHA will document the results of the joint site-investigation and provide MNCPPC a copy of the results.
  - Year 2: MNCPPC will be forwarded a copy of all documentation submitted to regulating agencies (DNR) demonstrating compliance with the State Reforestation Law.
  - Year 5: MNCPPC will document the results of the joint site-investigation and provide SHA a copy of the results.




DEPARTMENT OF ENVIRONMENTAL PROTECTION


Isiah Leggett  
County Executive

Robert Hoyt  
Director

MEMORANDUM  
February 11, 2008

To: Stephen D. Federline and Candy Bunnag,  
Environmental Planning, Countywide Planning Division  
Montgomery County Planning Department  
Maryland-National Capital Park and Planning Commission

Via: Steve Shofar, Chief   
Watershed Management Division  
Department of Environmental Protection

From: Keith Van Ness, Senior Water Quality Specialist   
Watershed Management Division  
Department of Environmental Protection

Subject: Review of ICC Monitoring Plan for Areas within County Special Protection Areas (SPAs)

Recommendation:

Revise the ICC Water Quality Monitoring Plan to more closely follow SPA requirements and guidelines. The Monitoring Plan does not specifically address how each Performance Goal proposed for the ICC will be measured and analyzed. DEP recommends that it be revised to do so.

Background:

The SPA Performance Goals proposed for the ICC within the Upper Rock Creek and Upper Paint Branch SPAs are described in the ICC document *Montgomery County Special Protection Areas and the ICC* (January 2007). All ten Performance Goals as listed in Executive Regulation 29-95 are proposed for the ICC.

Executive Regulation 29-95 Section 6 B. provides guidance on the development, evaluation and achievement of these Performance Goals ...." BMP performance goals will be developed and evaluated using the most currently available and pertinent monitoring information and published research. Achievement of performance goals will be measured and analyzed using protocols or procedures for best management practices monitoring that the Department specifies to the applicant at the pre-application meeting and development impact monitoring conducted by the Department."

Watershed Management Division

Further, 29-95 Section 6 D. states that ..." Performance goals will be applied and monitored to assess relationships between land use, the effectiveness of various BMPs, individually and in combination, and measured impacts of development on water quality, stream habitat, and aquatic life. "

A monitoring plan needs to be developed explaining how each Performance Goal will be measured and analyzed using protocols or procedures for best management practices monitoring that the County specifies.

The Department of Environmental Protection (DEP) reviewed and provided comments to the SHA on the *ICC Water Quality Monitoring Plan* (Component 6) on August 14, 2007. DEP also reviewed the latest *ICC Water Quality Monitoring Plan* on February 1, 2008.

#### General Comment:

The Monitoring Plan does not specifically address how each proposed Performance Goal for the ICC will be measured and analyzed. Only general descriptions of how the project is proposing to meet each goal have been provided in other ICC related documents. Specific methods to measure and analyze achievement of the Performance Goals are needed. DEP looks forward to working with the MNCPPC, DPS and SHA to revise the ICC Monitoring Plan accordingly.

Total Maximum Daily Load's (TMDLs) are being developed for the Rock Creek and Anacostia watersheds for nutrients, fecal coliform, sediment, and specifically for the Anacostia, for trash. This highway will be a potential major contributor of these pollutants. Some consideration for monitoring reductions of these pollutants through efficient road designs should be considered.

#### Specific Comments on the current ICC Water Quality Monitoring Plan:

##### 1.4 In-stream Monitoring

The success of the proposed monitoring is based on developing baseline conditions that will be used in conjunction with COMAR standards to set criteria that will be used to alert the IC team of adverse WQ conditions that may arise, conditions that are to be rectified within 24 hours. There are 15 Earth Disturbance Areas (EDA's). Two EDA's would only have 3 months to develop baseline conditions, 6 would only have 4 months, and 5 would only have 6 months to develop this important baseline condition. The County was in a drought condition during this time, many streams were extremely stressed with low base flows observed in the study area. There was not sufficient time to develop baseline conditions for over 86% of the EDA's. The attainment of the monitoring goal will need to be documented through other methods. Methods should be selected for determining erosion and sediment control effectiveness as well as SWM BMP effectiveness. The monitoring plan needs to be clearly separate this type of monitoring from having on-site inspectors to ensure that all facilities are properly maintained and working as designed at all times.

#### 1.5 Wetland Monitoring

There was not enough time to determine baseline hydrologic conditions necessary to establish a "minimum" that can not be exceeded. The goal is to determine if wetlands or sensitive areas are permanently impacted. There may be some short term construction related impacts, but permanent impacts will only be evidenced several years after the EDA has been stabilized, the SWM structures have been accepted for maintenance by SHA and provided an opportunity to function as designed. The monitoring goal is a good one, the approach should be revised.

#### 1.6 Storm Water Management Best Management Practices (SWM BMP's)

SWM BMP's need to be evaluated after construction is completed, the BMP as-built has been accepted by SHA and SHA has accepted and begun maintenance of the monitored structure. Monitoring that will provide much needed information on relatively new practices such as biofilters is recommended for this project. This BMP monitoring requires the use of automated flow-weighted samplers set up at the inlets and outlet to the BMP being monitored. DEP recommends this be done for the ICC BMPs to measure their efficiency in removing pollutants and reducing storm flows. This section needs to be revised accordingly.

#### 1.7 Ground Water and Flow Monitoring: Controlling intake, outtake, and Runoff

To monitor and maintain the ground water levels and quality, ECIP Components 10, the Spill Prevention Control and Countermeasures Plan, and ECIP Component 11, the hazardous Materials Plan will be used to ensure the appropriate steps are taken when and if contamination of groundwater becomes an issue. How will the SHA know when it becomes an issue, whose issue and who will be notified of the finding and remedy?

#### 1.8 Rain Gage Installation

Monitoring needs to be separated from actions that are required for proper maintenance and inspection of individual facilities.



**ATTACHMENT D . Upper Rock Creek Special Protection Area**

The Upper Rock Creek watershed is defined as that part of the Rock Creek watershed that lies north of Muncaster Mill Road. The streams in the upper watershed are designated by the State of Maryland as Use III waters<sup>7</sup>. The upper watershed lies in two planning areas: Upper Rock Creek and Olney. Although the two master plans recognize the high quality environmental resources that exist in the upper Rock Creek, the plans recommended different land use measures for protecting the environmental resources in the same watershed. The Upper Rock Creek Master Plan designated the entire watershed of Rock Creek upstream of Muncaster Mill Road as a Special Protection Area (SPA). The Olney Master Plan only designated those portions of the upper Rock Creek watershed where properties are in private ownership and had high potential for either redevelopment or “intensification” of land uses. Given this formal SPA definition, the ICC includes about 4360 linear feet within the SPA, and 7483 linear feet lies outside the SPA, resulting in a total of 11,843 linear feet (or 2.2 miles) of the ICC draining to the SPA watershed.

For the purposes of this ICC review, given the scale of the project and its effects, staff supports the permitting agencies’ approach of examining the full Upper Rock Creek SPA watershed for mitigation and stewardship opportunities.

The Upper Rock Creek Master Plan (April 2004) designated the Upper Rock Creek watershed within the plan’s boundaries as a Special Protection Area (SPA). It states “the existing water resources, including the Use III stream and associated forests and wetlands, are of high quality and unusually sensitive....”

The Upper Rock Creek Master Plan also recognizes that the 1998 “Countywide Stream Protection Strategy” (CSPS) designates most of the watershed north of Muncaster Mill Road as a watershed protection area requiring a special level of protection. “Due to the sensitivity of the resource and the magnitude of the existing and planned development, some level of enhanced watershed management is necessary beyond typical environmental guidelines, sediment control and stormwater management requirements. Management strategies recommended in the CSPS and employed in this Master Plan include: expanded stream valley park acquisition or dedication, increased forested buffer requirements, expanded protection for wetland recharge and hydrology, and impervious surface reduction strategies. The Montgomery County Department of Environmental Protection has developed a restoration plan for the Upper Rock Creek watershed and has proposed several projects to restore stream sections and retrofit stormwater management facilities.”

The Olney Master Plan (April 2005) designates only portions of the North Branch watershed as a SPA. It designated only those portions of the watershed within the planning area that could significantly increase the imperviousness within the watershed due to development. However, it did not include the ICC within the SPA designation. Other than the ICC, no significant development was expected in this part of the watershed. The master plan describes the various high-quality environmental resources of the North Branch of Rock Creek: “The North Branch of Rock Creek harbors a rich variety of high-quality wetlands. The combination of large forested

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<sup>7</sup> Use III waters have the highest water quality of all the use class designations. Use III waters include waters which have the potential for, or are suitable for the growth and propagation of trout and are capable of supporting self-sustaining trout populations and their associated food organisms.

wetlands, high-quality scrub-shrub and emergent wetlands, and large vernal pool areas make the wetlands of the North Branch especially valuable for the provision of habitat for aquatic, semi-aquatic, and terrestrial life forms.”

In addition, the Olney Master Plan describes the biodiversity areas found in the planning area, including the biodiversity area within North Branch stream valley where the ICC will cut through:

“The Park and Planning Commission has been working with the Maryland Department of Natural Resources Natural Heritage Program to survey parkland areas containing unusual plant communities or plants considered rare, threatened or watchlist species on lists maintained by the state. Such areas within parkland are identified as biodiversity areas. Fragmentation of these areas or disturbance of their edges leads to displacement of the native plants with non-native invasive species. Master plans consider ways to protect buffer areas around these areas through clustering or protection of additional parkland.”

“The North Branch Valley area is at the eastern most headwaters of the North Branch of Rock Creek, extending beyond Olney into the Upper Rock Creek Planning Area. This area supports a good quality forest with forest interior species and a small population of chinquapin. The North Branch area extends north from Muncaster Mill Road along the stream valley to Norbeck Country Club. This is a good quality, maturing forest that supports larger trees with wide-spreading canopies suitable for forest interior dwelling species, as well as a well-developed understory. At least four watchlist species occur here including shingle oak and chinquapin. A large floodplain wetland occurs here containing a diversity of wetland plants.”

“The recommended approach to protection of these areas (which are already in parkland) is to minimize disturbance to the ecology as much as possible. When similar conditions occur on adjacent private land, these areas should be evaluated for the same features and protected as a buffer to the biodiversity areas in parks. Buffer areas should be protected and enhanced to compliment the biodiversity area, providing additional habitat, if appropriate. Any park facilities should be limited to trails, and alignments chosen to avoid or minimize impacts.”

Specific recommendations of the master plan to protect the water quality of the North Branch watershed include, but are not limited to the following:

- Maintain and enhance the stream buffer forest and wetlands along the North Branch.
- Avoid and mitigate impacts of any new roadway in the ICC right-of-way.

The Olney Master Plan also recognizes the impacts of the ICC on the environmental resources of the North Branch stream valley: “The ICC right-of-way parallels the Brook Manor Country Club tributary to the North Branch. The construction of any roadway in this area would have significant impacts on this tributary as well as on the North Branch biodiversity area. A new road crossing of the North Branch would divide a priority forest and the biodiversity area, significantly reducing the amount of interior forest habitat and directly affecting a unique ecological community.”

However, the master plan does not evaluate the ICC’s environmental impacts on the watershed’s resources. It defers to other processes and studies for minimizing the ICC’s environmental impacts on North Branch stream valley: “The Plan recognizes that environmental impacts and possible mitigation of any road construction in the ICC right-of-way will be evaluated in the context of a Countywide study and a Federal Environmental Impact Statement.”

# Environmental Stewardship Projects in the Upper Rock Creek Watershed Updates and Benefits Summary

January 2007

## Environmental Stewardship Concepts - Updated from FEIS

Site ID	Watershed	County	Drainage Area (acres)	Environmental Stewardship Concept	Benefit Derived from ES Project
NB-6	North Branch Rock Creek	Montgomery	235	Stormwater Retrofit - Replace riser and outfall, landscape, adjust NB-6 to work as a forebay for NB-7.	Improve water quality and attenuate more frequent storms to protect downstream channels. Additional attenuation provides the opportunity for more infiltration into groundwater.
NB-7	North Branch Rock Creek	Montgomery	330	Stormwater Retrofit - Add forebays, remove sediment accumulation, create micropools, adjust outflow to address downstream erosion, outfall stabilization.	The existing pond is showing signs of retaining high sediment loads, so creating a forebay from NB-6 and cleaning out NB-7 will help restore sediment retention capacity to the watershed. In addition, repair and modification of the existing riser and outfall will reduce erosion downstream by limiting flows and reduce sediment supply by repairing the outfall.
NB-11	North Branch Rock Creek	Montgomery	65	Stormwater Retrofit - Landscape existing wet pond, repair existing outfall, remove existing concrete lined inflow channel (500 lf), adjust riser outflow to address erosion at outfall.	Landscape the existing pond will improve aesthetics and nutrient removal of the existing pond. Repair of the outfall will reduce downstream sediment supply, and removal and replacement of the existing concrete channel will improve aesthetics, promote infiltration, reduce inflow velocities and resuspension of settled material.
NB-16	North Branch Rock Creek	Montgomery	170	Stormwater Retrofits - A- Farm Pond dam upstream of (B) in need of repair, draw down water to create a forested wetland. B- On-line pond, repair outlet pipe, create forebays and enhance existing wetlands by landscaping and minor grading.	A- Benefit will be reduced failure hazard risk (risks include downstream sedimentation from a dam failure) in existing pond, reduced thermal effects of existing wet pond, increased habitat, maintenance of water quality already being provided. B- Because downstream from this pond is in fair to good condition, retrofit will be mostly landscaping and minor grading to improve aesthetics and water quality performance, as well as repair of the outlet pipe.
NB-1	North Branch Rock Creek	Montgomery	640	Reconnect stream with floodplain where necessary, reduce erosion and sedimentation, enhance riparian buffer, remove fish passage barriers, improve habitat.	See below
NB-2C	North Branch Rock Creek	Montgomery	1000	Reconnect stream with floodplain where necessary, reduce erosion and sedimentation, enhance riparian buffer, improve habitat.	See Below

ATTACHMENT E.

## Environmental Stewardship Sites within Upper North Branch Watershed

