



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

MCPB
Item # _____
March 12, 2009

MEMORANDUM

March 2, 2009

TO: Montgomery County Planning Board

VIA: Mark Pfefferle, Acting Chief *MP*
Green/Environmental Planning Division
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Green/Environmental Planning Division

FROM: Michael Zamore, Planner Coordinator *MZ*
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SUBJECT: Briefing: Draft Green Infrastructure Plan Policies and Strategies

RECOMMENDATION: Information and Discussion

Description/Scope of the Plan

The Green Infrastructure Plan identifies sensitive and important environmental features throughout the County and ways to connect them into a comprehensive network. When adopted the Green Infrastructure Plan will:

1. Establish environmental policy choices for the Planning Board, as well as implement the environmental objectives and strategies of the 1993 General Plan Refinement and the recommendations of the latest approved Land Preservation, Parks, and Recreation (LPPR) Plan.
2. Help balance the protection of land for natural ecosystems with the need for compact communities and smart growth.
3. Streamline the review and mitigation process for public and private development projects to improve its environmental effectiveness.
4. Provide a common goal and a long-term plan for ecosystems and natural area connections, to improve the overall natural land acquisition and preservation process in the County.
5. Provide a broader understanding of the County's natural areas and how to achieve a functional green infrastructure network.
6. Provide a basis for coordinating local, State, and regional natural resources planning and management.
7. Promote and enhance the County's quality of place.

The plan will provide priorities for green infrastructure protection and restoration to assist development reviews, master planning, and park acquisition. The Green

Infrastructure Plan will provide the basis for land management and policy decisions on a countywide level. It will optimize both land acquisition and protection of natural areas through the land development process. The Green Infrastructure Plan will be implemented through the existing regulatory review process, land protection programs, and during sector and master plans. Land development applications will be evaluated for opportunities to protect or restore portions of the green infrastructure as they are submitted. As a functional master plan, development applications will be evaluated for conformance with the Green Infrastructure Plan in the same manner as they are currently evaluated for conformance with sector and master plans.

Green Infrastructure Network Map

The Green Infrastructure Plan includes an interim network map of sensitive and important environmental features throughout Montgomery County. The map is divided into three categories:

Regulated Areas are sensitive environmental features such as streams (and stream buffers), wetlands (and wetland buffers), steep slopes, and 100-year floodplains that are automatically protected during the land development process;

Evaluation Areas are outside the Regulated Areas and must be reviewed during the development review process to determine if resources need protection or mitigation. Evaluation Areas may contain environmentally sensitive features such as interior forest, upland forest, unique habitats, and environmental settings of cultural resources, and are given high priority for on-site forest and habitat conservation during the planning and development processes. The countywide green infrastructure network is a generalized map and will be refined at the time a development or acquisition proposal is received.

Network Gaps are breaks in the natural areas within the green infrastructure network that have the potential to connect Regulated and Evaluation Areas.

The Plan is not a regulatory plan and does not create new regulations with its adoption. However it makes recommendations that may require legislative changes to appropriate ordinances, existing environmental guidelines, and land protection programs to ensure more comprehensive protection of the County's green infrastructure.

Relationship to Other Plans and Programs

The Plan will guide several of the Commission's master plans, programs and priorities with overarching priorities for protecting natural areas as well as State and County environmental plans and programs. Once implemented, the Plan will help achieve regional Air Quality Plan objectives and will compliment regional efforts to control carbon emissions.

The Plan will also complement the Water Resources Functional Master Plan by prioritizing natural area enhancement opportunities that could address specific water quality improvement needs. Increasing the function, quality, and quantity of green infrastructure reduces pollutant loading and enhances water quality. By helping to lower nutrient loads it will also help meet Chesapeake Bay commitments that in turn, improves our eligibility for State and open space funds.

The State maintains and periodically updates the *Guidelines for State and Local Land Preservation, Parks, and Recreation (LPPR) Planning*. A major goal of the LPPR relates directly to the importance of comprehensive planning for green infrastructure. The Planning Board included the development of a Green Infrastructure Plan in its recently (2005) approved LPPR Plan, in order to be eligible for State funding for important natural resources conservation work. Additionally, the Plan facilitates the Legacy Open Space Program by comprehensively identifying areas that should be considered candidates for protection under Legacy Open Space, and its policies and recommendations will also guide revisions and amendments to local master plans and set important environmental policy choices for the Planning Board.

Plan Progress

Youth Outreach

In January 2008 public outreach efforts were provided to middle school students to raise their awareness as to the importance of green infrastructure, and to get their perspective on green infrastructure. Before and after surveys of four 8th grade science classes were used to gauge student receptiveness of the green infrastructure concepts that we presented. Additional opportunities will be explored with the Montgomery County Public Schools.

Public Meetings

The Green Infrastructure Plan benefitted from public and stakeholder input into the plan development process. Citizens were able to contribute to the plan at stakeholder focus group meetings and at public meetings. A public meeting was held on June 7, 2008 to present five draft map scenarios for review and comment. As a result of these meetings the scenarios were refined when developing the draft Green Infrastructure Network map. The most recent public meeting on January 13, 2009 presented the revised scenarios. Comments from the meeting further refined the green infrastructure network map and are reflected in the draft policies and recommendations included in this document.

PLAN OBJECTIVES, POLICIES AND RECOMMENDATIONS

The Plan's objectives, policies, and recommendations to reach those objectives are presented in the following exhibits:

Exhibit One

Policy and Recommendation Matrix: Summary of policies, recommendations, and partnerships necessary to help M-NCPPC meet the objectives

Exhibit Two

Green Infrastructure Plan goal and objectives

Exhibit Three

Green Infrastructure Plan policies and recommendations

**Table 1
GREEN INFRASTRUCTURE MASTER PLAN
POLICY AND RECOMMENDATION MATRIX**

Implementation Theme	Policy	Recommendation	Partnership Necessary to Effect Strategy with M-NCPPC
1 PROTECTION, PRESERVATION, RESTORATION AND ENHANCEMENT			
a. Integrate green infrastructure standards into planning and development review	1	1.1	Builders and developers
b. Take actions to preserve properties identified in the green infrastructure network		1.2	State and local governments, Private landowners
c. Identify sensitive and important environmental systems to be protected, preserved, enhanced or restored as part of master planning or development review		1.2, 1.5	Builders and developers Private landowners Private interest groups
d. Coordinate and target mitigation efforts to better direct expenditure to protect, enhance and restore green infrastructure	1,3	1.3, 3.1	State and local governments, Stakeholder focus groups Private landowners, Development community
e. Impact of public facility construction on the green infrastructure network	1	1.6, 1.7	DOT
f. Update and review the green infrastructure plan and network map	1	1.1	
2 LEGISLATIVE CHANGES			
a. Update existing legislation and guidelines as needed to foster more green infrastructure protection, while implementing the desired development pattern of the General Plan	2	2.1	Development community Private landowners State and County government
b. Opportunities and/or incentives for non-regulatory compliance with plan objectives			
3 SMART GROWTH AND QUALITY OF PLACE			
a. Encourage project designs that utilize the green infrastructure network as an amenity	2	2.2	Building industry Private landowners Growing Smarter Initiative Planning Board County and State Government
b. Prioritize parcels in the green infrastructure network for their green infrastructure potential			
c. Promote the green infrastructure network as an asset to residents and businesses			
3 PROTECTING WATER QUALITY			
a. Identify and prioritize specific sites for forest, wetland and stream buffer mitigation	1	1.3	DEP, DPS DEP
b. Protect and improve water quality, air quality and natural habitats	3,	3.1, 3.2	DNR, DPS, WRFMP
4 GREEN INFRASTRUCTURE STEWARDSHIP AND MANAGEMENT			
a. Support efforts by state, County and local forest and watershed groups to involve citizens actively in mitigation and forest planting and land stewardship programs	4	4.1 - 4.2	DEP, Utility companies, State and County Government, Private landowners, WRFMP
b. Public Outreach		4.1, 4.5	Citizen groups, MCPS
c. Periodically assess the progress of meeting the objectives of the Green Infrastructure Plan and update action plans as necessary	4	4.1	

EXHIBIT TWO

Green Infrastructure Plan Goal and Objectives

Goal

Establish processes and priorities that will guide the connection, preservation, protection, enhancement, and restoration of the County's green infrastructure network.

Objectives

The following objectives were developed based on input from the public outreach process, trends in the County's natural resources, the environmental goals in the 1993 General Plan, and the natural resource conservation goals in the 2005 *Land Preservation, Parks, and Recreation Plan*. The objectives will be used to measure how well the plan is being implemented.

1. Direct forest planting and other natural resource mitigation acreage to the green infrastructure network or adjacent to streams outside the green infrastructure network. At least 75 percent of the mitigation acreage should contribute to improved water quality by establishing, enhancing, and restoring riparian buffers.

Tracking: This objective will be tracked through the current Forest Conservation Law tracking system, which aggregates data on forest planting/regeneration, park dedication, existing forest protection via easements, and forest conservation banks.

2. Use the Plan as guidance when considering the purchase or dedication of parkland for natural resource protection (stream valley parks, conservation parks, and neighborhood conservation parks).

Tracking: This objective will be evaluated through the existing park acquisition, CIP and other processes.

3. By 2030, ensure that most of the identified green infrastructure network is preserved. Most of this preserved area must meet the definition of countywide significance.¹ (Staff will discuss ideal percentages on March 12, 2009.)

Tracking: The Countywide catalogue of mitigation sites will be used to track this objective.

¹ Countywide Significance Criteria

Corridor Width:

Minimum 200' wide in the Rural Wedge

Minimum 100' wide in the priority funding areas outside the Urban Ring

No minimum width in the Urban Ring

Connectivity

Gaps no greater than 600 feet

Isolated Forest Stands:

50 acres with minimum 10 acres of interior forest (Rural Wedge)

25 acres with minimum 5 acres of interior forest (Priority funding areas outside the Urban Ring)

Any stand with at least 1 acre of interior forest (Urban Ring)

4. By 2030, no more than **25 percent** of Countywide net losses of forest cover should occur within the green infrastructure network.

Tracking: Between 1993 and 2008 an annual average of 225 acres of forest was cleared in Montgomery County through regulated activities. Approximately 50 percent of approved forest clearing was offset by forest planting requirements so that the average annual net loss was about 90 acres. If these trends continue, annual forest loss through regulated activities should not exceed 22 acres per year within the green infrastructure network, with the remaining 68 acres occurring outside the network. Unavoidable loss of green infrastructure within the network should be offset by mitigation efforts that enhance the green infrastructure network. Changes within the green infrastructure network such as forest loss and forest planted will be monitored and annually quantified.

EXHIBIT 3

Green Infrastructure Plan Policies and Recommendations

Policy 1. Implement the General Plan’s environmental goals and objectives to connect, preserve, enhance, and restore the green infrastructure network and its ecological functions.

Recommendations

1.1 Integrate green infrastructure standards into master planning and development review by ensuring that master and sector plans identify opportunities for implementing the Green Infrastructure Plan.

- Identify green infrastructure network elements in master and sector plan areas that would benefit from restoration, preservation, and enhancement.
- Revise the green infrastructure network boundaries to include areas of local or countywide significance that become available through development or redevelopment. Consider:
 - All new opportunities for connectivity.
 - Historic properties with environmental significance.
 - Areas of potential mitigation, restoration and/or enhancement.
- Reinforce recommendations contained in any watershed restoration plan or action strategy developed for all or part of a planning area.
- For all development applications show the green infrastructure network Evaluation Area if it touches or crosses the property on the natural resources inventory (NRI) plans.
- Create incentives that encourage landowners to:
 - Create or expand greenways.
 - Reduce network gaps and enhance connectivity.
 - Reduce fragmentation of forest habitat.

1.2 Take actions to preserve properties that are part of the green infrastructure network by:

- Establishing a continuously updated priority list of environmentally significant sites.
- Preserving sites through conservation easements, dedication, land trusts, and public acquisition.
- Working with government and conservation groups to find funding sources.
- Mitigating the impacts of transportation or other infrastructure projects.

1.3 Create and maintain an updated catalog of mitigation sites within the green infrastructure network and develop a database that:

- Tracks off-site mitigation projects.
- Prioritizes specific sites for forest, wetland, and stream buffer mitigation in coordination with restoration plans prepared by other agencies.

- Coordinates data with County, State, and federal agencies, and with groups assessing streams and waterways.

1.4 Maintain, enhance, or restore environmental corridors to a natural condition by:

- Using the development review process to enhance connectivity.
- Considering the recovery and long-term protection of rare, threatened, and endangered species and natural communities in green infrastructure priority decisions.

1.5 Identify ecological systems and Network Gaps that connect or could connect with Biodiversity Areas and Legacy Open Space natural areas, and ensure that they are considered for protection, restoration, or enhancement during the development review and master plan processes.

1.6 Ensure that public facilities have minimal immediate or future impact on the green infrastructure network by:

- Designing and building facilities to maintain ecological functions and minimize fragmentation of the green infrastructure network.
- Enhancing the network by developing Growth Policy provisions that require redevelopment to provide environmental benefits.

1.7 Ensure that transportation systems are designed to minimize fragmentation and maintain the network's ecological functions by:

- Coordinating green infrastructure planning with Department of Transportation projects to promote environmentally sensitive road designs and stream crossings.
- Identifying areas where ecological considerations require alternative locations for planned road or trail systems.

1.8 Assess progress in implementing the Green Infrastructure Plan with an annual report that:

- Includes data on gain or loss.
- Includes an updated natural resources base map.
- Assesses progress on the recommendations of this plan.

Policy 2. Preserve existing natural resources and establish new forest, where possible, while implementing the desired development pattern of the General Plan, the State's Smart Growth policy and the County's Growth Policy and sustainability initiatives.

Recommendations

2.1 Evaluate strategies to update existing legislation and guidelines as needed to foster increased green infrastructure protection.

- Recognize the green infrastructure network as the highest priority for preservation efforts.
- Reevaluate the forest mitigation policy so that larger and more consolidated forest planting becomes a high priority.
- Expand the in lieu fee option to include large sites with increased planting requirements.
- Develop long-term management guidelines for forest conservation easements and forest banks.
- Redefine “green space” and “open space” in the zoning code to further protect green infrastructure, when implementing environmental site design.
- Where flexible design standards are allowed:
 - Minimize impacts due to excessive grading and soil compaction.
 - Maximize the retention of natural resources and/or the creation of green space.

2.2 Promote the green infrastructure network as an asset for existing residents and businesses, and to attract new residents and businesses to the County by:

- Prioritizing parcels in the Green Infrastructure Network for their green infrastructure enhancement potential.
- Encouraging project designs that use the green infrastructure network as an amenity.
- Developing and disseminating information on green infrastructure’s contributions to quality of place.

Policy 3. Preserve, protect, and enhance surface and groundwater features and recharge, and restore stream buffers.

Recommendations

3.1 Target green infrastructure enhancements and restoration to address priorities identified by the County’s *Legacy Open Space Plan, 2005 Land Preservation, Parks, and Recreation Plan*, and the *Water Resources Functional Master Plan*.

3.2 Support the goals and policies set by the *Water Resources Functional Master Plan* and the County’s Department of Environmental Protection watershed restoration plans to preserve and restore ecological functions and water quality.

Policy 4. Instill a commitment to environmental stewardship by involving diverse stakeholders and pursuing innovative methods.

Recommendations

- 4.1 Coordinate with Maryland's Departments of Natural Resources and Agriculture, and with the County's Soil Conservation District and Office of Economic Development to increase local enrollment in the Forest Conservation and Management Program, Conservation Reserve Enhancement Program, and other programs, to encourage County landowners to participate voluntarily in preserving or enhancing the green infrastructure network.
- Report *Green Infrastructure Plan* implementation progress in the State open space plan updates to communicate the goals of the Green Infrastructure Plan at the State level.
- 4.2 Provide guidance and information (including promotional materials) to help local communities meet their conservation needs, and incorporate green infrastructure into existing environmental educational and public outreach efforts.
- Coordinate County and municipal efforts to optimize programs and foster local network links.
 - Facilitate training for municipalities to monitor and enforce forest conservation easements, review of site plans under new conservation subdivision regulations, and more.
 - Promote the Maryland Wild Acres Program and similar programs to encourage maintenance of diverse, non-forest habitats.
- 4.3 Recognize that diverse natural environments on private land, particularly managed forests are important components of the green infrastructure network that offer multiple resource benefits.
- Encourage landowners to take voluntary preservation measures.
- 4.4 Build the green infrastructure network by connecting public and private lands by ensuring that:
- Organizations, developers, and nonprofits are encouraged to dedicate and establish conservation easements.
 - Public and private utilities manage lands and rights-of-way to provide diverse habitats and greenway connections.
- 4.5 Encourage and publicly recognize private efforts to preserve, restore, and/or enhance the green infrastructure network by:
- Coordinating with landowner and advocacy groups to optimize their green infrastructure restoration efforts.
 - Helping environmental and watershed groups to prioritize their reforestation efforts.

Green Infrastructure Network

