



GREEN NEIGHBORHOOD GUIDANCE DOCUMENT FOR SITES

August 2008

**Howard County, Maryland
Department of Planning and Zoning**

Acknowledgements

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The Department of Planning and Zoning is pleased to present this Green Neighborhood Guidance Document for Sites, in support of Howard County's innovative Green Neighborhood Program. The Green Neighborhood Program is managed cooperatively by the Department of Planning and Zoning, which oversees the Sites component of the program, and the Department of Inspections, Licenses and Permits, which oversees the Homes component of the program. The Green Neighborhood Program is a pilot program that is part of County Executive Ken Ulman's initiative to make Howard County a model Green Community.

The Green Neighborhood Program is intended to help make Howard County's communities more environmentally sustainable, setting new standards for resource conservation and energy efficiency. As both an incentive to promote Green Neighborhoods and to accelerate progress toward more sustainable development patterns, Green Neighborhood projects will be granted Green Neighborhood housing allocations and "fast track" plan processing. To recognize the accomplishments of projects that comply with program standards, these communities will be officially recognized as Green Neighborhoods, which can be used to promote and market these communities.

If you have questions or want to learn more about building an environmentally sensitive and energy efficient development in Howard County, we would welcome the opportunity to talk with you about our Green Neighborhood Program.

Sincerely,

A handwritten signature in black ink that reads "Marsha S. McLaughlin".

Marsha S. McLaughlin
Director

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Introduction

The intent of the Green Neighborhood Program is to promote the development of more environmentally sustainable neighborhoods in Howard County by providing housing allocations as an incentive. Under Section 16.1102(b)(7) of the Adequate Public Facilities Ordinance, up to 100 housing unit allocations are set aside annually, beginning in Fiscal Year 2008, for projects that meet Green Neighborhood requirements. Green Neighborhood requirements were established in County Council Resolution No. 116-2007, adopted on October 1, 2007.

Green Neighborhood requirements are divided into separate Site and Home requirements. To qualify for Green Neighborhood allocations, a residential development project must score a minimum 90 points out of 167 possible points on the Site portion of the Green Neighborhood Checklist. To get a Building Permit and subsequent Use and Occupancy Permit, a residential development project that received a Green Neighborhood allocation must get a minimum 46 points out of 84 possible points from the Home portion of the Green Neighborhood Checklist. The Checklist is included in this Guidance Document as Appendix A and is available in printed and digital format from the Department of Planning and Zoning or on the DPZ web site.

Point credits in the Green Neighborhood Site Checklist are divided into nine sections:

- A. Innovative / Integrated Design Process
- B. Location, Linkages & Community Context
- C. Compact, Complete & Connected Development
- D. Environmental Preservation
- E. Site Landscape Improvements
- F. Water Conservation / Efficiency / Management
- G. Energy Efficiency
- H. Materials Beneficial to the Environment / Waste Management
- I. Operations and Maintenance Education

This Green Neighborhood Guidance Document for Sites provides information on the intent, criteria for compliance, and submittal requirements for each credit in the Green Neighborhood Site Checklist. In addition, a series of questions and interpretations provides answers for common questions related to each credit. A separate Green Neighborhood Guidance Document is available for the Green Neighborhood Home Checklist.

The development review process for Green Neighborhood projects will be the same as for other residential projects. However, submittals will include a Green Development Plan with each regular plan set – the Preliminary Equivalent Sketch Plan, the Final Plan and/or the Site Development Plan. The Green Development Plan will provide the additional information needed to evaluate compliance with the Green Neighborhood Site Checklist. The Green Development Plan components will be reviewed by staff in the Division of Environmental and Community Development as part of the normal review process, in coordination with other divisions and departments. Comments on the Green Development Plan will be provided in conjunction with comments on the regular plan set.

More information about the Green Neighborhood Program is available at:

<http://www.co.ho.md.us/DPZ/Environment/environment.htm>

A-1 Green Development Plan

Points: Required

Intent

Demonstrate that the proposed development meets the Green Neighborhood Site criteria in order to achieve an environmentally sustainable neighborhood.

Criteria

Submit a Green Development Plan, which includes a Green Neighborhood Plan Sheet and a Green Neighborhood Report, with each regulatory plan set submission. The Green Neighborhood Plan Sheet and Green Neighborhood Report must demonstrate how the proposed development will meet the mandatory and targeted Green Neighborhood Site criteria.

The Green Neighborhood Plan Sheet (GN Plan Sheet) includes a completed Green Neighborhood Site Compliance Checklist and any supplemental information (vicinity maps, notes, tables) needed to verify how specific required and targeted credits will be achieved. The required supplemental information is listed for each individual credit under the Green Development Plan Submittals section of this Guidance Document. The GN Plan Sheet may include more than one plan sheet.

The information on the GN Plan Sheet is in addition to the regulatory compliance information required on the typical Preliminary Equivalent Sketch Plan (SP), Final Plan (F) or Site Development Plan (SDP) drawings. For some credits, information required to verify Green Neighborhood compliance is typically shown on drawings within the regulatory plan set, and so does not have to be duplicated on the GN Plan Sheet. When this is the case, the sheet within the regulatory plan set that contains the Green Neighborhood compliance information must be indicated on the Compliance Checklist.

The GN Plan Sheet must be signed by the project's U.S. Green Building Council Leadership in Energy and Environmental Design (LEED®) Accredited Professional (LEED AP) and the LEED Accredited Third Party Certifier (see A-3), in addition to the signatures required by the Department of Planning and Zoning (DPZ).

The GN Plan Sheet must include the following:

- **Green Neighborhood Site Compliance Checklist.** The Compliance Checklist that shall be used to demonstrate compliance is available in printed and digital format from the Department of Planning and Zoning or on the DPZ web site. [Appendix B](#) is a sample Compliance Checklist with portions of the checklist filled in to show the type and format of information to be included. The Compliance Checklist must be signed by the LEED Accredited Third Party Certifier.
- **Vicinity Maps or Diagrams.** Maps and Diagrams shall be numbered to correspond with the credit number (B-1, B-2, B-3, etc.). Maps should be at the scale of 1"=600' or 1"=1000'.
- **Notes.** Notes shall be numbered to correspond with the credit number. If notes explaining the credit compliance are extensive (more than a few sentences), a narrative should be provided in the Green Neighborhood Report instead.
- **Tables.** Tables shall be numbered to correspond with the credit number (B-1, B-2, B-3, etc.). Table layouts are provided in this document for credits that require them.

- **Signature Blocks.** Signature blocks shall be provided for the Director, Department of Planning and Zoning; the Chief, Resource Conservation Division; and the LEED Accredited Professional team member. Sample signature blocks are available in [Appendix C](#).

The Green Neighborhood Report (GN Report) includes supplemental information not required to be on the GN Plan Sheet or the regulatory plan sheets, and is more appropriately submitted in a report format. This includes narrative information, documentation, and templates. The supplemental information required is specified for each credit under the Green Development Plan Submittals section of this Guidance Document. Clearly identify which credit the supplemental information is associated with and order the materials to correspond with the credit numbers in the GN Site Compliance Checklist. The report may be comprised of separate volumes; however, as much of the supplemental information as possible should be included in a single volume. Binding of the document should take into account the need to insert additional information as needed. Applicants are encouraged to use double-sided printing.

The GN Report must include the following:

- **Project Description.** Completed project description, including the project's sustainable goals statement and table of contents. The goals statement must include an energy analysis explaining how the project reduces energy consumption and promotes energy conservation and renewable energy generation. The Project Description Form shall be used as a title page for the GN Report and is available in printed and digital format from the Department of Planning and Zoning or on the DPZ web site. [Appendix D](#) is a sample Project Description Form.
- **Green Neighborhood Site Compliance Checklist.** The Compliance Checklist that shall be used to demonstrate compliance is available in printed and digital format from the Department of Planning and Zoning or on the DPZ web site. [Appendix B](#) is a sample Compliance Checklist with portions of the checklist filled in to show the type and format of information to be included. The Compliance Checklist must be signed by the LEED Accredited Third Party Certifier.
- **Team Contact Information.** Full contact information for all team members.
- **Natural Resources Inventory.** The required Natural Resources Inventory shall be incorporated into the Forest Stand Delineation (FSD) Report and associated plan sheet. In addition to the information normally included in that report, the following shall be provided:
 - Description of plant communities in addition to required forest stand descriptions (wetlands, shrub, wooded areas that do not meet the definition of forest, pasture, etc.). Description should include habitat value and relationship to other sensitive features. Identify forest interior habitat.
 - Description of environmental features such as floodplain, wetlands, and streams and other sensitive habitat areas.
 - Description of the relationship of the plant communities and environmental features to similar features within 300 feet of the property.
 - Information about trees with 12" caliper or greater in addition to the Champion and specimen tree information provided for the FSD.
- **Narratives.** Narratives are written explanations of credit compliance whose length exceeds that appropriate for a note on the Green Neighborhood Plan Sheet.
- **Documents.** Documents include letters from an agency such as the Maryland Department of the Environment (brownfields, environmental restoration) or DPZ (historic sites inventory, transit station or stop). They may also be supplemental plans or reports (habitat management plan, environmental assessments for brownfields and stream and wetland restoration; construction waste management plan).
- **Templates.** Templates provide detailed information, material schedules, and calculations that

demonstrate how the applicant will comply with credit requirements. Excel versions of the templates are available on the DPZ web site.

Appendix E is a summary table of the various submittals required for each credit.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide the Green Development Plan.

- Final Plan and/or Site Development Plan
 - Provide the Green Development Plan. If conditions for a credit are identical to a previously submitted plan, indicate “no change” on the Compliance Checklist for that credit. Alternatively, clearly explain any proposed changes on the Compliance Checklist submitted with the new set of plans.

Questions and Interpretations

1. Can a customized version of the Green Neighborhood Site Compliance Checklist be submitted?
No. Developers must use the Green Neighborhood Site Compliance Checklist, available through DPZ in printed and electronic format. A sample Compliance Checklist is provided in Appendix B with illustrative entries.

2. Who is the LEED Accredited Third Party Certifier?
See credit A-3.

3. Does the Green Neighborhood Report need to be submitted with each new regulatory plan set even if there are no changes?
If there are no changes to the Green Neighborhood Report, it does not have to be resubmitted. If there are changes, only the information that changes needs to be resubmitted.

4. Does information that will be shown on other plans have to be repeated on the GN Plan Sheet to document compliance with Green Neighborhood criteria?
No, information that would normally be shown as part of the regulatory plan submittal, such as existing and proposed structures, stormwater management, and stream and wetland buffers, does not have to be duplicated on the GN Plan Sheet. Regulatory plan sheets may also be used to indicate compliance with other Green Neighborhood Criteria such as extended stream and wetland buffers, increased open space, and increased forest conservation. The Compliance Checklist should indicate which plan sheets contain the required information.

A-2 Interdisciplinary Project Team

Points: Required

Intent

Use a comprehensive, interdisciplinary approach for the planning, design, and construction of the Green Neighborhood development in order to achieve an environmentally sustainable neighborhood.

Criteria

Include on the project team at least:

- a U.S. Green Building Council Leadership in Energy and Environmental Design (LEED®) Accredited Professional (LEED AP)

AND

- an ecologist or environmental professional or landscape architect

AND

- an engineer

Green Development Plan Submittals

- Provide a note listing all the project team members and their roles. Indicate which members are LEED Accredited Professionals.

Questions and Interpretations

1. Does the LEED AP have to be in addition to the other required professionals?
No, the LEED AP can also be one of the required professionals on the design team.
2. Who can be a LEED AP?
Anyone who has passed the LEED Accredited Professional exam, including architects and other professionals listed above.
3. Can a professional with extensive experience in green building be substituted for a LEED Accredited Professional?
No.

A-3 Third Party Certification

Points: Required

Intent

Verify that the targeted Green Neighborhood Site credits and point total for the proposed Green Neighborhood development is reasonable and achievable in order to realize an environmentally sustainable neighborhood.

Criteria

Provide independent, third party verification that the targeted Green Neighborhood Site credits and point total for the proposed Green Neighborhood development is reasonable and achievable. Verification must be conducted by an independent, LEED Accredited Professional. The LEED Accredited Professional must be a licensed architect, landscape architect, planner, or engineer.

Green Development Plan Submittals

- Complete the certification box in the Green Neighborhood Site Compliance Checklist to verify that the targeted Green Neighborhood Site credits and point total for the proposed Green Neighborhood development is reasonable and achievable.

Questions and Interpretations

1. Can a professional with extensive experience in green building be substituted for a LEED Accredited Professional?
No.
2. Is independent, third-party verification needed for each plan set submission?
Yes. The LEED AP must sign-off on the Green Neighborhood Site Compliance Checklist at each plan set submission.
3. Can the third party certifier be an employee of one of the firms providing design/construction/development services for the project?
No. The third party certifier must be completely independent from the development team.

A-4 Innovative Design

Points: 1 to 4

Intent

Encourage projects to create more environmentally sustainable neighborhoods by exceeding the performance requirements set by the Green Neighborhood Site Checklist and/or implementing additional green measures that have tangible and demonstrable benefits beyond those in the Green Neighborhood Site Checklist.

Criteria

Implement green measures that exceed the performance requirements set by the Green Neighborhood Site Checklist and/or that have tangible and demonstrable benefits beyond those in the Green Neighborhood Site Checklist. One point is awarded for each exemplary performance or new measure. A maximum of four Innovative Design measures can be submitted at each plan set submission.

Up to 4 points total can be earned with this credit:

A-4a: Innovative Design A (1 point)

A-4b: Innovative Design B (1 point)

A-4c: Innovative Design C (1 point)

A-4d: Innovative Design D (1 point)

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide a narrative describing the proposed measure and its merits, or provide a draft Innovative Design template (see [Appendix F](#)). One template must be submitted for each Innovative Design point.

- Final Plan and/or Site Development Plan
 - Provide a completed Innovative Design template (see [Appendix F](#)) describing the proposed measure and its merits. One template must be submitted for each Innovative Design point.

Questions and Interpretations

1. How will these practices and designs be evaluated and awarded points?
The County will evaluate and award points with assistance from the County's LEED Accredited Professional consultant.

2. Can Innovative Design points be awarded for innovative technologies used to comply with existing Green Neighborhood Site credits?
No. Innovative Design points are awarded for exceeding the performance requirements set by the Green Neighborhood Site Checklist and/or implementing measures that have tangible and demonstrable benefits beyond those in the Green Neighborhood Site Checklist.

3. What is the threshold for exemplary performance?
The threshold for exemplary performance varies by credit. The County will evaluate and award points on a case-by-case basis.
4. Can an Innovative Design measure be substituted for another Innovative Design measure between plan set submissions?
Yes. Changes should be noted in the Green Neighborhood Site Compliance Checklist and supplementary information must be submitted if required.
5. Can an unlimited number of Innovative Design measures be submitted?
No. A maximum of four Innovative Design measures can be submitted at each plan set submission.
6. Is there a database of approved Innovative Design measures?
At this time, a database of approved Innovative Design measures is not available. As innovative measures are approved, DPZ will develop a database and amend this Guidance Document to include this information.
7. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the Green Development Plan submittals for the Preliminary Equivalent Sketch Plan also required?
No.

B-1a Redevelopment Site

Points: 2 to 4

Intent

Promote the reuse and enhancement of previously developed sites to mitigate the impacts of previous disturbances, reduce the pressure to develop undeveloped tracts of land, and protect natural resources.

Criteria

Reuse a previously developed site. Points are awarded based on the percentage of the gross site area that is previously developed, as specified below:

Percent Previously Developed	Points Awarded
25 – 35%	2
36 – 50%	3
51% or greater	4

A previously developed site is a site that has existing paving, construction, and/or land alterations. This does not apply to land alterations resulting from current agricultural use, forestry use, recreational use, or use as a preserved natural area.

Points are awarded only if the stormwater management regulations are met for redevelopment sites. For nonresidential sites, these regulations require a 20% reduction in existing impervious cover, water quality treatment for 20% of the existing impervious area, or a combination of the two approaches. All new impervious area must also have stormwater management. For residential sites, all development is treated as new development and must have stormwater management. All stormwater management must be provided in accordance with Howard County and MDE accepted practices.

Green Development Plan Submittals

- Provide a table to indicate the percent of previous development for the site.
- Provide a note to briefly describe how all stormwater management requirements for redevelopment and new development will be met.

Credit B-1a	
Gross Site Area (acres)	
Area of Existing Development (acres)	
Percent Previously Developed	

Questions and Interpretations

1. What if the redevelopment site is a brownfield?

Refer to Section B-1b for additional information about site redevelopment requirements and available points.

2. Will alternative, off-site remediation be allowed to meet stormwater management requirements?
No, all stormwater management requirements must be met on-site.

3. Is a site that has been severely impacted by sand and gravel mining activities considered previously developed?
Yes. Points are awarded based on the percentage of the site that has been impacted by sand and gravel mining activities.

B-1b Redevelopment Site (Brownfield)

Points: 2 to 8

Intent

Promote the reuse and enhancement of brownfield sites to mitigate the impacts of previous disturbances, reduce the pressure to develop undeveloped tracts of land, and protect natural resources.

Criteria

Reuse a brownfield site and remediate the site contamination. Points are awarded based on the Maryland Department of the Environment (MDE) cleanup standard used for the designated future land use, as specified below:

Future Land Use	Tier A	Tier B
Industrial	4 points	2 points
Commercial	6 points	4 points
Residential	8 points	6 points

Brownfield sites are sites where the expansion, redevelopment, or reuse of the site may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Brownfield sites require a Phase I and II Environmental Site Assessment and a remediation plan. Phase I includes an assessment of the land use history of the site and Phase II includes site testing for contaminants. If a Phase I assessment indicates there are no contamination issues other than non-leaking above ground or underground storage tanks, post-tank removal testing may be used in lieu of a Phase II assessment.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide Phase I and II Environmental Site Assessments.
 - Provide a narrative describing how the site meets MDE brownfield criteria, which MDE cleanup standard will be used, and how the site will be cleaned up to meet the specified MDE criteria.

- Final Plan and/or Site Development Plan
 - Provide a Certificate of Completion or a No Further Requirements Determination from MDE prior to final approval of the SDP.

Questions and Interpretations

1. How can one get more information about brownfields?
 Contact the Maryland Department of the Environment at:
 Luke Wisniewski
 Land Restoration Program
 Waste Management Administration
 1800 Washington Boulevard, Suite 625
 Baltimore, MD 21230-1719
 410-537-3447

Visit the Maryland Department of the Environment web page for the Oil Control Program and the Brownfield and Voluntary Cleanup Programs at:

http://www.mde.state.md.us/Programs/LandPrograms/Oil_Control/PollutionManagement/index.asp

http://www.mde.state.md.us/Programs/LandPrograms/ERRP_Brownfields/home/index.asp

Brownfield sites may qualify for the MDE Voluntary Cleanup Program, if these properties are former industrial or commercial sites that pose a threat to public health or the environment.

2. Who will review and approve the Phase I and II Environmental Site Assessments and remediation plans?

The assessments and remediation plans will be reviewed and approved by MDE.

3. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the Green Development Plan submittals for the Preliminary Equivalent Sketch Plan also required?

Yes.

4. Can points be awarded if the site was cleaned up prior to the current development proposal?

To gain credit for the cleanup, the remediation work must have been done by the current owner within 5 years of project application. The 5-year time frame is measured from the date of MDE certification that remediation is complete to the project Green Neighborhood application date. If remediation occurred in an area of the site not proposed for residential use, the site must be evaluated in its entirety for the Green Neighborhood application.

B-2 Historic Buildings

Points: 2 or 4

Intent

Encourage the preservation, restoration, and rehabilitation of historic properties.

Criteria

Preserve, restore, or rehabilitate an historic building listed on or eligible for listing on the Howard County Historic Sites Inventory. Points are awarded based on the historic significance of the building, as specified below:

Historic Significance	Points Awarded
Minor	2
Major	4

Eligible buildings must obtain written endorsement from the DPZ Architectural Historian prior to the project's Green Neighborhood submittal date to qualify for these points (see Submittals). The preservation, restoration, or rehabilitation of historic buildings will follow local historic preservation requirements (if applicable) and generally follow the Secretary of the Interior standards. Historical significance is determined by the Inventory for the property, which will be updated or created, as necessary, by the Department of Planning and Zoning.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide written documentation from the DPZ Architectural Historian that fieldwork has been completed and that the existing Inventory will be updated or the building is a candidate for the Inventory.
 - Provide a narrative describing how the historic building will be preserved, restored, or rehabilitated.

- Final Plan and/or Site Development Plan
 - Provide the completed Inventory and a letter of recommendation from the DPZ Architectural Historian requesting placement on the Inventory, if applicable, prior to final approval.
 - Provide a copy of the written letter from the owner to the Director of DPZ requesting that the building be placed on the Inventory, if applicable, prior to final approval.
 - Provide detailed plans for the historic building preservation, restoration, or rehabilitation, including information on materials to be used.

Questions and Interpretations

1. How does one determine if a building is eligible for the Historic Sites Inventory?

In general, a building should be 50 years or older to be eligible. Prior to initial plan submission, contact the DPZ Architectural Historian, who will conduct an assessment of the property for historic value and integrity. Based on this assessment, DPZ will make the determination if the property is eligible.

2. How is a building added to the Historic Sites Inventory?

Requests to add buildings to the Inventory are sent by DPZ to the County Council, which must approve the request.

3. What are the Secretary of the Interior standards?

The following are the Secretary of the Interior standards for preservation, rehabilitation and restoration. Additional information is available at: http://www.wbdg.org/design/historic_pres.php

Preservation - the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

Rehabilitation - the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.

Restoration - the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

4. Who determines whether preservation, rehabilitation, or restoration is appropriate?

The applicant will determine whether preservation, rehabilitation, or restoration is appropriate, but the Inventory will also provide a recommendation on what is appropriate.

5. Are there additional requirements for work done on properties located in a local historic district?

Yes. Within the Ellicott City and Lawyers Hill Historic Districts, exterior work on the property must follow the design guideline recommendations for that district and the proposed work must be approved by the Historic District Commission.

6. Are there requirements for protecting the historic context?

Requirements vary on a project by project basis. Seek recommendations from the Architectural Historian and DPZ.

7. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the Green Development Plan submittals for the Preliminary Equivalent Sketch Plan also required?

No.

8. Can points be awarded if the historic property underwent the preservation, restoration, or rehabilitation work prior to the Green Neighborhood development proposal?

Credit will be granted if the work was done by the current owner within 5 years of the GN project application. To qualify, the applicant must provide adequate documentation on the original condition of the property and that the work and materials used meet Secretary of the

Interior standards. Adequate documentation can include original plans, photographs (especially close-up photographs of architectural details), and specifications for materials used. The 5-year time frame is measured from the date the Use & Occupancy Permit was granted for the historic property to the project Green Neighborhood application date. If the work occurred in a building not proposed for residential use, the site must be evaluated in its entirety for the Green Neighborhood application.

Are points awarded for any building located within an historic district?

No. The project must include an historic building, not just a non-contributing building located in an historic district.

9. Are points awarded for projects that reuse an existing building that is not considered historic?

No. Points for the reuse of existing buildings can be awarded under B-1a, Redevelopment Site.

10. Is it possible to earn more than four points in this category if multiple buildings are preserved, restored, or rehabilitated?

No, but additional points may be earned under Credit A-4 Innovative Design.

11. Are there any financial incentives or assistance for work done on an historic building?

Properties in the Ellicott City and Lawyers Hill Historic Districts or on the Inventory are eligible for property tax credits for certain exterior work that preserves or restores a structure. The Historic District Commission reviews proposed work for this credit and generally uses the Secretary of the Interior standards. Note that these credits cannot be applied retroactively.

B-3a Transit Access & Amenities for Reduced Auto Dependence (Stop)

Points: 1 or 2

Intent

Encourage development that is served by transit to reduce auto dependence and single-occupancy vehicle miles traveled.

Criteria

Locate the project near an existing or proposed transit stop with adequate service. Points are awarded based on the walking distance to the transit stop from at least 50% of the dwelling units, as specified below:

Walking Distance	Points Awarded
½ mile	1
¼ mile	2

If the transit stop is proposed, submit documentation prior to final approval of the Site Development Plan from the transit provider confirming that a transit stop will be provided.

Green Development Plan Submittals

- Provide a vicinity map (minimum scale of 1" = 600' or 1000') locating the transit stop and the dwelling units. Highlight on the map the qualifying ¼ or ½ mile pedestrian link from 50% of the dwelling units to the transit stop. Note: The same vicinity map can be used for all the credits in section B as long as all the required information for the targeted credits is shown.
- Provide a note describing the current transit service.
- If a transit stop is proposed, provide a letter from the transit service provider confirming the future transit stop, including time of installation and frequency of service.
- Provide a table documenting the number of dwelling units within the associated walking distance from the transit stop.

Credit B-3a		
Building Numbers for Units within __ Mile	Total Number of Qualifying Units	Percent of All Units

Questions and Interpretations

1. Which modes of transportation are considered transit service?
Bus, streetcar, bus rapid transit, light rail, heavy passenger rail (such as MARC).
2. What is considered adequate service?
Adequate transit service consists of at least hourly service during weekday peak periods.
3. How is walking distance measured?
Walking distance is measured along an unobstructed sidewalk or pedestrian pathway (existing or proposed) from the transit stop to a point opposite the main entrance to the individual dwelling

unit or multi-family building. The sidewalk or pedestrian pathway should not necessitate crossing any streets that have speed limits greater than 25 miles per hour, unless those crossings have vehicle traffic controls such as signals and stop signs with crosswalks.

4. Is it possible to earn more than one point if the project is located near more than one transit stop?
No, but additional points may be earned under Credit A-4 Innovative Design.
5. What is the definition of peak period?
Peak periods are the morning and evening commuting period when there is the most traffic. For Howard County, the peak periods are 5:30 - 9:00 a.m. and 3:00 - 6:30 p.m. on weekdays.
6. Can points be awarded for providing a private transit system that will link with a public transit system (because the public system station is too far away)?
Yes. Credits will be awarded if the private service is provided as part of a Transportation Demand Management Plan approved by DPZ. The private system must provide adequate service and have a provision for long-term funding (minimum 10 years).

B-3b Transit Access & Amenities for Reduced Auto Dependence (Shelter)

Points: 4

Intent

Provide enhanced transit access and amenities to encourage increased transit use, which reduces auto dependence and single-occupancy vehicle miles traveled.

Criteria

Provide a County-specified transit shelter, which includes benches and lighting, for at least one existing or proposed transit stop. The transit stop must be within a ½ mile walking distance from at least 50% of the dwelling units. If the transit stop is proposed, submit documentation prior to final approval of the Site Development Plan from the transit provider confirming that a transit stop will be provided.

Green Development Plan Submittals

- Provide all Green Development Plan Submittals information required for B-3a.
- Provide a letter from the Transportation Planning Division within DPZ, confirming that a shelter has been approved.
- Provide a note indicating which stop will be provided with a shelter, benches, and lighting.

Questions and Interpretations

1. What is the process for providing the shelter, benches, and lighting?
Contact Brian Muldoon in the Transportation Planning Division in the Department of Planning and Zoning, to coordinate with the Department of Public Works and the State Highway Administration, if applicable. These points can only be obtained if the Transportation Planning Division approves the need for the transit shelter. Developers will pay a fee-in-lieu of providing the shelter and Howard Transit will install the shelter. If the development is located in the Route 1 Corridor, the amenities provided should follow the Route 1 Manual guidelines.
2. Is the developer responsible for maintaining the transit shelter?
The County will maintain shelters for public transit service and the developer will maintain shelters for private transit service.
3. Is it possible to earn more than four points if two or more County-specified transit shelters are provided?
No, but additional points may be earned under Credit A-4 Innovative Design.

B-4 Proximity to Community Resources

Points: 1 to 5

Intent

Encourage development that has a wide range of nearby community resources and provide pedestrian access to these resources to reduce auto dependence.

Criteria

Locate the project near existing or proposed community resources. One point is awarded for each type of community resource located within a ½ mile walking distance from at least 50% of the dwelling units (up to 4 points).

AND

Provide a pedestrian link to each community resource if none currently exists (1 additional point).

Up to 5 points total can be earned with this credit.

Qualifying types of community resources are listed below.

school	senior care center	place of worship
park	community center	restaurant
library	medical office	farmer's market
post office	retail & service retail	athletic field
child care center	fitness center	

Green Development Plan Submittals

- Provide a vicinity map (minimum scale of 1" = 600' or 1000') locating each community resource type and the dwelling units. Highlight on the map the qualifying ½ mile pedestrian link from 50% of the dwelling units to each community resource.
- Provide a table listing the community resource, the building number for each dwelling unit that meets the criteria, and the total number of dwelling units that meet the criteria.
- If a resource is classified as "other", then provide a narrative justifying the resource as a community resource.

Credit B-4			
Community Resource	Building Numbers for Units within ½ Mile	Total Number of Qualifying Units	% of All Units
Summary			
Total Number of Qualifying Resources			

Questions and Interpretations

1. Can credit be given for nearby community resources if they are planned but not yet built?
 Credit may be granted if the resource(s) will be completed or under construction prior to Site Development Plan approval.

2. How is walking distance measured?
 Walking distance is measured along an unobstructed sidewalk or pedestrian pathway (existing or proposed), from the community resource to a point opposite the main entrance to the individual dwelling unit or multi-family building. The sidewalk or pedestrian pathway should not necessitate crossing any streets that have speed limits greater than 25 miles per hour, unless those crossings have vehicle traffic controls such as signals and stop signs with crosswalks.

3. What are the standards for a “pedestrian link”?
 Pedestrian links are unobstructed sidewalks or pedestrian pathways that do not necessitate crossing any streets that have speed limits greater than 25 miles per hour, unless those crossings have vehicle traffic controls such as signals and stop signs with crosswalks.

4. Can mixed-use buildings providing multiple community resources earn one point for each type of resource?
 Yes.

C-1 Diversity of Uses

Points: 1 to 3

Intent

Encourage development with a mix of land uses and housing types to reduce auto dependence, enable a variety of citizens to live within the community, and promote pedestrian access.

Criteria

Provide a variety of land uses and housing types, as specified below:

- For nonresidential land use (retail, office, institutional, civic): One point is awarded for each nonresidential land use type provided. A minimum of 100 square feet for each type of nonresidential land use must be provided for each dwelling unit.
- For housing type: One point is awarded for each additional housing type provided (Single Family Detached, Single Family Attached, Apartments, Age Restricted). Each additional housing type provided must be a minimum of 20% of the total dwelling units.

AND

Provide pedestrian links between the various land uses and housing types if none currently exists.

Up to 3 points total can be earned with this credit.

Green Development Plan Submittals

- Provide a table documenting the square footage of each nonresidential land use, the number of dwelling units, and the percentage of total dwelling units for each housing type.

Credit C-1		
Residential Uses (List all that apply)	Number of Units	Percent of Total Units
Single Family Detached (not Age Restricted)		
Single Family Attached (not Age Restricted)		
Apartments (not Age Restricted)		
Age-Restricted Units (specify SFD, SFA or Apts)		
Total Units		
Nonresidential Uses (List all that apply)	Square Feet	Square Feet per Dwelling Unit
Retail		
Office		
Institutional		
Civic		

- For phased projects, provide a phasing plan that shows the concurrent construction of the nonresidential uses and variety of housing types.

Questions and Interpretations

1. What are institutional and civic land uses?

Institutional and civic uses are uses open to the public.

Institutional uses include:

government structures, facilities and uses
public schools and colleges
hospitals

Civic uses include:

athletic fields	libraries
tennis clubs	nonprofit clubs
athletic centers	lodges and community halls
health clubs	areas and structures for religious activities
swimming pools	volunteer fire departments
museums	

2. What are the standards for a “pedestrian link”?

Pedestrian links are unobstructed sidewalks and pathways that do not necessitate crossing any streets that have speed limits greater than 25 miles per hour, unless those crossings have vehicle traffic controls such as signals and stop signs with crosswalks.

3. Can mixed-use buildings encompassing multiple land uses earn one point for each type of land use?
Yes, as long as each type of land use is a minimum of 100 square feet per dwelling unit.

4. Is it possible to earn 3 points under this credit if two types of housing are provided and one housing type also includes age restricted housing?
Yes.

5. Is it possible to earn more than 3 points if 4 or more land uses and/or housing types are provided?
No, but additional points may be earned under Credit A-4 Innovative Design.

6. Can the variety of land uses and housing types be provided in future project phases?
No, the uses must be built concurrently.

C-2 Planned Service Area

Points: 5

Intent

Direct development to areas with existing service and infrastructure to promote compact development, preserve open space, and ensure access to adequate public facilities.

Criteria

Locate the project within the County Planned Service Area.

Green Development Plan Submittals

- Provide a note indicating the property is within the Planned Service Area.

Questions and Interpretations

1. Where is the County Planned Service Area?

The Planned Service Area map is available from the Department of Planning and Zoning (DPZ) and the DPZ website.

C-3a Pedestrian System (Paths and Trails)

Points: 2

Intent

Promote walkable neighborhoods and healthy lifestyles through internal pedestrian connections and recreational opportunities.

Criteria

Provide an off-street pathway or trail system in addition to the required sidewalks. The pathway or trail system must meet all of the following:

- have at least 2 connections that are a minimum 5 feet wide to internal or external sidewalks
- have minimal impacts on sensitive environmental resources, including control of stormwater runoff
- have long-term maintenance

AND

- For paved pathways:
 - Minimum of 5 feet wide
- For unpaved trails:
 - Areas with slopes equal to or less than 25%: Minimum of 5 feet wide
 - Areas with slopes greater than 25%: Minimum of 2 feet wide to maximum of 3 feet wide

A continuous loop at least ¼ mile long that serves the majority of the dwelling units is preferred, unless site size and/or environmental conditions restrict the length and location of the system.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide a narrative describing how the pathway or trail system will be constructed, including methods for clearing vegetation and protecting sensitive environmental resources, methods for controlling runoff and erosion, construction materials to be used, the reason for using these materials and the location where these materials will be used, the length of the path, how connections will be made to internal or external sidewalks, how long-term maintenance will be assured, and the possible recreational opportunities. Indicate if other credits in the Green Neighborhood checklist also apply (for example, the use of water permeable materials).
- Final Plan and/or Site Development Plan
 - Provide construction details for the pathway or trail system.

Questions and Interpretations

1. What techniques should be used to minimize impacts to sensitive environmental resources?

Sensitive environmental resources include forests, steep slopes, wetlands and streams and their associated buffers, and floodplains. Techniques to minimize impacts can include: plan the trail location to avoid these areas, minimize the trail width, limit clearing of forested vegetation, use

elevated boardwalks and bridges to cross areas with water resources, use permeable materials such as mulch for the trail itself, and use the smallest equipment possible for any required clearing and grading.

2. Who will maintain the trail system and is there a minimum number of years that the trail has to be maintained for?

The homeowners association or property manager will be responsible for maintaining the trail system in perpetuity.

3. What are the requirements for the connections?

The connections can be paved or unpaved, as long as they are a minimum of 5 feet wide.

4. Are any portions of the pathway or trail system and connections permitted to be within stream and wetland buffers, floodplain and/or steep slope areas?

Pathway or trail systems and connections may not be located in regulated floodplains, stream and wetland buffers, or steep slope areas without an approved waiver of Section 16.115 and/or 16.116 in the Subdivision and Land Development regulations. Pathway or trail systems and connections may be located in extended stream, wetland and floodplain buffers, steep slope buffers, and protected areas with slopes of 15 to 24.9% that are provided to meet other Green Neighborhood credits, if the disturbance is deemed necessary by DPZ.

5. Do the required sidewalks have to comply with this credit criteria?

No.

6. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the Green Development Plan submittals for the Preliminary Equivalent Sketch Plan also required?

Yes. However, the narrative may be modified to include only those items not addressed by the construction drawings.

C-3b Pedestrian System (Connections)

Points: 2

Intent

Promote walkable neighborhoods and healthy lifestyles through pedestrian connections to nearby communities and recreational opportunities.

Criteria

In addition to earning credit C-3a, provide at least one connection, a minimum 5 feet wide, from the Green Neighborhood pathway or trail system to a pathway or trail system in an adjacent neighborhood. The pathway or trail system in the adjacent neighborhood should comply with the criteria in C-3a.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide a vicinity map (minimum scale of 1" = 600' or 1000') indicating the location and layout of the adjacent trail system, connection(s) to the Green Neighborhood pathway or trail system, and, if applicable, connection(s) from the adjacent trail system to the adjacent neighborhood's sidewalk system.
 - Provide a narrative describing how the trail system connections will be constructed, including methods for clearing vegetation and protecting sensitive environmental resources, methods for controlling runoff and erosion, construction materials to be used, the reason for using these materials and the location where these materials will be used, the length of the connection, how long-term maintenance will be assured, and the possible recreational opportunities. Indicate if other credits in the Green Neighborhood checklist also apply (for example, the use of water permeable materials).
- Final Plan and/or Site Development Plan
 - Provide construction details for the pathway or trail system connections.

Questions and Interpretations

1. How can points be awarded if there are no pathway systems in nearby neighborhoods?
If there is no adjacent trail system, then credit cannot be given.
2. Can points be earned if the adjacent trail system is proposed but not yet built?
The adjacent trail system must be under construction prior to final Site Development Plan approval for credit to be given.
3. Can the applicant also provide a pathway or trail system in the nearby neighborhood?
Yes, and this off-site system may be considered for points under A-4 Innovative Design. The applicant would need written agreement from the adjacent property owner that a trail system is acceptable on their property. The applicant must make arrangements for long-term maintenance of the off-site system, and design and construction of the off-site system must comply with the criteria given in C-3a. The off-site system must be under construction prior to final Site Development Plan approval for credit to be given.

4. Can this credit be awarded without earning credit C-3a?

No. Credit C-3a must be earned because it provides the pathway or trail system within the Green Neighborhood, which is then connected to an adjacent pathway or trail system to earn this credit.

5. What are the requirements for the connections?

The connections can be paved or unpaved, as long as they are a minimum of 5 feet wide.

6. Are any portions of the pathway or trail system and connections permitted to be within stream and wetland buffers, floodplain, and/or steep slope areas?

Pathway or trail systems and connections may not be located in regulated floodplains, stream and wetland buffers, or steep slope areas without an approved waiver of Section 16.115 and/or 16.116 in the Subdivision and Land Development regulations. Pathway or trail systems and connections may be located in extended stream, wetland and floodplain buffers, steep slope buffers, and protected areas with slopes of 15 to 24.9% that are provided to meet Green Neighborhood credits, if the disturbance is deemed necessary by DPZ.

7. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the Green Development Plan submittals for the Preliminary Equivalent Sketch Plan also required?

Yes. However, the narrative may be modified to include only those items not addressed by the construction drawings.

C-3c Pedestrian System (Amenities)

Points: 2

Intent

Provide an enhanced pedestrian experience to promote walkable neighborhoods and healthy lifestyles.

Criteria

Provide at least two different pedestrian experience features along required sidewalks and/or optional pedestrian pathway or trail systems. The features should meet the needs of the intended users.

Pedestrian experience features include:

special paving	shelter from the elements (shade trees, awnings)
benches	exterior lighting for safety and comfort
bike racks	informational/educational kiosks
fitness stations	

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide a note indicating the number, type and location of features to be provided and if other credits in the Green Neighborhood checklist also apply (for example, using environmentally preferable products).
- Final Plan and/or Site Development Plan
 - Provide construction details and/or a schedule of furnishings.

Questions and Interpretations

1. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the Green Development Plan submittals for the Preliminary Equivalent Sketch Plan also required?
Yes.
2. What is the minimum size or quantity required for each pedestrian experience feature to be provided?
The proposed feature should be in scale with the project size and the extent of the pathway or trail system.

C-4 Street Connections

Points: 1 to 2

Intent

Promote walkable neighborhoods with internal public and private street connections and networks to increase citizen activity and interaction, and promote alternative transportation options.

Criteria

Provide streets forming connected grids or blocks throughout the project. Qualifying streets must have at least two internal street connections. Points are awarded based on the percentage of streets that are in the connected system, measured by the street centerline, as specified below:

Streets in Connected System	Points Awarded
50 – 74%	1
75% or more	2

Connections made through parking lots do not count toward this credit.

Green Development Plan Submittals

- Provide a table indicating the percentage of streets forming grids and blocks within the street network.

Street Name or Number	Street Length (ft)	Qualifying Street (Yes/No)
Summary		
Total Street Length (ft)		
Total Connected Street Length (ft)		
Percent Connected Streets		

Questions and Interpretations

- Will points be awarded if there is only one entrance in and out of the neighborhood site?
Yes, points will still be awarded according to the above chart if only one entrance/exit exists, because many developments will only be allowed or required to have one access road.
- Are cul-de-sacs allowed?
Yes, cul-de-sacs are allowed but will not qualify as a connected street.
- Do perimeter streets count as part of the street network?
New perimeter streets (that is, streets surrounding the project) built as part of the project can count as part of the street network for this credit.

4. Do alleys count as part of the street network?

Yes, alleys can count as part of the street network for this credit as long as they are publicly accessible.

C-5 Parking Does Not Exceed Required Minimum

Points: 2 to 4

Intent

Discourage the provision of excess parking, particularly in large surface parking lots, to promote compact development, preserve open space, and reduce auto dependence.

Criteria

Provide surface parking lots that do not exceed required parking ratios (1 point).

AND/OR

Implement shared parking provisions in regulations (2 points).

AND/OR

Provide common parking structure(s) (in deck or beneath building) (4 points).

Up to 4 points total can be earned with this credit.

Green Development Plan Submittals

- Provide a table indicating the number of parking spaces required, the number of spaces provided, the number of spaces that will be shared, the number of spaces within a parking structure, and the number of spaces in surface parking lots.

Credit C-5	
Number of Parking Spaces Required	
Number of Spaces Provided	
Number of Shared Spaces	
Number of Spaces within a Parking Structure	
Number of Spaces in Surface Parking Lots	

Questions and Interpretations

1. Will on-street parking provided within the public right-of-way count toward excess surface parking?
No, it will not be counted as excess parking. If parking will be provided within the right-of-way, the Green Development Plan should indicate the number of spaces provided in this location. The Department of Planning and Zoning may allow guest parking within the right-of-way.
2. Is parking for single family detached units eligible for this credit?
No.
3. Is parking for single family attached units eligible for this credit?
Parking provided within garage units is not eligible for this credit, but parking provided within parking lots is eligible, as long as it complies with the credit criteria.

4. Is parking for stacked townhouse units eligible for this credit?
If parking is provided through a combination of shared garages and parking lots, then it is eligible. If parking is provided only through in-unit garages, it is not eligible.

5. Is there a minimum Solar Reflectance Index (SRI) requirement for the roof of the parking deck?
No, but additional points may be earned under Credit A-4 Innovative Design if the roof of the parking deck has an SRI of at least 29.

C-6 Exceed Minimum Open Space Requirements

Points: 1 to 5

Intent

Encourage the provision of additional on-site open space to enhance resource protection and recreational opportunities.

Criteria

Provide additional open space to exceed the minimum required open space for the applicable zoning district. One point is awarded for every 5% increase in open space provided above the minimum (up to 5 points).

AND/OR

Provide additional non-buildable preservation parcel acreage. One point is awarded for every 10% increase in non-buildable homeowners association-owned (HOA) or County-owned preservation parcel acreage provided above a minimum 50% of the gross site acreage (up to 3 points).

Up to 5 points total can be earned with this credit.

Green Development Plan Submittals

- Provide a table indicating the required open space, the provided open space, and the percentage increase above the minimum required; and/or the required preservation parcel acreage (50% of the gross site acreage), the provided acreage, and the percentage increase above the minimum required.

Credit C-6	
Required Open Space Acreage	
Provided Open Space Acreage	
Percent Increase above the Minimum Required	
Required Preservation Parcel Acreage (50% minimum)	
Provided Preservation Parcel Acreage	
Percent Increase above the Minimum Required	

Questions and Interpretations

- How will this credit be measured for zoning districts that allow residential uses but do not have an open space requirement, such as the Corridor Activity Center zoning district?
 If a zone allows residential uses and has an amenity area requirement, the amenity area requirement can be used to qualify for this credit. The Corridor Activity Center (CAC) and Transit Oriented Development (TOD) zoning districts require a 10% amenity area. To qualify for this credit in the CAC or TOD zone, the proposed development must exceed the required amenity area by 5% for each point earned. This increased amenity area must also be designed / developed in accordance with the applicable CAC or TOD requirements. If a zone allows

residential uses but does not have an open space or amenity area requirement, it will not be eligible for this credit.

2. Can vegetated/green roofs count as open space?

No. Vegetated/green roofs do not meet the intent of this credit.

3. Can wetlands and ponds count as open space?

Wetlands and ponds designed as site amenities or to provide habitat value do meet the intent of this credit as long as the side slopes of the pond average 1:4 (vertical:horizontal) or less and are vegetated. Wetlands and ponds used for stormwater management or regulatory mitigation will not count toward this credit.

4. Can the open space or preservation parcel be located outside the project boundaries?

No.

5. Can this credit be earned for a preservation parcel created off-site as part of a density transfer subdivision?

No.

C-7 Green Spaces and Amenity Areas

Points: 1 to 2

Intent

Encourage the provision of additional green spaces and amenity areas that are accessible to the public and developed with features to enhance recreational opportunities.

Criteria

Provide open space or non-buildable preservation parcel with a minimum of 100 feet frontage along a public road or along a private road that is available for public use AND provide a minimum 1,000 square foot amenity area within the open space or preservation parcel. One point is awarded for each parcel that meets this criteria (up to 2 points).

The open space or preservation parcel must meet the minimum open space width requirements in the Subdivision and Land Development regulations.

Amenity areas can include the following:

- swimming pools picnic areas
- clubhouses community gardens
- recreational fields playgrounds

Use of the amenity areas for passive or active recreation (except for pools and enclosed buildings) must be available to the public as well as the residents. Gated communities are not eligible for this credit. Features to enhance recreational opportunities such as pathways or sidewalks, plazas, landscaping, ornamental paving and lighting, benches, and picnic tables are encouraged.

Green Development Plan Submittals

- Provide a table that indicates parcel size and road frontage, and amenity type and size for each parcel that meets this criteria.

Credit C-7				
Parcel	Parcel Size (acres)	Road Frontage (feet)	Amenity Type	Amenity Area (square feet)

Questions and Interpretations

1. Can the amenity areas be closed to the public at night and still be eligible for these points?
Yes, these areas may be closed to the public at night for security reasons and still be eligible for these points.
2. Can the green spaces and amenity areas be located outside the project boundaries?
No.

3. Do the green spaces and amenity areas have to be contiguous or can they be several smaller areas?
The green spaces and amenity areas can be several smaller areas, as long as they meet the size criteria for this credit.

D-1 Stream Restoration or Wetland Creation or Restoration

Points: 2 to 16

Intent

Increase the restoration of degraded stream channels and wetlands, and/or create additional wetlands, in order to improve water quality, natural hydrology, and habitat conservation.

Criteria

Restore degraded streams and wetlands and/or create additional wetlands on-site. All stream and wetland restoration and creation must provide a net ecological benefit and cannot be used for mitigation or banking purposes. Points are awarded as specified below:

- **Stream Restoration**

Degraded streams will be defined using a combination of a stream corridor assessment survey (SCA) and a rapid stream habitat assessment (RSHA). The SCA will identify problem sites and the RSHA will document habitat conditions. The RSHA should be performed at representative locations at a minimum of every 500 feet, with at least two samples per site and an upstream and downstream assessment for any problem area identified for restoration. The RSHA will classify habitat as optimal, suboptimal, marginal, or poor. Streams with identified problem areas and habitat assessed as marginal or poor will qualify for restoration. Restoration should repair the degraded stream to a natural stream channel with an optimal ranking on the RSHA.

Perennial streams on-site should be prioritized for restoration above degraded intermittent streams. Points are awarded based on the length of stream channel restored, as follows:

Length of Stream Restoration (in feet)	Points Awarded
100 feet minimum	2
101 – 200	4
201 – 300	6
301 – 400	8
401 – 500	10
501 – 600	12
601 – 700	14
701 – 800	16

AND/OR

- **Wetland Restoration or Creation**

Degraded wetlands will be defined using a rapid wetland assessment (RWA) that classifies the wetland type and the level and type of disturbance (farming, draining, filling, invasive species, water pollution, etc.) Restoration should return the natural/historic functions to the degraded wetland. Points are awarded based on the area of restoration and/or creation, either within a single wetland area, or contiguous with several wetland or stream systems, whichever provides the greatest net benefit. Creation of wetlands under 1 acre in size must be adjacent to an existing wetland.

Area of Wetland Restoration and/or Creation (in square feet)	Points Awarded
5,000 – 10,000	2
10,001 – 20,000	4
20,001 – 30,000	6
30,001 – 40,000	8
40,001 – 50,000	10
50,001 – 60,000	12
60,001 – 70,000	14
70,001 or greater	16

Up to 16 points total can be earned with this credit.

Green Development Plan Submittals

Stream Restoration

- Preliminary Equivalent Sketch Plan
 - Provide a stream corridor assessment and a rapid stream habitat assessment.
 - Provide a report that summarizes the current stream conditions, indicates the location and length of the stream to be restored, explains how the restoration will be done with the expected results, and includes a timeframe for construction and monitoring for the stream restoration.
 - Provide a copy of the MDE permit application. The County strongly encourages a pre-application meeting with MDE prior to submitting the SP to improve the success rate and the approval rate of the project.

- Final Plan and/or Site Development Plan
 - Provide full stream restoration design plans.
 - Provide an MDE permit number and a signed Letter of Intent.

Wetland Restoration and/or Creation

- Preliminary Equivalent Sketch Plan
 - Provide a rapid wetland assessment.
 - Provide a report that summarizes the current wetland condition (if applicable), indicates the location and acreage of the wetland restoration or creation, explain how the restoration or creation will be done with the expected results, and includes a timeframe for construction and monitoring for the restoration and/or creation.
 - Provide a copy of the MDE permit application. The County strongly encourages a pre-application meeting with MDE prior to submitting the SP to improve the success rate and the approval rate of the project.

- Final Plan and/or Site Development Plan
 - Provide full wetland restoration and/or creation design plans.
 - Provide an MDE permit number and a signed Letter of Intent.

Questions and Interpretations

1. How can one learn more about the Stream Corridor Assessment, Rapid Stream Habitat Assessment and/or Rapid Wetland Assessment methodologies?

Examples of SCAs that include RSHAs are available on the Stormwater Management web page: http://www.co.ho.md.us/DPW/watershed_management.htm

For information on the RWA, see the Ohio Rapid Assessment Method for Wetlands v. 5.0. The document and scoring forms are available at <http://www.epa.state.oh.us/dsw/401/#WQCIWP> (see Version 5.0 Users Manual, ORAM Version 5.0 Scoring Forms and ORAM Version 5.0 Field Scoring Forms). The Maryland Department of Natural Resources (MDNR) and the Maryland Department of the Environment are currently developing a Maryland Rapid Wetland Assessment methodology. In the interim, MDNR recommends using the Ohio RWA method.

2. What is the required timeline for completing restoration or creation and is monitoring required? Restoration or creation must be completed within 3 years of the final approval of the site development plan. The County will hold a 3-year security to ensure completion and success of the project. MDE permits require monitoring for 5 years following construction completion. Provide a copy of all monitoring reports to the Department of Planning and Zoning.
3. Can stream and wetland restoration and/or creation be done off-site?
Off site restoration and creation within the same (1) stream reach, or (2) NPDES subwatershed will be considered for points under the following conditions:
 - There are no on-site streams or wetlands and the site does not have the hydrology to support wetland creation.
 - The on-site streams or wetlands are not degraded or a net benefit from restoration is not possible.
 - On-site restoration and creation has been maximized but the full 16 points has not been achieved and the applicant wishes to gain additional points by going off-site.
4. Can points be awarded for doing upstream stormwater management to control off-site flows as part of the stream restoration?
Credit may be granted under A-4 Innovative Design or F-3b Stormwater Treatment.
5. Can points be awarded if development is removed from the buffer zone as part of the stream or wetland restoration?
If development is removed and the buffer is restored to native vegetation, points may be awarded for A-4 Innovative Design or D-6 Exceed Minimum Forest Conservation Requirements.
6. If both stream restoration and wetland restoration or creation, are done on- or off-site, how many points will be awarded?
The maximum number of points available for this credit is 16. Points can be divided between successful restoration of streams or wetlands, or wetland creation, both on- and off-site, as long as there is a net environmental benefit. If a restoration or creation project is successfully completed to achieve the maximum points (16), and a second project is completed that would be eligible for restoration or creation credit, points will be considered under the A-4 Innovative Design credit instead.

7. Can points be awarded if only a portion of a degraded stream or wetland is restored?
Points will be awarded for any length of stream or area of wetland restored to optimal conditions, as long as the County finds a net benefit in restoring only that portion of the resource.
8. Is a waiver of Section 16.116 needed for restoration or creation of resources?
No, a waiver is not needed under these circumstances and the project will be considered an essential disturbance.
9. Why are points not awarded for non-contiguous created wetlands that are smaller than 40,000 square feet?
MDE typically only allows the creation of non-contiguous wetlands over 1 acre because smaller created wetlands are rarely successful.
10. Do constructed wetlands created to treat stormwater runoff or wastewater on-site count as a created wetland?
No, but credit may be granted under A-4 Innovative Design for wetlands used to treat wastewater.
11. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the Green Development Plan submittals for the Preliminary Equivalent Sketch Plan also required?
Yes.

D-2 Habitat Management Plan

Points: 4

Intent

Increase the protection and creation of native habitat areas.

Criteria

Develop and implement a long-term Habitat Management Plan focused on conserving, enhancing, and creating ecological communities. The Habitat Management Plan must include the plan sheet(s) and the written report that provide the following:

- Locate, identify, and assess the quality of all natural resources on, and adjacent to, the site. The Natural Resources Inventory can be used for this purpose.
- Identify existing habitat areas that need management and any new habitat areas that will be created.
- Identify threats that the proposed development poses to these areas and implementation actions to reduce these threats.
- Outline short- and long-term goals with corresponding implementation actions and timeframes, to manage the natural resources. Habitat management goals should include restoring native habitat and managing habitat for specific native wildlife species, including providing food, water, and cover.
- Estimate implementation costs.
- Indicate that a long-term Habitat Management Agreement and funding mechanism will be implemented with the designated homeowners association, council of unit owners or management organization. The Habitat Management Agreement shall be recorded as an attachment to the homeowners association or council of unit owners documents.

The developer shall be responsible for the implementation of short-term goals and actions. The homeowners association, council of unit owners or management organization shall be responsible for the implementation of long-term goals and actions for a minimum of 5 years.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide a Habitat Management Plan.
- Final Plan and/or Site Development Plan
 - Provide an executed Habitat Management Agreement.
 - Provide the following note on the plat and/or Site Development Plan: This property is subject to a Habitat Management Agreement which allows periodic inspections by the Department of Planning and Zoning.

Questions and Interpretations

1. What is the time frame for implementation?

The time frame for implementation will be defined in the Habitat Management Agreement.

2. Is there a required reporting mechanism for implementation?
The Department of Planning and Zoning or its designee will inspect as needed with minimum annual inspections.
3. Who is qualified to prepare the Habitat Management Plan?
An ecologist, environmental planner, wildlife biologist, or natural resource manager. The Howard Soil Conservation District may be willing to prepare Habitat Management Plans and enter into long-term Habitat Management Agreements, as a fee-for-service endeavor. Contact the Howard Soil Conservation District Manager at 410-489-7987 for additional information.
4. What are examples of implementation actions to manage the natural resources?
Implementation actions include removal of debris and trash, removal of invasive and exotic species, and planting additional native plants.
5. Is there a standard format for the Habitat Management Agreement?
Yes, a standard Habitat Management Agreement will be available on the Department of Planning and Zoning web page at: <http://www.co.ho.md.us/DPZ/Environment/environment.htm>
6. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the Green Development Plan submittals for the Preliminary Equivalent Sketch Plan also required?
Yes.

D-3 25% Steep Slope Preservation

Points: 2

Intent

Protect water quality and habitat and reduce erosion by maintaining naturally vegetated steep slopes.

Criteria

Meet County regulation requirements for protecting all existing steep slopes in their original state. Provide a minimum 25-foot buffer at the top of all regulated steep slopes on-site.

Green Development Plan Submittals

- Provide a note indicating all regulated steep slope areas will remain undisturbed and will have a 25-foot, undisturbed buffer at the top of the slope.

Questions and Interpretations

1. Is there a buffer requirement from the toe of the slope?
No.
2. Is there a vegetation requirement for the buffer?
Vegetative planting in the buffers is encouraged, but not required, and may allow for increased points awarded in Section E: Site Landscaping Improvements and Section D-6: Exceed Minimum Forest Conservation Requirements.
3. Can points be awarded if the limit of disturbance encroaches upon the 25-foot buffer but the encroached area will be restored after construction?
No.
4. Do existing slopes that were manufactured need to comply with the credit requirements in order to earn points?
Yes. For the purposes of this credit, manufactured and naturally occurring slopes are not distinguished. A manufactured steep slope has the same potential to negatively impact down-slope conditions.
5. Do newly created steep slopes need to comply with the credit requirements in order to earn the points?
No, this credit is only applicable to existing steep slopes.
6. Are there any permitted uses in the steep slope areas or buffers?
Pathway or trail systems and connections may be located in regulated steep slope areas with an approved waiver of Section 16.116 in the Subdivision and Land Development regulations. Pathway or trail systems and connections may be located in steep slope buffers provided to meet Green Neighborhood credits, if the disturbance is deemed necessary by Howard County Department of Planning and Zoning (DPZ). With the exception of incidental roadway or utility crossings deemed as necessary disturbances by DPZ, additional uses are generally not allowed.

D-4 15% Slope Preservation

Points: 1 to 4

Intent

Protect water quality and habitat, and reduce erosion by maintaining naturally vegetated steep slopes.

Criteria

Do not disturb existing slopes that are 15 to 24.9%. Existing slopes must be contiguous and a minimum of 20,000 square feet. Points are awarded based on the percent of slope that is left undisturbed, as specified below:

Percentage of Undisturbed Slope	Points Awarded
25%	1
26 to 50%	2
51 to 75%	3
76 to 100%	4

Green Development Plan Submittals

- Provide a table indicating the area of 15 to 24.9% slopes on-site, the area that will remain undisturbed, and the percentage of undisturbed slope.

Credit D-4	
Total Area of Slopes 15-24.9% (sq ft)	
Area of Undisturbed Slopes 15-24.9% (sq ft)	
Percent of Undisturbed Slopes 15-24.9%	

Questions and Interpretations

- Is there a vegetation requirement for the undisturbed slopes?
Vegetative planting in undisturbed areas are encouraged, but not required, and may contribute to points awarded in Section E: Site Landscaping Improvements and Section D-6 Exceed Minimum Forest Conservation Requirements. Ensure vegetative plantings are native and non-invasive.
- Can points be awarded if the limit of disturbance encroaches upon the existing undisturbed slope but the encroached area will be restored after construction?
No.
- Do existing slopes that were manufactured need to comply with the credit requirements in order to earn the points?
Yes. For the purposes of this credit, manufactured and naturally occurring slopes are not distinguished. A manufactured steep slope has the same potential to negatively impact down-slope conditions.
- Do newly created steep slopes need to be protected in compliance with the credit requirements in order to earn the points?
No, this credit is only applicable to existing slopes.

5. Are there any permitted uses in the 15 to 24.9% slope areas?

Pathway or trail systems and connections may be located in these areas, if the disturbance is deemed necessary by Howard County Department of Planning and Zoning (DPZ). With the exception of incidental roadway or utility crossings deemed as necessary disturbances by DPZ, additional uses are generally not allowed.

D-5 Minimize Grading and Site Disturbance

Points: 1 to 5

Intent

Minimize site disturbance to protect natural resources, retain natural topography, and minimize erosion and water pollution.

Criteria

Minimize site disturbance. Points are awarded and subtracted as specified below:

	Points Awarded
Leave 20 - 29% of the site undisturbed	1
Leave 30 - 39% of the site undisturbed	2
Leave 40% or more of the site undisturbed	3
Balance cut and fill on-site	2
Do not create new steep slopes over 25% slope	1
Amend soil nutrients in turf and planting areas	1

	Points Subtracted
Install retaining walls 3-5.9 feet	-1
Install retaining walls 6-8.9 feet	-2
Install retaining walls 9 feet or higher	-3

The site disturbance is calculated based on gross site area minus all areas with existing impervious cover.

Green Development Plan Submittals

- Provide a table documenting the percent of site to remain undisturbed, the ratio of cut to fill, and the retaining wall height.
- Provide a note to indicate there are no newly created steep slopes over 25%.
- Provide a narrative to indicate how and where turf and planting areas will have amended soil nutrients.

Credit D-5	
Gross Area of Site (acres)	
Existing Impervious Cover (acres)	
Area of Site (acres)	
Area of Site to Remain Undisturbed (acres)	
Percent of Site to Remain Undisturbed	
Ratio of Cut to Fill	
Retaining Wall Height (ft)	

Questions and Interpretations

1. How will the height of the retaining walls be measured?
 The height is measured from the top of the wall to the base of the soil in front of the wall. The average height for the length of all walls on the site will be used for consideration in subtracting points.

2. What are the requirements or guidelines for amending the soil?
 Site and soil conditions should to be evaluated prior to planting to determine if special preparation techniques may be needed. Nutrient, organic matter, soil texture, and other analyses may be required to determine necessary soil amendments or treatments, especially for disturbed sites. Consult the Forest Conservation Manual for more information about soil amendments.

3. What qualifies as “undisturbed”?
 “Undisturbed” is defined as areas outside the limits of disturbance that retain the natural soil profile and have not been graded. The only disturbances permitted in these areas would be the removal of invasive exotic plants or the supplemental planting of the area with native and non-invasive species.

4. Is it possible to score negative points for this credit?
 Yes, negative points may be assigned for this credit and subtracted from the total points. If the project results in negative points for this credit, this credit does not need to be pursued.

5. Can previously developed areas left untouched by the project count as “undisturbed”?
 No, see the definition of “undisturbed” above.

6. How is the balance of on-site cut and fill calculated?
 Grading activities must be within 10% of a 1.2:1 cut to fill ratio in order to balance cut and fill.

D-6 Exceed Minimum Forest Conservation Requirements

Points: 1 to 5

Intent

Conserve valuable forest areas to protect natural resources, quality of life, wildlife habitat, and water quality.

Criteria

Exceed the minimum forest retention and afforestation requirements as specified in the Howard County Forest Conservation Act. One point is awarded for every 10% of existing forest retained above the break-even point and/or one point is awarded for every 10% of on-site forest planted above the afforestation obligation. Additional forest retention and planting areas receiving points for this credit cannot be used for off-site mitigation or forest banking purposes.

Green Development Plan Submittals

- Provide a table indicating the forest retention and/or afforestation acreage and the percentage exceeding the requirements.

Credit D-6		
	Area (acres)	Percent
Retention Break Even Point		
Forest Retained above Break Even Point		
Afforestation Obligation		
Afforestation Provided in Excess of Obligation		

Questions and Interpretations

1. What are the requirements for afforested areas in regard to tree types, size, density, etc?
Additional plantings must meet the Forest Conservation Manual planting requirements.
2. Will the additional retained or planted forest require an increased surety and must the area be placed under a Forest Conservation Easement?
Yes, an additional surety and Forest Conservation Easement will be required.
3. Will points be awarded for off-site retention and/or afforestation if requirements are exceeded?
Off-site retention and/or afforestation are eligible for this credit if all priority retention and planting areas, as defined in the Forest Conservation Act and described in the Forest Conservation Manual, have been addressed on-site, and the planting location will benefit forest resources immediately adjacent to the site. For example, planting an additional off-site stream buffer for an on-site stream will benefit the on-site resources. The off-site retention and/or afforestation must also be within a ½ mile of the site to promote quality of life, walkability to forested areas, and water quality within the same watershed.

4. Will points be awarded for exceeding reforestation?

No, because in order to get a reforestation requirement the site had to be cleared below the break-even point or below the afforestation threshold. Points will not be awarded for clearing forested land and then reforesting.

5. Where can one get a copy of the Howard County Forest Conservation Act and Manual?

The Forest Conservation Act and the Forest Conservation Manual are available from the Department of Planning and Zoning website.

D-7 Save Trees above 12" Minimum Caliper

Points: 1 to 4

Intent

Protect and conserve existing medium to large trees, which aid in soil retention, water filtration and absorption, and air filtration.

Criteria

Protect existing specimen trees, defined as having a 12-inch minimum caliper, that are located outside forest conservation retention areas and outside forest areas being cleared. One point is awarded for every 25% of all specimen trees preserved.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Indicate and label all qualifying specimen trees and the retained trees on the Landscape Plan sheet.
 - Provide a note describing how the trees will be protected during the development process.
 - Provide a table demonstrating the percentage of specimen trees retained.

- Final Plan and/or Site Development Plan
 - Provide construction details and specifications.

Credit D-7	
Total Number of Specimen Trees	
Number of Specimen Trees Removed	
Number of Specimen Trees Retained	
Percent of Specimen Trees Retained	

Questions and Interpretations

1. How is caliper measured?
 The caliper is the tree diameter measured above the root collar in accordance with American Nursery and Landscape Association standards.

2. What does “protecting” specimen trees mean?
 The specimen tree must have a protective Limit of Disturbance defined as a circle around the tree with a radius of 1.5 feet for each 1.0 inch of Diameter at Breast Height.

3. Where can additional information on protecting trees be found?
 Additional information is available in the Howard County Forest Conservation Manual.

4. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the Green Development Plan submittals for the Preliminary Equivalent Sketch Plan also required?
 Yes.

D-8a Minimum Stream Buffer Requirements

Points: Required

Intent

Protect waterways from pollution, erosion, and sedimentation caused by stormwater runoff and preserve native wildlife habitat.

Criteria

Meet the minimum Green Neighborhood stream buffer requirements of 75 feet for perennial and intermittent streams inside the Planned Service Area (PSA) and 100 feet for perennial and intermittent streams outside the PSA.

Green Development Plan Submittals

- Provide a note indicating that the required buffers will be provided.

Questions and Interpretations

1. Are there vegetative or planting requirements for the buffer?
No requirements exist; however, forested buffers are strongly preferred. Other options for the vegetated buffer include: turf, meadows, ground cover, shrubs, and perennial plants. Turf buffers are least preferred. If the buffer is currently in turf, the floodplain area (if applicable) and buffer should be planted with native and non-invasive forest vegetation. Additional points may be awarded for reforesting the floodplain and buffer under D-6 Forest Conservation and Section E: Landscape Improvements.
2. Are there any permitted uses for the buffer?
Stream buffers are designed as protected areas to reduce runoff and erosion, as well as provide habitat. Pathway or trail systems and connections may not be located in regulated floodplains, stream and wetland buffers, or steep slope areas without an approved waiver of Section 16.115 and/or 16.116 in the Subdivision and Land Development regulations. Pathway or trail systems and connections may be located in extended stream, wetland and floodplain buffers, steep slope buffers, and protected areas of 15 to 24.9% slopes that are provided to meet Green Neighborhood credits, if the disturbance is deemed necessary by Howard County Department of Planning and Zoning (DPZ). With the exception of incidental roadway or utility crossings deemed as necessary disturbances by DPZ, additional uses are generally not allowed.
3. What percentage of stream does the buffer need to include?
The required buffer must surround 100% of all streams on the site. Incidental roadway and utility crossings deemed as necessary disturbances are the only exception for not surrounding 100% of the stream on-site.
4. Do the buffers need to be located within open space or preservation parcels?
Yes, buffers need to be located in open space for lots less than 10 acres or on preservation parcels.

5. Can a buffer be cleared, graded, and then restored?

No, points will not be awarded for buffers that are disturbed and then restored. The only allowable disturbance is for afforestation and landscaping, and incidental roadway and utility crossings deemed as necessary disturbances.

6. Are existing structures and impervious surfaces located in the buffers and left untouched by the project permitted?

No. Buffer areas containing existing structures and impervious surfaces are not eligible for this credit. If the existing structures and impervious surfaces are removed, then they can contribute to credit compliance.

7. What setbacks are required from the buffer?

Setbacks from the Green Neighborhood buffers are the same as setbacks from regulated buffers. Therefore, principal structures must be set back 35 feet from the Green Neighborhood buffer.

D-8b Exceed Minimum Stream Buffer Requirements

Points: 2 to 6

Intent

Protect waterways from pollution, erosion, and sedimentation caused by stormwater runoff and preserve native wildlife habitat.

Criteria

Exceed the minimum Green Neighborhood stream buffer requirements of 75 feet for perennial and intermittent streams inside the Planned Service Area (PSA) and 100 feet for perennial and intermittent streams outside the PSA, as described in D-8a. Two points are awarded for every 25 feet of additional stream buffer outside of the wetland and/or floodplain buffer. To qualify for this credit, at least 50% of the additional 25-foot buffer must fall outside of the required or provided wetland and/or floodplain buffer, whichever is greater. See the diagram below for clarification.

Green Development Plan Submittals

- Provide a table indicating the width and length of the additional buffer, and the percentage of additional stream buffer outside the required or provided wetland and/or floodplain buffers.

Credit D-8b		
	Stream Location	
	Inside PSA	Outside PSA
Total Stream Buffer Width (ft)		
Width of Buffer Exceeding Requirements (ft)		
Total Length of Stream Buffer (ft)		
Length of Stream Buffer Outside Other Buffers (ft)		
Percent of Stream Buffer Outside Other Buffers		

Questions and Interpretations

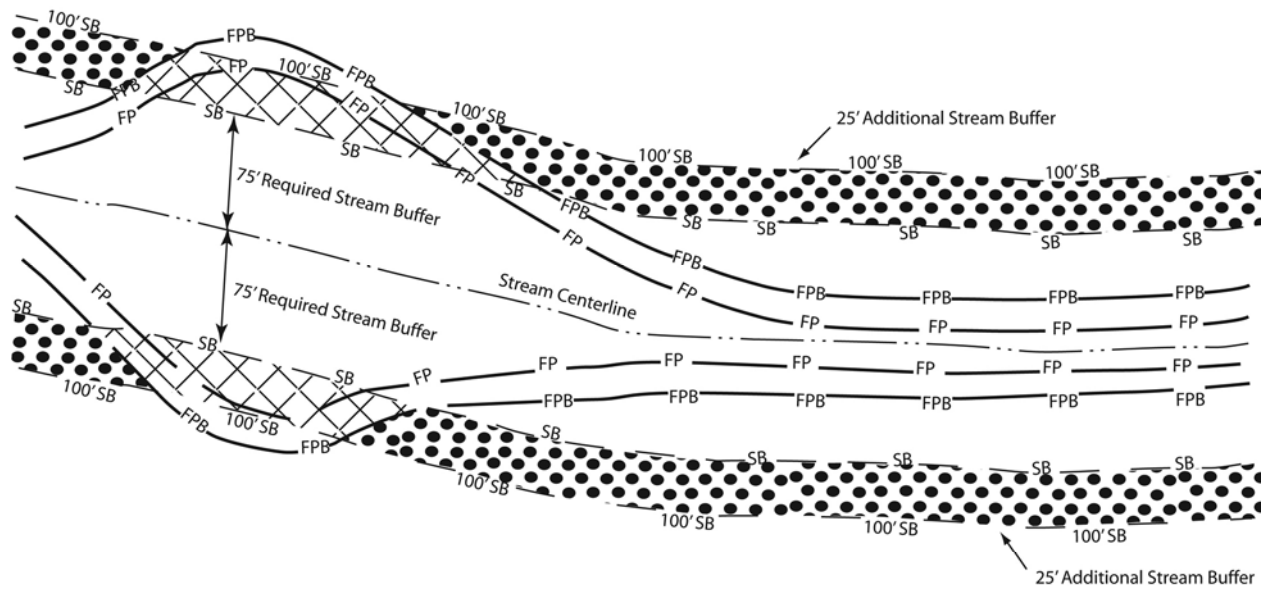
1. Are there vegetative or planting requirements for the buffer?
 No requirements exist; however, forested buffers are strongly preferred. Other options for the vegetated buffer include: turf, meadows, ground cover, shrubs, and perennial plants. Turf buffers are least preferred. If the buffer is currently in turf, the floodplain area (if applicable) and buffer should be planted with native and non-invasive forest vegetation. Additional points may be awarded for reforesting the floodplain and buffer under D-6: Forest Conservation and Section E: Landscape Improvements.



2. Are there any permitted uses for the buffer?
 Stream buffers are designed as protected areas to reduce runoff and erosion, as well as provide habitat. Pathway or trail systems and connections may not be located in regulated floodplains, stream and wetland buffers, or steep slope areas without an approved waiver of Section 16.115 and/or 16.116 in the Subdivision and Land Development regulations. Pathway or trail systems and connections may be located in extended stream, wetland and floodplain buffers, steep slope buffers, and protected areas of 15 to 24.9% slopes that are provided to meet Green Neighborhood

credits, if the disturbance is deemed necessary by Howard County Department of Planning and Zoning (DPZ). With the exception of incidental roadway or utility crossings deemed as necessary disturbances by DPZ, additional uses are generally not allowed.

3. What percentage of stream does the increased buffer need to include?
Every 25-feet of additional buffer must surround 100% of the required stream buffer for all streams on the site, with at least 50% of the buffer falling outside of the required or provided floodplain and/or wetland buffers, whichever is greater. See the diagram below for clarification. Incidental roadway and utility crossings deemed as necessary disturbances are the only exception for not surrounding 100% of the stream on-site.
4. Do the buffers need to be located within open space or preservation parcels?
Yes, buffers need to be located in open space for lots less than 10 acres or on preservation parcels.
5. Can a buffer be cleared, graded, and then restored?
Points will not be awarded for buffers that are disturbed and then restored. The only allowable disturbance is for afforestation and landscaping, and incidental roadway and utility crossings deemed as necessary disturbances.
6. Are existing structures and impervious surfaces located in the buffers and left untouched by the project permitted?
No. Buffer areas containing existing structures and impervious surfaces are not eligible for this credit. If the existing structures and impervious surfaces are removed, then they can contribute to credit compliance.
7. What setbacks are required from the extended buffer?
Setbacks from extended buffers are the same as setbacks from regulated buffers. Therefore, principal structures must be set back 35 feet from the extended buffer.

Diagram D-8b Stream Buffer



-  25' additional stream buffer outside of existing floodplain and/or wetland buffers, whichever is greater. **This area must equal 50% or more of the total stream buffer.**
-  25' additional stream buffer inside existing floodplain and wetland buffers.

D-9 Exceed Minimum Wetland Buffer Requirements

Points: 2 to 4

Intent

Protect waterways from pollution, erosion, and sedimentation caused by stormwater runoff and preserve native wildlife habitat.

Criteria

Exceed the minimum wetland buffer requirement of 25 feet. Two points are awarded for every 25 feet of additional wetland buffer outside of the stream and/or floodplain buffer. To qualify for this credit, at least 50% of the additional 25-foot buffer must fall outside of the required or provided floodplain and/or stream buffer, whichever is greater. See the diagram below for clarification.

Green Development Plan Submittals

- Provide a table indicating the width and length of the additional buffer, and the percentage of additional wetland buffer outside the required or provided stream and/or floodplain buffers.

Credit D-9	
Total Width of Wetland Buffer (ft)	
Width of Buffer Exceeding Requirements (ft)	
Total Length of Wetland Buffer (ft)	
Length of Wetland Buffer Outside Other Buffers (ft)	
Percent of Wetland Buffer Outside Other Buffers	

Questions and Interpretations

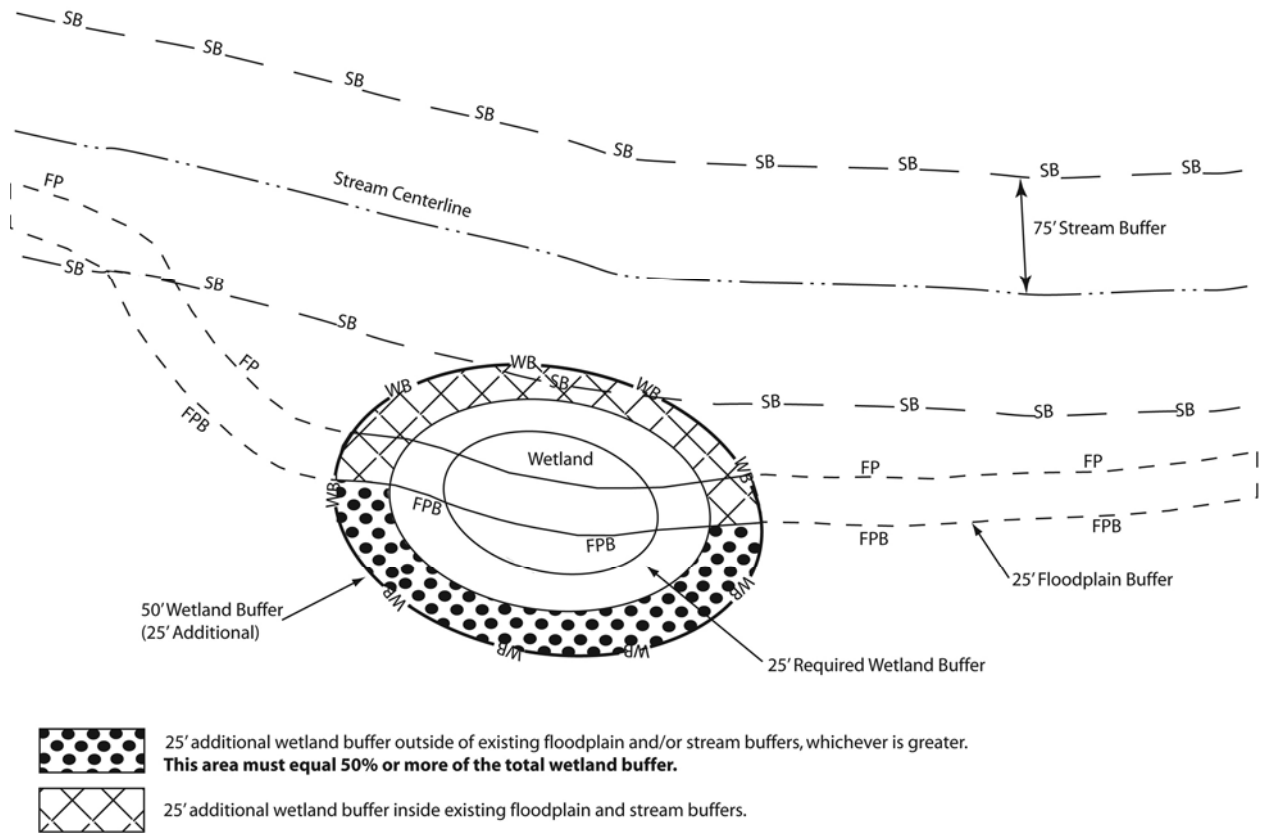
1. Are there vegetative or planting requirements for the buffer?

No requirements exist; however, forested buffers are strongly preferred. Other options for the vegetated buffer include: turf, meadows, ground cover, shrubs, and perennial plants. Turf buffers are least preferred. If the buffer is currently in turf, the floodplain area (if applicable) and buffer should be planted with native and non-invasive forest vegetation. Additional points may be awarded for reforesting the floodplain and buffer under D-6: Forest Conservation and Section E: Landscape Improvements.
2. Are there any permitted uses for the buffer?

Wetland buffers are designed as protected areas to reduce runoff and erosion, as well as provide habitat. Pathway or trail systems and connections may not be located in regulated floodplains, stream and wetland buffers, or steep slope areas without an approved waiver of Section 16.115 and/or 16.116 in the Subdivision and Land Development regulations. Pathway or trail systems and connections may be located in extended stream, wetland and floodplain buffers, steep slope buffers, and protected areas of 15 to 24.9% slopes that are provided to meet Green Neighborhood credits, if the disturbance is deemed necessary by Howard County Department of Planning and Zoning (DPZ). With the exception of incidental roadway or utility crossings deemed as necessary disturbances by DPZ, additional uses are generally not allowed.

3. What percentage of wetland does the buffer need to include?
Every 25-feet of additional buffer must surround 100% of the required wetland buffer for all wetlands on the site, with at least 50% of the buffer falling outside of the required or provided floodplain and/or stream buffers, whichever is greater. See the diagram below for clarification. Incidental roadway and utility crossings deemed as necessary disturbances are the only exception for not surrounding 100% of the wetland on-site.
4. Do the buffers need to be located within open space or preservation parcels?
Yes, buffers need to be located in open space for lots less than 10 acres or on preservation parcels.
5. Can a buffer be cleared, graded, and then restored?
Points will not be awarded for buffers that are disturbed and then restored. The only allowable disturbance is for afforestation and landscaping, and incidental roadway and utility crossings deemed as necessary disturbances.
6. Are existing structures and impervious surfaces located in the buffers and left untouched by the project permitted?
No. Buffer areas containing existing structures and impervious surfaces are not eligible for this credit. If the existing structures and impervious surfaces are removed, then they can contribute to credit compliance.
7. What setbacks are required from the extended buffer?
Setbacks from extended buffers are the same as setbacks from regulated buffers. Therefore, principal structures must be set back 35 feet from the extended buffer.

Diagram D-9 Wetland Buffer



D-10 Floodplain Buffer

Points: 1 to 2

Intent

Protect waterways from pollution, erosion, and sedimentation caused by stormwater runoff and preserve native wildlife habitat.

Criteria

Provide a buffer adjacent to the 100-year floodplain. One point is awarded for every 25 feet of buffer provided. To qualify for this credit, 50% of the provided floodplain buffer must fall outside of the required or provided wetland and/or stream buffer, whichever is greater. See the diagram below for clarification.

Green Development Plan Submittals

- Provide a table indicating the width and length of the floodplain buffer, and the percentage of floodplain buffer outside the required or provided wetland and/or stream buffers, whichever is greater.

Credit D-10	
Total Width of Floodplain Buffer (ft)	
Total Length of Floodplain Buffer (ft)	
Length of Floodplain Buffer Outside Other Buffers (ft)	
Percent of Floodplain Buffer Outside Other Buffers	

Questions and Interpretations

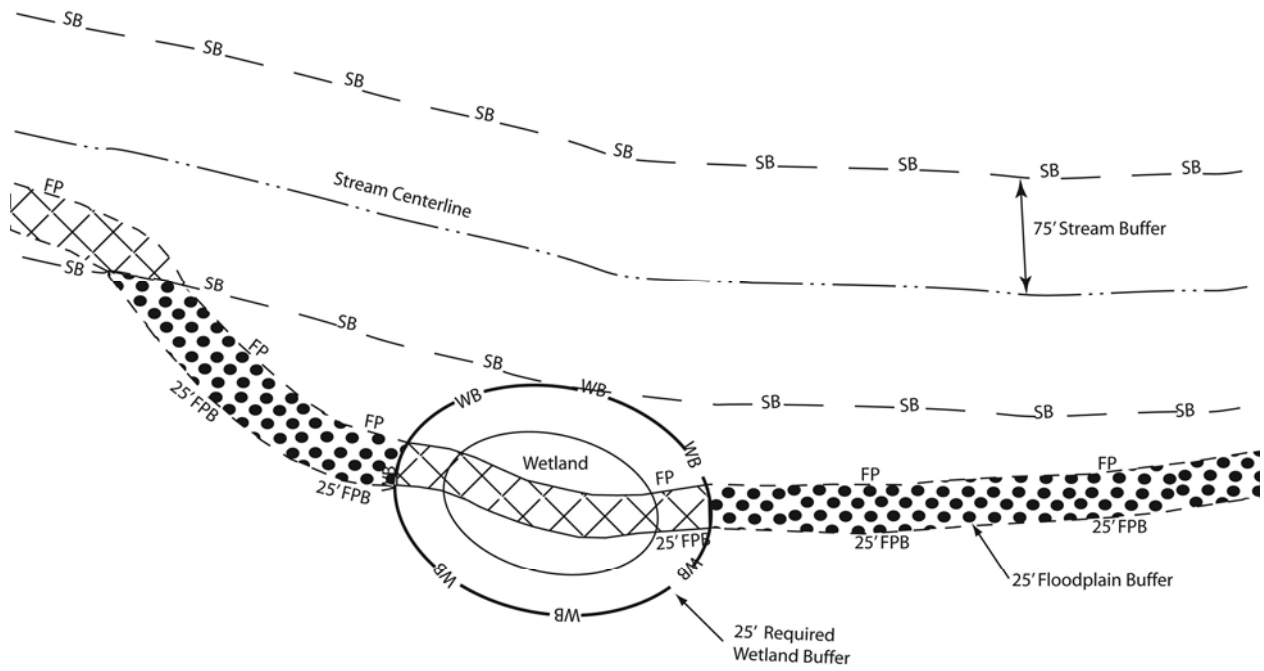
1. Are there vegetative or planting requirements for the buffer?



No requirements exist; however, forested buffers are strongly preferred. Other options for the vegetated buffer include: turf, meadows, ground cover, shrubs, and perennial plants. Turf buffers are least preferred. If the buffer is currently in turf, the floodplain area (if applicable) and buffer should be planted with native and non-invasive forest vegetation. Additional points may be awarded for reforesting the floodplain and buffer under D-6: Forest Conservation and Section E: Landscape Improvements.
2. Are there any permitted uses for the buffer?

Floodplain buffers are designed as protected areas to reduce runoff and erosion, as well as provide habitat. Pathway or trail systems and connections may not be located in regulated floodplains, stream and wetland buffers, or steep slope areas without an approved waiver of Section 16.115 and/or 16.116 in the Subdivision and Land Development regulations. Pathway or trail systems and connections may be located in extended stream, wetland and floodplain buffers, steep slope buffers, and protected areas of 15 to 24.9% slopes that are provided to meet Green Neighborhood credits, if the disturbance is deemed necessary by Howard County Department of Planning and Zoning (DPZ). With the exception of incidental roadway or utility crossings deemed as necessary disturbances by DPZ, additional uses are generally not allowed.

3. What percentage of floodplain does the buffer need to include?
The provided buffer must surround 100% of the 100-year floodplain within the site, with at least 50% of the buffer falling outside of the required or provided wetland and/or stream buffers, whichever is greater. See the diagram below for clarification. Incidental roadway and utility crossings deemed as necessary disturbances are the only exception for not surrounding 100% of the floodplain on-site.
4. Does the buffer need to be located within open space or preservation parcels?
Yes, buffers need to be located in open space for lots less than 10 acres or on preservation parcels.
5. Can the buffer be cleared, graded, and then restored?
Points will not be awarded for buffers that are disturbed and then restored. The only allowable disturbance is for afforestation and landscaping and incidental roadway and utility crossings deemed as necessary disturbances.
6. Are existing structures and impervious surfaces located in the buffer and left untouched by the project permitted?
No. Buffer areas containing existing structures and impervious surfaces are not eligible for this credit. If the existing structures and impervious surfaces are removed, then they can contribute to credit compliance.
7. What setbacks are required from the buffer?
Setbacks from the provided buffer are the same as setbacks from regulated buffers. Therefore, principal structures must be set back 35 feet from the provided buffer.

Diagram D-10 Floodplain Buffer



-  25' Floodplain buffer outside of existing wetland and/or stream buffers, whichever is greater. **This area must equal 50% or more of the total floodplain buffer.**
-  25' Floodplain buffer inside existing wetland and stream buffers.

E-1 Landscaping

Points: 1 to 5

Intent

Increase vegetation, particularly shade trees, to aid in air filtration, water absorption, and shading. Protect waterways from pollution, erosion, and sedimentation caused by stormwater runoff and preserve native wildlife habitat.

Criteria

Retain or plant vegetation to exceed the amount required by the Howard County Landscape Manual. One point is awarded for every 10% increase in the number of plants provided above the Landscape Manual requirements. Plant substitution ratios must meet the Landscape Manual requirements; however, no substitutions can be made for the required excess shade trees. Shade trees may be substituted for evergreen trees or shrubs using the ratio in the Landscape Manual. To qualify for this credit, all planted vegetation that exceeds the Landscape Manual requirements must be native and non-invasive. See Credit E-2 for native plant requirements.

Plant the appropriate plants for the given orientation and to achieve the desired function. Focus on shading hardscaped areas, such as parking lots, sidewalks, and pathways, and plant retention and planting on the south and west sides of buildings.

Green Development Plan Submittals

- Provide a table with calculations of the number and percentage of plants required and provided in excess of the required amount. Describe plant substitutions used to meet Green Neighborhood credit requirements.

Credit E-1 Plants Required					
	Shade Trees	Evergreen Trees	Shrubs	Total	GN Percent Increase
Number of Plants Required by Landscape Manual*					
Number Excess Plants Required for GN Credit**					
Total Number of Plants Required to meet Landscape Manual and GN Requirements					

* Combine requirements from all plant schedules.

** Required Green Neighborhood Plants are based on % increase being sought (1 point for every 10% excess plants provided). Calculations must round up to a whole number.

Credit E-1 Plants Provided							
	Shade Trees	Evergreen Trees	Evergreen Trees (Substitute)	Other Trees (Substitute)	Shrubs	Shrubs (Substitute)	Total
Number of Plants Provided to meet Landscape Manual Requirements							
Number of Plants Provided to meet GN Credits***							
Total Number of Plants Provided							

*** Describe plant substitution credits for Green Neighborhood plants (No substitution allowed for Shade Trees; 2:1 credit for Evergreen or Other Trees to Shade Trees; 1:1 credit for Evergreen Trees to Other Trees; 10:1 credit for Shrubs to Shade Trees)

Questions and Interpretations

- Will points be awarded for retaining trees on-site above the Landscape Manual requirements?
Yes, points will be awarded for plants retained on-site that meet the Landscape Manual size and ratio requirements. Points will not be awarded for retaining or planting any exotic invasive plants.
- Do the additional installed plants need to be located in certain locations?
Trees should be installed to provide shade along the south and west sides of buildings, throughout parking areas, and along sidewalks and paths; however, there are no specific requirements for location.
- Where can one find a list of native and recommended plants?
A native plant list is available from DPZ and on the DPZ web page. Other recommended species lists are available through “Woody and Herbaceous Plants of Maryland”, by Brown, R. and Brown, M., as well as the U.S. Fish and Wildlife Service’s website “Native Plants for Wildlife Habitat and Conservation Landscaping” (<http://www.nps.gov/plants/pubs/nativesMD>).
- Can other types of native and non-invasive vegetation (for example, ground cover) be retained or planted besides trees and shrubs?
No, the focus of this credit is on providing trees and shade. Additional points may be awarded for ground cover under credit E-4.
- Are cultivars of native plants considered to be “native”?
Yes, if the cultivars are naturally reproducing.
- Is surety for the extra landscaping required?
Yes.
- Can existing or transplanted plants contribute to this credit?
Yes, provided that the plants meet Landscape Manual requirements.

E-2 Native Plants

Points: 1 to 3

Intent

Promote the use of native plants for landscaping to improve habitat value.

Criteria

Use native vegetation that is sourced from within 200 miles of the site for all landscaping – both required and additional plantings. Points are awarded based on the percentage of native plants used from sources within 200 miles of the site, as specified below:

Percent of Native Plants	Points Awarded
80 - 89%	1
90 - 99%	2
100%	3

Green Development Plan Submittals

- Provide additional columns in the Plant List on the Landscape Plan to identify “Native – Yes or No”, “Total Native” and “Source.” Provide additional rows in the Plant List to show total number of plants provided, total native plants provided, and percent native plants. Provide information about the plant source including the distance from the project site. If the specific plant source is unknown, a list of potential sources may be provided.

Plant List with Credit E-2 Information								
Symbol	Quantity	Botanical Name and Common Name	Size	Condition	Spacing	Native (Yes/No)	Total Native	Source (A, B, etc.)
Summary (fill in white cells)								
Total								
% Native								

Source:

A: Plant Source Name, Address, City, State, Zip, distance in miles from project site

B: Plant Source Name, Address, City, State, Zip, distance in miles from project site

Questions and Interpretations

- Are percentages of native plants based on all plants on-site, including retained plants, or only additional planted materials called for by the Landscape Manual and for credits in E-1?

The percentages are based only on the planted materials incorporated into the landscaping for Landscape Manual requirements and additional plantings for E-1.

2. Where can one find a list of native and recommended plants?
A native plant list is available from DPZ and on the DPZ web site. Other recommended species lists are available through “Woody and Herbaceous Plants of Maryland”, by Brown, R. and Brown, M., as well as the U.S. Fish and Wildlife Service’s website “Native Plants for Wildlife Habitat and Conservation Landscaping” (<http://www.nps.gov/plants/pubs/nativesMD>).
3. Are cultivars of native plants considered to be “native”?
Yes, if the cultivars are naturally reproducing
4. Can existing or transplanted native plants contribute to this credit?
Yes, provided that the plants meet Landscape Manual requirements.
5. Does the plant have to be grown within 200 miles or can the plant be purchased from a nursery that is within 200 miles?
The plant must be grown within 200 miles of the project site.

E-3 No Invasive Plants

Points: Required

Intent

Prevent the planting of invasive species which, given their rapid growth and spread, can disrupt native habitat.

Criteria

Do not use plants listed on the U.S. or Maryland Department of Agriculture, Maryland Cooperative Extension Service, Maryland Invasive Species Council, and Maryland Native Plant Society's lists of invasive plants.

Green Development Plan Submittals

- Provide a note indicating that no invasive plants will be used.

Questions and Interpretations

1. If invasive species exist on the site prior to development, is it necessary to remove them?
Certain invasive species are listed as noxious weeds in Maryland and their control is required by State law. The removal of other existing invasive species is not required; however, a strategy for their removal is recommended and may contribute to achieving credit D-2 if the strategy is included in the Habitat Management Plan.
2. Where can one find lists of invasive species?
A list of invasive exotic plants, which includes a list of noxious weeds in Maryland, is available from DPZ and on the DPZ web site. Additional lists are available at:
USDA - <http://www.invasivespeciesinfo.gov/plants/main.shtml>
MD Invasive Species Council – http://www.mdinvasivesp.org/list_terrestrial_plants.html
MD Cooperative Extension Service - <http://www.hgic.umd.edu/content/generalinformation.cfm>
MD Department of Agriculture - <http://www.mda.state.us.gov>
MD Native Plant Society - <http://www.mdflora.org/plantinfo/plantinfo.html>
3. Are all plants listed in the Landscape Manual acceptable for use?
No, some plants listed in the Landscape Manual are invasive species, but were not known to be invasive at the time the Manual was written.
4. What is the definition of invasive plants?
Plants that may be either indigenous or non-indigenous species or strains that are characteristically adaptable, aggressive, have a high reproductive capacity, and tend to overrun the ecosystems in which they inhabit.

E-4 Limit Turf

Points: 1 to 2

Intent

Limit the use of conventional turf as a landscape cover and encourage the planting of native vegetation to increase habitat and improve water quality by enhancing rainwater absorption and infiltration.

Criteria

Limit the total area of conventional turf provided to no more than 30% of the unpaved site. The unpaved site is the limit of disturbance minus any impervious area, which typically includes hardscaping, buildings, other structures, roads, parking lots, plazas, and walkways (1 point).

AND/OR

Do not plant new conventional turf on newly created slopes of 25% or greater OR do not plant new conventional turf in densely shaded areas (1 point).

All non-turf planting in areas applicable to this credit must be native and non-invasive vegetation (trees, shrubs, or ground cover).

Green Development Plan Submittals

- Indicate on the Landscape Plan sheet all landscaped areas, the areas in turf, and the type of plantings for the non-turf areas.
- Provide a table that specifies the unpaved area of the site and the percentage of the unpaved site that will be planted in turf.
- Provide a site diagram indicating densely shaded areas caused by structures or existing woodlands.
- Provide a note specifying that no newly created steep slopes of 25% or greater, or densely shaded areas will be planted in turf.

Credit E-4	
Limit of Disturbance (acres)	
Total Impervious Area (acres)	
Unpaved Area of Site (acres)	
Unpaved Area Planted in Turf (acres)	
Percent Unpaved Area Planted in Turf	

Questions and Interpretations

1. How are densely shaded areas defined?

Densely shaded areas are areas that receive less than 3 hours of direct or filtered sunlight each day.

2. If turf exists prior to construction in densely shaded areas, does it need to be replaced with native vegetation?
No, existing turf in densely shaded areas is not required to be replaced; however, native vegetation is recommended to replace any turf and may contribute to achieving credits E-1 and E-2. The existing turf area in densely shaded areas must be added to the calculation of total unpaved areas in turf.
3. If the area around landscaped trees is planted in turf, does this area count toward the percentage of turf on site?
Yes, this area must be added to the calculation of total unpaved areas in turf. Alternatively, placing trees within planting beds with native ground cover will exempt these areas from the calculation of total turf.
4. Are areas with permeable paving and grass pavers considered impervious area for this credit?
Yes.
5. What is “conventional turf”?
Grass, typically a non-native, cool-season monoculture, that requires considerable watering, mowing, and/or fertilizers.
6. Does the limit on conventional turf on newly created steep slopes of 25% or greater apply to sediment and erosion control measures?
No, annual turf grass may be used as a stabilization method for sediment and erosion control on steep slopes until such time as other native, non-invasive vegetation can be established.

F-1 Rainwater Harvesting System

Points: 5

Intent

Conserve potable water through the collection and reuse of rainwater and snowmelt.

Criteria

Harvest, store, and use rainwater and snowmelt from roof runoff. The storage system must be sized to hold an amount equivalent to the Water Quality Volume for at least 50% of the roof area.

The design case total Water Quality Volume (WQv) shall be determined before applying current MDE 2000 Manual, Chapter 5 Stormwater Credit practices and Howard County allowable stormwater treatment strategies.

$$\text{Total WQv} = [(P) \times (Rv) \times (A)] / 12$$

Where WQv	=	Water Quality Volume (acre-feet)
P	=	1" rainfall depth
Rv	=	Volumetric runoff coefficient
A	=	Area (acres)

Green Development Plan Submittals

Preliminary Equivalent Sketch Plan

- Provide a narrative describing the type of rainwater harvesting system to be used, including the storage system and monitoring device, location of the storage system, and the long-term maintenance and management program.
- Provide preliminary calculations indicating the WQv to be stored and the percentage of the total roof area to be served. Note, if seeking stormwater credit, these calculations can be included as part of the regulatory plan submittal requirements for stormwater management.

Final Plan and/or Site Development Plan

- Provide construction details and/or a schedule of furnishings.
- Provide calculations indicating the WQv to be stored and the percentage of the total roof area to be served. Note, if seeking stormwater credit, the construction details and/or a schedule of furnishings and calculations can be included as part of the regulatory plan submittal requirements for stormwater management.

Questions and Interpretations

1. Can the collected rainwater be used for certain non-potable, indoor residential uses?
No, the collected rainwater cannot be used for non-potable, indoor water uses.
2. Can points be awarded if the rainwater is used for irrigation, even though the system will not function during the winter?
Yes. There is no requirement for using rainwater in the winter.

3. Can stormwater management points be granted for this system under this credit?
No, but points for managing stormwater from rooftops may be awarded under F-3a or b.
4. If a collection system is built for each individual house, can it be assumed that long-term monitoring and maintenance will be done by the homeowner?
Yes, if there is a private maintenance agreement with the homeowner and the maintenance procedures are included in the maintenance manual for the homeowner (see I-2).
5. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the Green Development Plan submittals for the Preliminary Equivalent Sketch Plan also required?
A modified narrative that includes those items not addressed by the construction drawings must still be provided, but the preliminary calculations are not necessary.
6. Is there an exception or a separate criteria for structures with green roofs?
No. However, buildings with green roofs can use a reduced runoff coefficient (R_v), which reduces the water quality volume (WQ_v) that must be stored.

F-2 Water-Permeable Walkways

Points: 4

Intent

Minimize stormwater runoff and promote groundwater recharge through the use of water permeable materials.

Criteria

Use water-permeable materials for a minimum of 50% of the walkways and pathways, and provide a long-term maintenance program. All water-permeable paving must include porous above-ground materials and a 6-inch porous base, and the base layer must have proper drainage. Required sidewalks in public right-of-ways and nature trails are not included in this credit.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide a narrative indicating the location of water-permeable walkways and pathways, the type of water-permeable materials that will be used, and the construction methods to ensure permeability and proper drainage. Briefly describe how long-term maintenance will be implemented.
 - Provide a table indicating the type of water-permeable material and the area and percentage of walkways and pathways.

- Final Plan and/or Site Development Plan
 - Provide construction details for the walkway or pathway.

Credit F-2		
Type of Water-Permeable Material	Area of Walkway or Pathway (sq ft)	Percent of Total Walkway or Pathway Area
Total		

Questions and Interpretations

1. What types of walkways and pathways are included in this credit?

The types of walkways and pathways included in this credit are sidewalks on private right-of-ways, lead walks, paved trails, and paved connections between pathways/trails and sidewalks.

2. Does the County have a list of acceptable materials?

Acceptable materials include porous concrete, grass pavers, and permeable pavers. Porous asphalt, gravel and wood chips are not acceptable materials.

3. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the Green Development Plan submittals for the Preliminary Equivalent Sketch Plan also required?

Yes. However, the narrative may be modified to include only those items not addressed by the construction drawings.

F-3a Low Impact Development (LID) Stormwater Treatment

Points: Required

Intent

Promote the use of low impact development stormwater management strategies to reduce runoff and improve water quality in the treated runoff.

Criteria

Meet the minimum stormwater management requirements in the current Howard County Design Manual Volume 1. Dry ponds are prohibited.

Green Development Plan Submittals

- The submittal requirements for this credit will be met through regulatory plan submittal requirements for stormwater management.

Questions and Interpretations

1. Can dry ponds be used for quantity treatment if quality treatment is provide by other facilities prior to discharge to the dry pond?
No, dry ponds are not allowed for quality or quantity management.
2. Can green roofs be used for quantity and quality treatment?
Buildings with green roofs can use a reduced runoff coefficient (R_v), which reduces the water quality volume (WQ_v) that must be stored.

F-3b Exceed Low Impact Development (LID) Stormwater Treatment

Points: 4 to 8

Intent

Use low impact development stormwater management strategies to achieve stormwater runoff reduction, on-site stormwater management, and water quality beyond Howard County minimum requirements.

Criteria

Exceed the minimum stormwater management requirements in the current Howard County Design Manual Volume 1. Maximize the use of distributed low impact development stormwater management strategies. Points are awarded based on the percentage of the project's Water Quality Volume (WQv) that is stored and infiltrated or re-used on-site, as specified below:

Percent of Water Quality Volume Stored and Infiltrated/Re-used On-Site*	Points Awarded
25% - 50%	4
51%-75%	6
76% or greater	8

* This volume shall be temporarily stored beneath any outfall, under drain, rain barrel, or green roof until it is infiltrated and/or re-used on-site.

The baseline total Water Quality Volume (WQv) shall be determined before applying any current Maryland Department of the Environment (MDE) 2000 Manual, Chapter 5 Stormwater Credit practices, as follows:

$$\text{Total WQv} = [(P) \times (Rv) \times (A)] / 12$$

Where WQv = Water Quality Volume (acre-feet)
 P = 1" rainfall depth
 Rv = Volumetric runoff coefficient
 A = Area within the limit of disturbance – considered to be the drainage area (acres)

A minimum infiltration rate of 1 inch per hour is required for any filtration, infiltration, or bioretention devices used to meet the credit requirements. The storage volume may be adjusted for infiltration rates based on Appendix D.13., of the MDE 2000 Manual. There is no minimum infiltration rate requirement for devices that reuse stormwater runoff.

Green Development Plan Submittals

- Provide a note briefly describing the stormwater management system and the percent of water quality volume stored and infiltrated on site.

Questions and Interpretations

1. What happens if the Howard County Design Manual requirements change while the Green Neighborhood development is still in the review process?
The development will continue to be reviewed based on the Design Manual requirements in place at the time of the original submittal.
2. Can points be awarded for doing additional off-site stormwater management, either new treatment or enhanced treatment?
If on-site management is maximized, additional off-site stormwater management may be eligible for points under A-4 Innovative Design.
3. Can the project achieve this credit if the minimum infiltration rate cannot be obtained on the site?
Filtration, infiltration, or bioretention devices used to meet the credit requirements must meet a minimum infiltration rate of 1 inch per hour. There is no minimum infiltration rate requirement for devices that reuse stormwater runoff.
4. What filtration, infiltration and bioretention devices can be used to meet the credit requirements?
In addition to MDE approved filtration, infiltration and bioretention devices, the following alternative devices are permitted to meet the credit requirements:
 - Porous pavement (e.g., porous concrete), interlocking concrete block pavers, grass pavers. Stone storage reservoir beneath the pavement shall, at a minimum, be adequate to meet the full water quality volume requirements for this drainage area using MDE infiltration practices from Appendix D.13.
 - Dry swales along private, shared driveways to treat these impervious areas. The dry swales shall be designed with an adequate storage reservoir to meet the infiltration requirements outlined above.
 - Rainwater harvesting systems, provided that it can be demonstrated that the captured rainwater will be infiltrated or re-used.
 - Additional practices maybe permitted to meet these requirements on a case by case basis as approved by DPZ.
5. Can green roofs be used as an LID infiltration device to meet the credit requirements?
No, but buildings with green roofs can use a reduced runoff coefficient (R_v), which reduces the water quality volume (WQv) that must be stored.
6. Can constructed wetlands created to treat wastewater on-site be used to meet the credit requirements?
No.

G-1 Light Pollution Reduction

Points: 4

Intent

Promote the use of energy-efficient site lighting that meets public safety requirements and minimizes light pollution to increase night sky access and support nocturnal habitats.

Criteria

Provide fully shielded (full cutoff) exterior site lighting fixtures and install daylight sensors, motion detectors, or timers on all exterior site lighting fixtures. Do not exceed 80% of the lighting power densities for exterior areas and 50% for landscape features as defined in ASHRAE 90.1-2004, Exterior Lighting Section, without addenda.

The following exterior site lighting fixtures are exempt: emergency lighting, lighting required by code for health and safety purposes, and lighting required by Federal law to illuminate the American flag.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide a narrative indicating the type of exterior site lighting and sensors, motion detectors, or timers to be used, and the lighting power densities. A draft Light Pollution Reduction template (see [Appendix G](#)) may be provided in lieu of a narrative for lighting power densities.

- Final Plan and/or Site Development Plan
 - Provide a note indicating fully shielded exterior site lighting fixtures and daylight sensors, motion detectors, or timers on all exterior site lighting fixtures will be provided.
 - Provide a completed Light Pollution Reduction template (see [Appendix G](#)).

Questions and Interpretations

1. Does this credit include exterior lighting installed on buildings?
No, only site lighting fixtures, such as for parking lots, sidewalks, pathways, and trails, are included.

2. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the submittals for the Preliminary Equivalent Sketch Plan also required?
No.

G-2 Solar Orientation

Points: 1 to 3

Intent

Increase solar access to promote the use of both active and passive solar strategies and increase energy efficiency by creating optimum conditions.

Criteria

Orient the longest axis of the buildings within 15 degrees of geographical (or “true”) east-west. The longest axis of the building must be at least 1.5 times longer than the other axis. Points are awarded based on the percentage of buildings oriented east-west, as specified below:

Percent of Buildings with East-West Orientation	Points Awarded
50%	1
51- 75%	2
76 - 100%	3

Green Development Plan Submittals

- Provide a table listing each qualifying building with its length to width proportion and degree of east-west orientation, and indicate the percent of buildings qualifying for this credit.

Credit G-2		
Building Number	Length to Width Ratio	East-West Orientation (degrees)
Summary		
Total Number of Buildings		
Total Number of Qualifying Buildings		
Percent of Qualifying Buildings		

Questions and Interpretations

- Do garages and porches count toward the axis length?
No, walls that enclose unconditioned areas cannot be counted toward the axis length.
- Are there any requirements for the area of windows on any side of the building?
No requirements for window surface area exist at this time.

G-3 Infrastructure Energy Efficiency

Points: 1 to 6

Intent

Reduce infrastructure energy use and associated pollution by promoting the use of energy-efficient site lighting and photovoltaic systems.

Criteria

Reduce infrastructure energy use. Points are awarded as specified below:

- **Energy-Efficient Site Lighting**
Install energy-efficient site lighting fixtures to achieve a minimum 15% reduction in the baseline annual energy demand for site lighting (2 points).

AND/OR

- **Solar Energy Generation**
Design and install photovoltaic system(s) to offset site infrastructure energy demand. Points are awarded based on every 10% of the project's site infrastructure energy demand met by the photovoltaic system(s) (up to 6 points).

AND/OR

- **Photovoltaic (PV) Ready**
Design, engineer, and wire the development to accommodate future PV installation (2 points).

Up to 6 points total can be earned with this credit.

Green Development Plan Submittals

- **Energy-Efficient Site Lighting** – Provide calculations for the baseline annual energy demand for site lighting and demonstrate that the 15% reduction in energy use is achieved. The baseline annual energy demand is estimated using conventional systems. Provide a narrative describing the technologies used to achieve the 15% reduction.
- **Solar Energy Generation** – Provide calculations for the baseline annual site infrastructure energy demand and the percentage that is generated by photovoltaic system(s). The baseline annual site infrastructure energy demand is estimated using actual installed systems. If solar lights are installed, use the energy demand for conventional lighting systems instead of the actual installed lighting systems in calculating the baseline annual site infrastructure energy demand. Provide a narrative describing the photovoltaic system(s) used and the method for estimating the energy generated by the on-site renewable system(s).
- **Photovoltaic (PV) Ready** – Provide a narrative describing how the site will be designed, engineered, and wired to accommodate future photovoltaic installation.

Questions and Interpretations

1. Does this credit include exterior lighting installed on buildings?
No, only site lighting fixtures, such as for parking lots, sidewalks, pathways, and trails, are included.

2. Can solar lights contribute to achieving points under both the Energy-Efficient Site Lighting and the Solar Energy Generation options?
Yes.

H-1 Environmentally Preferable Site Products

Points: 2 to 8

Intent

Reduce the environmental impacts of extracting, harvesting, and processing virgin materials through the reuse of materials from the current site and/or the use of environmentally preferable materials.

Criteria

Reuse materials from the current site and/or use environmentally preferable materials for site products. Acceptable materials are listed in [Appendix H](#), Environmentally Preferable Site Products List. All materials used must meet ASTM International standards. Points are awarded based on the total value of the materials qualified as environmentally preferable as a percentage of the total value of the site materials, as specified below:

Percent of Site Materials that are Environmentally Preferable (by Cost)	Points Awarded
25%	2
26 to 50%	4
51 to 75%	6
76 to 100%	8

This credit applies only to materials within CSI MasterFormat 1995 Divisions 2 – 10.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide a narrative establishing a project goal for the use of environmentally preferable products and identify potential products and suppliers, or provide a draft Environmentally Preferable Site Products template (see [Appendix H](#)).
- Final Plan and/or Site Development Plan
 - Provide a completed Environmentally Preferable Site Products template (see [Appendix H](#)).

Questions and Interpretations

1. How is the cost of a material reused on-site calculated?
Estimate the cost of an equivalent new item (aka replacement cost).
2. How is the cost of a salvaged or reclaimed material calculated?
Use the actual cost paid for the material or estimate the cost of an equivalent new item (aka replacement cost), whichever is higher.
3. How is the recycled-content value of assemblies determined?
The recycled content value of an assembly is determined by weight. The recycled fraction of the assembly is multiplied by the cost of the assembly to determine the value of the recycled content

for that assembly. See “Environmentally Preferable Site Products” [Appendix H](#) for a sample calculation.

4. What if there is no information available for the recycled content of a steel product?
Assume the steel product has 25% post-consumer recycled content.
5. How is the value of a product determined if it contains a mixture of environmentally preferable materials?
The highest percentage of the environmentally preferable material will be used to calculate the value of the product.
6. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the Green Development Plan submittals for the Preliminary Equivalent Sketch Plan also required?
No.

H-2 Reduce Heat-Island Effect of Paving

Points: 2

Intent

Minimize the heat-island effect of paving through the use of light-colored and/or high-albedo materials.

Criteria

Use light-colored and/or high-albedo materials with a minimum Solar Reflectance Index of 29 for at least 30% of the site hardscape and parking deck roof surfaces. All materials used must meet ASTM International standards.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide a narrative listing each type of material to be used, including specifications on solar reflectance index, and general location for use, and indicate that at least 30% of the site hardscape will use these materials, or provide a draft Reduce Heat-Island Effect of Paving template (see [Appendix I](#)).
- Final Plan and/or Site Development Plan
 - Provide a completed Reduce Heat-Island Effect of Paving template (see [Appendix I](#))

Questions and Interpretations

1. Does the County have a list of acceptable materials?
No.
2. Can building roof area be included in the total site hardscape?
No, buildings cannot be included. Only site hardscaped areas such as parking, roadways, driveways and sidewalks, and parking deck roof surfaces are included.
3. What is Solar Reflectance Index (SRI)?
SRI is a measure of a material's ability to reject solar heat and considers solar reflectance or albedo (how well a material reflects solar energy) and thermal emittance (how well a material emits or releases heat). Standard black has an SRI =0 and standard white has an SRI=100. The following table provides the solar reflectance, emittance, and Solar Reflective Index (SRI) of select material surfaces.

Material surface	Solar Reflectance (0.0 to 1.0)	Emittance (0 to 1)	SRI (0 to 100)
Black acrylic paint	0.05	0.9	0
New asphalt	0.05	0.9	0
Aged asphalt	0.1	0.9	6
Aged concrete	0.2 to 0.3	0.9	19 to 32
New concrete (ordinary)	0.35 to 0.45	0.9	38 to 52
New white Portland cement concrete	0.7 to 0.8	0.9	86 to 100
White acrylic paint	0.9	0.9	100

4. Can shading be provided to mitigate the heat island effect, instead of high SRI paving materials?
No. This credit only addresses characteristics of paving materials. See Credit E-1 for the use of landscaping to provide shade.

5. If the first regulatory plan submittal is a Final Plan or Site Development Plan, are the Green Development Plan submittals for the Preliminary Equivalent Sketch Plan also required?
No.

H-3 Site Construction Waste Management

Points: 2 to 4

Intent

Minimize the generation of construction waste and encourage the reuse and recycling of on-site nonhazardous construction and demolition waste to reduce the amount of waste sent to landfills and incinerators.

Criteria

Develop and implement a construction waste management plan to divert, reuse, and/or recycle site construction and demolition materials. Points are awarded based on the percentage of total waste diverted, as specified below:

Percentage of Waste Diverted	Points Awarded
25%	2
50%	3
75%	4

Calculations can be done by volume or weight, but must be consistent throughout. Hazardous materials and site clearing debris are not included in the calculations.

The construction waste management plan must contain the following information:

- Diversion goal
- Table indicating estimated job-site waste to be generated and the materials and amount of materials to be recycled, reused, or donated
- Identification of party responsible for construction waste management implementation
- Description of the means and methods to achieve the diversion goal (e.g., sorted on-site or co-mingled)
- Identification of recycling contractors
- Requirements for tracking waste generated and waste recycled/salvaged
- Description of subcontractor and staff training

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide a draft construction waste management plan.
- Final Plan and/or Site Development Plan
 - Provide a final construction waste management plan.

Questions and Interpretations

1. Which materials are typically recycled?
Cardboard, metal, brick, acoustical tile, concrete, plastic, clean wood, glass, and gypsum wallboard.

2. Can excavated soil and land clearing debris count toward this credit?
No.
3. Can topsoil that is stripped, stockpiled, and reused on site count toward this credit?
No.
4. Can the reuse of existing buildings count toward this credit?
Yes, if the building is demolished and the materials are reused, donated, or recycled. No, if the building remains intact; but, existing buildings may contribute to achieving Credits B-1a, Redevelopment Site, and/or B-2, Historic Buildings.
5. Can existing concrete and asphalt that are crushed and re-used on-site count toward this credit?
Yes.
6. Can materials that are donated count toward this credit?
Yes, as long as the material is reused or recycled.
7. Is it possible to earn more than 4 points if more than 75% of the waste is diverted?
No, but additional points may be earned under Credit A-4 Innovative Design.

H-4 Regionally Provided Materials

Points: 3

Intent

Reduce the environmental impacts from the transport of material through the use of locally produced materials.

Criteria

Use materials that are extracted, harvested or recovered, and manufactured within 200 miles of the site for at least 20% of the total site materials. Calculations are based on the total value of the regionally provided materials as a percentage of the total value of the site materials. If only a portion of a material or assembly is extracted, harvested or recovered, and manufactured within 200 miles of the development site, then only that portion of the cost (by weight) will be counted toward this credit.

This credit applies only to materials within CSI MasterFormat 1995 Divisions 2 – 10. All materials used must meet ASTM International standards.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide a narrative establishing a project goal for the use of locally sourced materials and identify potential products and suppliers within 200 miles of the development site, or provide a draft Regionally Provided Materials template (see [Appendix J](#)).

- Final Plan and/or Site Development Plan
 - Provide a completed Regionally Provided Materials template (see [Appendix J](#)).

Questions and Interpretations

1. Is it possible to earn more than 3 points if more than 20% of the site materials are provide regionally?
No, but additional points may be earned under Credit A-4 Innovative Design.

2. How can supplier locations within 200 miles of the site be determined?
Suggest locating the project site on a map (e.g., Google map) and drawing a 200-mile radius to determine the geographical limits for this credit.

3. If the first regulatory plan submittal is a Final Plan or Site Development Plan, is the Green Development Plan submittal for the Preliminary Equivalent Sketch Plan also required?
No.

I-1 HOA Documents

Points: Required

Intent

Ensure that new occupants (homeowners and renters) are informed about the green site features and are aware of the proper operation and maintenance of these features.

Criteria

Include information about green site features and maintenance requirements in homeowners association (HOA) documents. Ensure the HOA documents are distributed to new occupants.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide a narrative indicating that the HOA documents will be developed, list the green site features that will be included in the HOA documents, and describe how the HOA documents will be distributed to new occupants.

- Final Plan and/or Site Development Plan
 - Provide a copy of the HOA documents and briefly describe how the documents will be distributed to new occupants.

Questions and Interpretations

1. How many copies of the HOA documents must be provided to each dwelling unit?
One copy. Developers and builders are encouraged to provide additional copies upon request by occupants.
2. Are new occupant walk-throughs, orientation, and/or trainings required?
No, but it is highly encouraged and may earn points under Credit A-4 Innovative Design.
3. Is there a template for including green site features and maintenance requirements in the HOA documents?
At this time, templates are not available.
4. If the first regulatory plan submittal is a Final Plan or Site Development Plan, is the Green Development Plan submittal for the Preliminary Equivalent Sketch Plan also required?
No.

I-2 Maintenance Manual for Owner / HOA / Manager

Points: Required

Intent

Maintain the green site features by ensuring that new occupants, homeowners associations, and property managers are informed about them and their proper operation and maintenance.

Criteria

Provide a manual that includes information on what the green features of the site are and how to maintain them. Green site features include paving materials, landscaping and stormwater management facilities, particularly low impact development facilities, which may be located on individual lots. The manual should also encourage additional green activities such as recycling, green housekeeping, and gardening. Ensure the manual is distributed to new occupants, homeowners associations, council of unit owners and property managers.

Green Development Plan Submittals

- Preliminary Equivalent Sketch Plan
 - Provide a narrative indicating that the manual will be developed, list the green site features that will be described, and describe how the manual will be distributed to new occupants, homeowners associations, council of unit owners and property managers.
- Final Plan and/or Site Development Plan
 - Provide a copy of the manual and briefly describe how the manual will be distributed to new occupants, homeowners associations, council of unit owners and property managers.

Questions and Interpretations

1. How many copies of the manual must be provided?
One copy to each new occupant, homeowners association, council of unit owners and property management organization. Developers and builders are encouraged to provide additional copies upon request.
2. Are new occupant, homeowners association, council of unit owners and property manager walk-throughs, orientation, and/or trainings required?
No, but it is highly encouraged and may earn points under Credit A-4 Innovative Design.
3. Is there a template for the manual?
At this time, templates are not available within the Green Neighborhood Program. However, Enterprise Community Partners has a Green Communities Template for Green Operations and Maintenance Manual based on the The Plaza Apartments project in San Francisco, California that may help in developing the manual (available at: <http://www.practitionerresources.org/showdoc.html?id=63995>).
4. If the first regulatory plan submittal is a Final Plan or Site Development Plan, is the Green Development Plan submittal for the Preliminary Equivalent Sketch Plan also required?
No.

I-3 Public Awareness of Sustainable Community

Points: Required

Intent

Encourage more widespread creation of green neighborhoods and redevelopment of existing neighborhoods with green development techniques by promoting the environmental and community benefits of sustainable development.

Criteria

Develop an outreach program using a variety of methods and media to advertise and raise awareness about the environmental and community benefits of sustainable development. At least one of the outreach activities must be long-term (a minimum of 5 years) and frequent (at least quarterly).

Green Development Plan Submittals

- Provide a narrative describing the types of outreach, advertising, and awareness activities that will be conducted, including the funding source, the parties responsible for conducting the outreach activities, and the frequency and duration of each outreach activity.

Questions and Interpretations

1. What types of outreach activities are considered long-term?
Long-term outreach activities include: informational signs made of durable materials, posted on the property and maintained by the HOA or property manager; brochures or other informational material made available through an on-site property management office; an informative project website made accessible to the general public; and an educational video downloadable from a publicly accessible website.
2. Are there examples of green education and outreach programs?
 - Great Seneca Elementary School (aka NW#7): <http://www.montgomeryschoolsmd.org/departments/facilities/schools2green/gsc.shtm> (look under User Education Signage)
 - Camille Kendall Academic Center (aka SG3): <http://www.shadygrove.umd.edu/campus-sustainability/sgiii.cfm>

Appendix A Green Neighborhood Checklist

Howard County Council Resolution 116-2007, Exhibit A GREEN NEIGHBORHOOD CHECKLIST

Key	Category	Comment / Criteria / Metric	Max Points
GREEN NEIGHBORHOOD SITE			
A Innovative / Integrated Design Process			4
A-1	Green Development Plan	Shows how plans meet criteria, includes checklist, natural resource inventory and energy analysis	REQ'D
A-2	Interdisciplinary Project Team	Includes U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Accredited professional, ecologist / environmental professional / landscape architect, and engineer	REQ'D
A-3	Third Party Certification	Certification of credits by independent LEED accredited professional	REQ'D
A-4	Innovative Design	Innovative design proposed by applicant, not included in checklist	4
B Location, Linkages & Community Context			27
B-1a	Redevelopment Site	Reuse of previously developed site (minimum 25% existing impervious, with sliding scale for credits based on amount or % impervious)	4
B-1b	Redevelopment Site	Brownfield cleanup of redevelopment site	8
B-2	Historic Buildings	Preservation, renovation and / or adaptive reuse of structure that meets criteria for Howard County Historic Sites Inventory	4
B-3a	Transit Access & Amenities for Reduced Auto Dependence	Site is served by transit stop within 1/2 mile (1 point) or 1/4 mile (2 points) walk from property	2
B-3b	Transit Access & Amenities for Reduced Auto Dependence	Provide county-specified transit shelter with benches and lighting at transit stop within 1/2 mile of property and provided pedestrian link to stop if none currently exists	4
B-4	Proximity to Community Resources	Diverse community resources (school, park, library, post office, child care, senior care, community center, shopping, medical offices, service retail, places of worship, restaurants, or other) are within 1/2 mile walk of property (1 point for each type of resource); provide pedestrian link to facility if none currently exists (1 point)	5
C Compact, Complete & Connected Development			27
C-1	Diversity of Uses	1 point for each land use type (retail, office, institutional, civic) in addition to residential; 1 point for each additional residential building type (SFD, SFA, APT, Age Restricted)	3
C-2	Planned Service Area	Project located in the planned service area	5
C-3a	Pedestrian System	Off-street paths / trail system provided in addition to required sidewalks	2
C-3b	Pedestrian System	Path connection(s) provided to abutting neighborhoods (connections to external sidewalks required)	2
C-3c	Pedestrian System	Pedestrian experience features (special paving, benches, etc.)	2
C-4	Connected On-site Street Network	Most streets connected to form grid or blocks	2
C-5	Parking does not exceed Required Minimum	Surface parking lots do not exceed required parking ratios (1 point); plan takes advantage of shared parking provisions in regulations (2 points); common parking structure provided (in deck or beneath building; does not include garages within individual units) (4 points)	4
C-6	Exceed Minimum Open Space Requirements	1 point for each 5% above minimum required open space for zoning district up to 5 points; 1 point for every 10% of nonbuildable HOA or county-owned preservation parcels above 50% of site, up to 3 points	5
C-7	Green Spaces and Amenity Areas	Open space or nonbuildable preservation parcel frontage along public roads or along private road that is available for public use (1 point for each parcel with min. 100' frontage); use of amenity areas for passive or active recreation (except for pools and enclosed building) is not restricted to residents and is available to the public, gated communities do not qualify	2

**Howard County Council Resolution 116-2007, Exhibit A
GREEN NEIGHBORHOOD CHECKLIST**

Key	Category	Comment / Criteria / Metric	Max Points
D Environmental Preservation			52
D-1	Stream Restoration or Wetland Creation or Restoration	Restoration of degraded on-site stream channel; on-site restoration of degraded wetland or creation of additional wetlands (sliding scale based on % or length of stream restored and % of acres of wetland created or restored)	16
D-2	Habitat Management Plan	Prepare and implement plan that identifies, conserves and enhances natural resources and ecological communities (may include clean up of debris, removal of invasives, etc.)	4
D-3	25% Steep Slope Preservation	Protect all existing steep slopes as defined by County regulations required; provide 25' minimum buffer at top of 25% slope (2 points)	2
D-4	15% Slope Preservation	Protect existing 15%+ slopes (protect minimum 1/2 acre, with sliding scale based on area or % protected)	4
D-5	Minimize Grading and Site Disturbance	Minimize limit of disturbance: leave at least 20% of site undisturbed (1 point), 30% (2 points), 40% (3 points); balance cut and fill on site (2 points); retaining walls 3-5.9' (deduct 1 point) retaining walls 6-8.9' (deduct 2 points), walls 9' and higher (deduct 3 points), no new created steep slopes over 25% (1 point); amend soil nutrients in turf and planting areas (1 point)	5
D-6	Exceed Minimum Forest Conservation Requirements	1 point for every 10% of existing forest retained above break even point; 1 point for every 10% of on-site forest planted in excess of afforestation obligation	5
D-7	Save Trees above 12" Minimum Caliper	1 point for protecting each 25% of all specimen trees (does not include specimen trees within forest conservation area or within forests that are being cleared)	4
D-8a	Exceed Minimum Stream Buffer Requirements	75' buffer required for perennial and intermittent streams inside PSA, 100' buffer required for perennial and intermittent streams outside PSA	REQ'D
D-8b	Exceed Minimum Stream Buffer Requirements	2 points for each additional 25' of buffer provided in excess of requirements in D-8a outside wetland buffer or floodplain	6
D-9	Exceed Minimum Wetland Buffer Requirements	2 points for each additional 25' of wetland buffer outside stream buffer or floodplain	4
D-10	Floodplain Buffer	1 point for each 25' of buffer to floodplain outside required or provided wetland or stream buffer	2
E Site Landscape Improvements			10
E-1	Landscape exceeds Minimum Requirements and Reduces Heat Island Effect	1 point for each 10% increase in number of plants (must be native plants) provided above total minimum required in Landscape Manual; retain or plant trees on south and west sides of buildings and increase trees within parking areas and along sidewalks and paths	5
E-2	Native Plants	1 point for 80%, 2 points for 90%, 3 points for 100% of all plants native to within 200 miles of site	3
E-3	No Invasive Plants	No plants that are on DNR, USDA or Cooperative Extension Service lists of invasive plants	REQ'D
E-4	Limit Turf	Turf does not exceed 30% of unpaved site (1 point); no turf on new created steep slopes 25%+ or in densely shaded areas (1 point); unpaved nonturf areas must be planted in native vegetation	2

**Howard County Council Resolution 116-2007, Exhibit A
GREEN NEIGHBORHOOD CHECKLIST**

Key	Category	Comment / Criteria / Metric	Max Points
F Water Conservation / Efficiency / Management			
F-1	Rainwater Harvesting System	Collect and make use of water runoff from minimum 50% of roof area; provide storage system and monitoring device and maintenance / management program	5
F-2	Water-Permeable Walkways	Use water-permeable materials in 50% or more of pathways; provide maintenance program	4
F-3a	Low Impact Development (LID) Stormwater Treatment	Meets minimum Design Manual requirements; no dry ponds allowed	REQ'D
F-3b	Low Impact Development (LID) Stormwater Treatment	Exceeds Design Manual requirements; maximize use of bioretention (esp. for parking lots), rain gardens, rain barrels, stormwater wetlands, green roof, etc.	8
G Energy Efficiency			
G-1	Light Pollution Reduction	Shield all site lighting fixtures to reduce light and spillover below county code requirements; install sensors or timers on all exterior site lighting fixtures	4
G-2	Solar Orientation	Orient 50% (1 point) or 75% (2 points) or 100% (3 points) of buildings to make available for solar strategies (longer axis of SFD homes, TH blocks and apartment blocks is east / west)	3
G-3	Infrastructure Energy Efficiency	Select high efficiency fixtures for parking lot and other site light fixtures and design delivery systems to reduce energy demands; install photovoltaic (PV) panels to provide electricity for site energy needs (sliding scale points for % of energy provided); design, engineer and wire the development to accommodate future PV installation	6
H Materials Beneficial to the Environment / Waste Management			
H-1	Environmentally Preferable Site Products	Select products from a list including: recycled materials (concrete, asphalt, tires, plastic, etc.), materials with recycled content, salvaged or engineered materials; reuse of existing on-site materials; environmentally preferable pedestrian paving, play equipment, decks, boardwalks, patio flooring, etc.	8
H-2	Reduce Heat-Island Effect of Paving	Use light-colored or high albedo materials and/or porous paving with a minimum Solar Reflective Index of 0.6 or over for at least 30% of the site hardscape	2
H-3	Site Construction Waste Management	Develop and implement a construction waste management plan to divert, reuse, recycle or reduce the amount of site material sent to the landfill by 25% (2 points) or 50% (3 points) or 75% (4 points)	4
H-4	Regionally Provided Materials	20% of common and public infrastructure materials from within 200 miles	3
I Operations and Maintenance Education			
I-1	HOA Documents	Include information about green site features and maintenance requirements in HOA documents	REQ'D
I-2	Maintenance Manual for Owner / HOA / Manager	Provide a manual that includes information on how to maintain the green features of the site, including paving materials, landscaping and stormwater management LID and encourages additional green activities such as recycling, gardening, etc.	REQ'D
I-3	Public Awareness of Sustainable Community	Develop a program to advertise the environmental benefits of the community	REQ'D

TOTAL MAXIMUM SITE POINTS 167
Number of points required to obtain Green Neighborhood Allocations 90

**Howard County Council Resolution 116-2007, Exhibit A
GREEN NEIGHBORHOOD CHECKLIST**

Key	Category	Comment / Criteria / Metric	Max Points
GREEN NEIGHBORHOOD HOME			
A Innovative / Integrated Design Process			
A-1	Green Development Plan	Shows how plans meet criteria, includes checklist, natural resource inventory and energy analysis	4
A-2	Interdisciplinary Project Team	Includes U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Accredited professional and architect	REQ'D
A-3	Third Party Certification	Certification of credits by independent LEED accredited professional	REQ'D
A-4	Innovative Design	Innovative design proposed by applicant, not included in checklist	4
B Materials Beneficial to the Environment / Waste Management			
B-1	Environmentally Preferable Building Products	Select products from a list including: recycled materials, materials with recycled content, salvaged or engineered materials; ecofriendly flooring (carpets, wood, linoleum, tile); reuse of existing on-site materials; environmentally preferable framing, roofing, siding, etc.	8
B-2a	Wood Use	All tropical woods Forest Stewardship Council (FSC) certified	REQ'D
B-2b	Wood Use	All non-tropical wood, 50% FSC certified	2
B-3	Regionally Provided Materials	20% of common materials from within 500 miles	3
B-4	Materials in Wet Areas: Tub & Shower Enclosure	All tubs and showers one-piece fiberglass or similar enclosure	1
B-5	Building Construction Waste Management	Develop and implement a construction waste management plan to reuse, recycle or reduce amount of building material sent to the landfill by 25% (2 points), 50% (3 points) or 75% (4 points)	4
C Energy & Water Efficiency			
C-1a	Photovoltaic (PV) Panels or PV Ready Buildings	Install PV panels to provide electricity for 10% (5 points), 20% (10 points) or 30% (15 points) of energy needs, site, design, engineer and wire the development to accommodate future PV installation (2 points)	15
C-1b	On-Site Power Generation, Renewable Energy Sources	To be identified by applicant (geothermal, wind, passive solar, etc.)	6
C-1c	Added Reductions in Energy Use	To be defined by applicant (additional insulation, etc.)	2
C-2a	Energy Star Appliances	Exclusive use of Energy Star labeled appliances	REQ'D
C-2b	Energy Star Home	All buildings meet Energy Star for Homes with third-party testing	15
C-3a	Water Heating	Improve energy efficiency of hot water distribution system & pipe insulation	3
C-3b	Water Heating	Installed solar hot water heater	4
C-4	Low Flow Water Devices	Showerheads, toilets or sinks flow lower than required by Building Code	2
C-5	Gray Water Reuse System	Collect water from certain indoor uses; include storage system; use for irrigation or indoor use; provide monitoring device and maintenance / management program	4
C-6	Light Pollution Reduction	Install sensors or timers on all exterior building fixtures	2

**Howard County Council Resolution 116-2007, Exhibit A
GREEN NEIGHBORHOOD CHECKLIST**

Key	Category	Comment / Criteria / Metric	Max Points
D	Indoor Environmental Quality		6
D-1	Energy Star with IAP	Meets Energy Star with indoor air package	3
D-2	Combustion Venting	High performance fire place	1
D-3a	Supply Air Filtering	≥ 8 minimum efficiency rating value (MERV) filters w/ adequate system air flow	REQ'D
D-3b	Supply Air Filtering	≥ 10 MERV (1 point) or ≥ 13 MERV (2 points)	2
D-4	Contaminant Control	Seal-off ducts during construction	REQ'D
E	Healthy Living Environment		3
E-1	Low/No VOC Paint & Primer	All interior paints	REQ'D
E-2	Low/No VOC Adhesive & Sealant	All interior adhesives and sealants	REQ'D
E-3	Formaldehyde-free Composite Wood	No composite wood with exposed particleboard	REQ'D
E-4	Ventilation	Install a ventilation system that that provides 15 cubic feet per minute of fresh air / per bedroom	3
F	Operations and Maintenance Education		0
F-1	HOA Documents	Include information about green building features and maintenance requirements in HOA documents	REQ'D
F-2	Maintenance Manual for Owner / HOA / Manager	Provide a manual that includes information on how to maintain the green building features, including building materials, and water, energy and air quality systems, and encourages additional green activities such as recycling, gardening, etc.	REQ'D
F-3	Public Awareness of Sustainable Community	Develop a program to advertise the environmental benefits of the community	REQ'D

TOTAL MAXIMUM BUILDING POINTS 84
Number of points required to obtain Building Permits for homes in Green Neighborhoods 46

Appendix B Green Neighborhood Site Compliance Checklist

GREEN NEIGHBORHOOD SITE COMPLIANCE CHECKLIST (Insert Project Name Here)

This chart shows the required format for the Green Neighborhood Site Compliance Checklist and provides sample language for A and B Credits only. The chart also shows a sample final page for the Compliance Checklist with the required Third Party Certification signature box.

Credit No.	Credit	Champion (Name, Role)	Preliminary Equivalent Sketch Plan: Strategies	Final Plan: Strategies	Site Development Plan: Strategies	Documentation Location	Max Points	Requested Points
A	Innovative / Integrated Design Process						4	0
A-1	Green Development Plan	Juan Diaz, Project Manager	Provided	No change	No change	GN Plan Sheet provided; GN Report provided	REQ'D	
A-2	Interdisciplinary Project Team	John Smith, Developer	Team includes LEED accredited registered landscape architect, wildlife biologist, professional engineer	No change	No change	GN Plan Sheet: Team listed, required signature blocks provided; GN Report: All team members listed	REQ'D	
A-3	Third Party Certification	Jane Doe, LEED Accredited Consultant	Checklist points requested have been certified by third party LEED-accredited professional	No change	No change	GN Plan Sheet and GN Report: Signed certification on Compliance Checklist	REQ'D	
A-4a	Innovative Design A						1	0
A-4b	Innovative Design B						1	0
A-4c	Innovative Design C						1	0
A-4d	Innovative Design D						1	0
B	Location, Linkages & Community Context						27	11
B-1a	Redevelopment Site						4	0
B-1b	Redevelopment Site (Brownfield)						8	0
B-2	Historic Buildings	Jim Brown, Architect	Historic home on HC Historic Sites Inventory, adaptive reuse as 4 apartments proposed	Ground floor of home will be used as community meeting room; 2 apartments are proposed on upper story	No change	Sheet X of Y: Building shown; GN Report: Inventory sheet & narrative describing how the historic building will be rehabilitated	4	4
B-3a	Transit Access & Amenities for Reduced Auto Dependence (Stop)	Kim Chan, Civil Engineer	Howard Transit bus route within 1/2 mile, bus stop proposed, existing off-site sidewalk, on-site sidewalk will be connected	No change	No change	GN Plan Sheet: Vicinity map & table show the number of units and walking distance; GN Report: Letter from transit service provider confirming stop and service	2	2
B-3b	Transit Access & Amenities for Reduced Auto Dependence (Shelter)						4	0
B-4	Proximity to Community Resources	Betty Smith, Landscape Architect	School, library, shops and medical offices within 1/2 mile, existing off-site sidewalk, on-site sidewalk will be connected	No change	New public parkland added within 1/2 mile	GN Plan Sheet: Vicinity map & table showing facilities and walking distances	5	5

Date: (Insert Date)

GREEN NEIGHBORHOOD SITE COMPLIANCE CHECKLIST (Insert Project Name Here)

This chart shows the required format for the Green Neighborhood Site Compliance Checklist and provides sample language for A and B Credits only. The chart also shows a sample final page for the Compliance Checklist with the required Third Party Certification signature box.

Credit No.	Credit	Champion (Name, Role)	Preliminary Equivalent Sketch Plan: Strategies	Final Plan: Strategies	Site Development Plan: Strategies	Documentation Location	Max Points	Requested Points
I	Operations and Maintenance Education						0	0
I-1	HOA Documents						REQ'D	
I-2	Maintenance Manual for Owner / HOA /						REQ'D	
I-3	Public Awareness of Sustainable						REQ'D	

TOTAL GREEN NEIGHBORHOOD SITE POINTS	167
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Number of points required to obtain Green Neighborhood Allocations **90**

Third Party Certification

By affixing my signature below, the undersigned does hereby declare and affirm to Howard County that the targeted Green Neighborhood Site credits and point total, as specified in this Green Neighborhood Site Compliance Checklist, are reasonable and achievable.

Signature	Title	LEED Accreditation Number	Date
Name	Organization	Telephone	Email
Submission (mark "X" where applicable):			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preliminary	Equivalent Sketch Plan	Final Plan	Site Development Plan

Date: (Insert Date)

Appendix C Signature Blocks

Green Development Plan Submittals

Preliminary Equivalent Sketch Plan

- Provide the standard Howard County tentative approval signature block for the Planning Director on the lower left corner of all plan sheets.
- Provide the following Howard County tentative approval signature block on the lower left corner of the Green Neighborhood Plan Sheet(s). Tentative approval indicates that the plan is expected to achieve the minimum points required for Green Neighborhood for Sites at the time that permanent Green Neighborhood allocations are granted.

TENTATIVELY APPROVED	
Howard County Department of Planning & Zoning	
Green Neighborhood Plan for Sites	
<hr/>	
Chief, Resource Conservation Division	Date

- Provide a LEED Accredited Professional signature block on the lower right corner of the Green Neighborhood Plan Sheet(s)

LEED ACCREDITED PROFESSIONAL CERTIFICATE		
Green Neighborhood Plan for Sites		
I hereby certify that this plan represents a practical and workable plan for achieving the targeted credits and point total shown on the Green Neighborhood for Sites Compliance Checklist.		
<hr/>		
Signature of (insert printed name)	LEED Accreditation No.	Date

Final Plan and/or Site Development Plan

- Provide the standard Howard County approval signature block for the Planning Director; Chief, Development Engineering Division; and Chief, Division of Land Development on the lower left corner of all plan sheets, as required per the applicable Department of Planning and Zoning checklists.
- Provide the Howard County approval signature block on the lower left corner of the Green Development Plan Sheet(s). Approval indicates that the plan has achieved the minimum points required for Green Neighborhood for Sites and qualifies for Green Neighborhood allocations.

APPROVED	
Howard County Department of Planning & Zoning	
Green Neighborhood Plan for Sites	
<hr/>	
Chief, Resource Conservation Division	Date

- Provide a LEED Accredited Professional signature block on the lower right corner of the Green Neighborhood Plan Sheet(s).

LEED ACCREDITED PROFESSIONAL CERTIFICATE		
Green Neighborhood Plan for Sites		
I hereby certify that this plan represents a practical and workable plan for achieving the targeted credits and point total shown on the Green Neighborhood for Sites Compliance Checklist.		
<hr/>		
Signature of (insert printed name)	LEED Accreditation No.	Date

Appendix D Project Description Form

GREEN NEIGHBORHOOD REPORT FOR SITES (Insert Project Name Here)

This sheet should be provided as the inside cover page of the Green Neighborhood Report

Project Description

Summary description of site and proposed development including location context and proposed land uses: (please expand response cell if necessary)

Goals

Sustainability Goal/ Mission Statement, including energy analysis explaining how the project reduces energy consumption and promotes energy conservation and renewable energy generation.

Table of Contents

Credit	Documentation Provided	Page
A-1	Green Neighborhood Site Compliance Checklist with Third Party Certification (Required)	Appendix A
A-2	Interdisciplinary Project Team (Required)	1

Appendix E Green Development Plan Submittal Matrix

Key	Category	Green Dev Plan Sheet			Sheet Number in Plan Set	GN Report		
		Vicinity Map	Notes	Table		Narrative	Documents	Template
A	Innovative / Integrated Design Process							
A-1	Green Development Plan							
A-2	Interdisciplinary Project Team		X					
A-3	Third Party Certification		X					
A-4	Innovative Design					X		X
B	Location, Linkages & Community Context							
B-1a	Redevelopment Site		X	X	X			
B-1b	Redevelopment Site (Brownfield)				X	X	X	
B-2	Historic Buildings				X	X	X	
B-3a	Transit Access & Amenities for Reduced Auto Dependence (Stop)	X	X	X			X	
B-3b	Transit Access & Amenities for Reduced Auto Dependence (Shelter)	X	X	X			X	
B-4	Proximity to Community Resources	X		X		X		
C	Compact, Complete & Connected Development							
C-1	Diversity of Uses			X	X		X	
C-2	Planned Service Area		X					
C-3a	Pedestrian System (Path)				X	X		
C-3b	Pedestrian System (Connections)	X			X	X		
C-3c	Pedestrian System (Amenities)		X		X			
C-4	Connected On-site Street Network			X	X			
C-5	Parking does not exceed Required Minimum			X	X			
C-6	Exceed Minimum Open Space Requirements			X	X			
C-7	Green Spaces and Amenity Areas			X	X			
D	Environmental Preservation							
D-1	Stream Restoration or Wetland Creation or Restoration				X		X	
D-2	Habitat Management Plan						X	
D-3	25% Steep Slope Preservation		X		X			
D-4	15% Slope Preservation			X	X			
D-5	Minimize Grading and Site Disturbance		X	X	X	X		
D-6	Exceed Minimum Forest Conservation Requirements			X	X			
D-7	Save Trees above 12" Minimum Caliper		X	X	X			
D-8a	Exceed Minimum Stream Buffer Requirements		X		X			
D-8b	Exceed Minimum Stream Buffer Requirements			X	X			
D-9	Exceed Minimum Wetland Buffer Requirements			X	X			
D-10	Floodplain Buffer			X	X			

Key	Category	Green Dev Plan Sheet			Sheet Number in Plan Set	GN Report		
		Vicinity Map	Notes	Table		Narrative	Documents	Template
E	Site Landscape Improvements							
E-1	Landscaping exceeds Minimum Requirements and Reduces Heat Island Effect			X	X			
E-2	Native Plants			X	X			
E-3	No Invasive Plants		X					
E-4	Limit Turf	X	X	X	X			
F	Water Conservation / Efficiency / Management							
F-1	Rainwater Harvesting System		X		X	X	X	
F-2	Water-Permeable Walkways			X	X	X		
F-3a	Low Impact Development (LID) Stormwater Treatment				X			
F-3b	Low Impact Development (LID) Stormwater Treatment		X		X			
G	Energy Efficiency							
G-1	Light Pollution Reduction		X		X	X		X
G-2	Solar Orientation			X	X			
G-3	Infrastructure Energy Efficiency					X	X	
H	Materials Beneficial to the Environment / Waste Management							
H-1	Environmentally Preferable Site Products				X	X		X
H-2	Reduce Heat-Island Effect of Paving				X	X		X
H-3	Site Construction Waste Management						X	
H-4	Regionally Provided Materials					X		X
I	Operations and Maintenance Education							
I-1	HOA Documents					X	X	
I-2	Maintenance Manual for Owner / HOA / Manager					X	X	
I-3	Public Awareness of Sustainable Community					X	X	

Appendix F Template A-4a: Innovative Design

Project Name:
Template A-4a: Innovative Design

Submit one Template for each Innovative Design credit requested

Title of Proposed Measure
Intent of Proposed Measure
Proposed Requirement for Compliance
Proposed Documentation to Demonstrate Compliance
Estimated Benefit or Impact of Proposed Measure

Points Documented

Appendix G Template G-1: Light Pollution Reduction

Project Name:
Template G-1: Light Pollution Reduction

Lighting Power Density for Exterior Site Areas

For each exterior area, list the location identification, the area for the specified location, the actual lighting power density (LPD), and the ASHRAE allowable LPD for that location

Location ID	Area (sf)	Actual LPD (W/sf)	ASHRAE 90.1-2004 Allowable LPD (W/sf)	Green Neighborhood Allowable LPD (W/sf)
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00

Exterior Site Lighting Actual Power (Watts)

Exterior Site Lighting Green Neighborhood Allowable Power (Watts)
(adds 5% unrestricted allowance per ASHRAE 90.1-2004 Table 9.4.5)

Complies (Yes/No)

Lighting Power Density for Landscape Lighting

For each landscape area, list the location identification, the area for the specified location, the actual lighting power density (LPD), and the ASHRAE allowable LPD for that location

Location ID	Area (sf)	Actual LPD (W/sf)	ASHRAE 90.1-2004 Allowable LPD (W/sf)	Green Neighborhood Allowable LPD (W/sf)
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00

Landscape Lighting Actual Power (Watts)

Landscape Lighting Green Neighborhood Allowable Power (Watts)
(adds 5% unrestricted allowance per ASHRAE 90.1-2004 Table 9.4.5)

Complies (Yes/No)

Points Documented

To comply, the LPD for exterior areas and landscape features must not be more than the Green Neighborhood allowable LPD

Appendix H Environmentally Preferable Site Products List & Template H-1

Acceptable products include recycled-content materials, salvaged or reclaimed materials, and products made from environmentally preferable materials.

Recycled-Content Materials

Unless specified below, there is no required minimum recycled content for a material. The recycled content percentage of the material is multiplied by the cost of the material to determine the value of the recycled content. Full credit will be given for a material's post-consumer recycled content percentage and half-credit will be given for a material's pre-consumer recycled content percentage.

Material	Minimum Recycled Content
Aggregate base and aggregate subbase	90% by volume post-consumer recycled aggregate materials
Asphalt base	15% by volume post-consumer recycled asphalt pavement
Asphalt concrete pavement	15% by volume post-consumer recycled asphalt pavement OR 75% by volume post-consumer rubberized asphalt concrete from scrap tires OR 5% (of total weight) of pre-consumer or post-consumer asphalt roofing shingles
Portland cement concrete pavement	Recycled mineral admixtures to reduce the concrete mix's typical Portland cement content by at least 25% AND 10% by volume post-consumer concrete material aggregate
Piping made of Portland cement concrete	Recycled mineral admixtures to reduce the concrete mix's typical Portland cement content by at least 25%

Post-consumer material is waste material generated by end-users of a product, such that the product can no longer be used for its intended purpose. Pre-consumer material is material diverted from the waste stream during the manufacturing process. Not included in this category is reuse of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it.

The recycled content value of an assembly is determined by weight. The recycled fraction of the assembly is multiplied by the cost of the assembly to determine the value of the recycled content for that assembly.

Recycled-content materials can include the following:

- concrete
- asphalt
- other recycled-content paving material
- rubber
- plastic
- steel
- aggregate
- mineral admixtures for cement concrete, including coal fly ash, ground granulated blast furnace slag, rice hull ash, silica fume, other pozzolanic industrial byproduct

Sample calculations for the total value of recycled content of an assembly:

Total cost of assembly = \$100

Total weight of assembly = 200 lbs

Total weight of pre-consumer content = 50 lbs

Total weight of post-consumer content = 25 lbs

Total weight of recycled content = (50% x pre-consumer content) + post-consumer content =
(50% x 50 lbs) + 25 lbs = 50 lbs

Total percent recycled content = Total weight of recycled content / Total weight of material =
50 lbs / 200 lbs = 25%

Total value of recycled content of the assembly = Percent recycled content x Total cost of
assembly =
25% x \$100 = \$25

Salvaged Materials

Salvaged or reclaimed materials are materials that have been selectively removed from existing buildings and sites and reused in other buildings and/or sites. The cost of a salvaged material is calculated as the actual cost paid for the material or the cost of an equivalent new item (aka replacement cost), whichever is higher.

Environmentally Preferable Materials

Environmentally preferable materials are defined as having one or a combination of the following characteristics:

- PVC-free materials
- Rapidly renewable materials (made from plants/animals that are typically harvested within a ten-year cycle, such as soy, wool, cotton, straw, bamboo, linoleum, sorghum)
- Forest Stewardship Council (FSC) certified wood
- Copper azole (CA-B) or alkaline copper quat (ACQ) treated wood

Non-Environmentally Friendly Products

The following non-environmentally friendly products should be avoided:

- Vinyl decks, fencing, and siding
- Chromated copper arsenate (CCA) treated wood; for alternatives, see: <http://www.epa.gov/oppad001/reregistration/cca/index.htm#alternatives>
- Hazardous materials such as lead, asbestos, and mercury



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<http://www.co.ho.md.us/DPZ/Environment/environment.htm>