

Baltimore City
Critical Area Management Program Manual
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GENERAL INFORMATION

1.1 Introduction to the Critical Area Management Program (CAMP)

Declines in the Chesapeake Bay's once bountiful populations of fish, crustaceans, waterfowl and other wildlife can be directly linked to a parallel decline in water quality and destruction of natural habitat—both consequences of increasing human activity within the Bay's watershed.

Population growth within the watershed, as well as changing farming and land use practices, have increased nutrient and sediment loads into the Bay, contributing to its decline. The residents and the lands immediately surrounding the Bay and its tidal tributaries have the greatest impact on water quality and natural habitat—those who benefit the most from the beauty of the Bay also bear the greatest responsibility for its future. The Critical Area Program addresses this connection by regulating the Critical Area - all land and all development within 1000 feet of the Bay and its tidally effected tributaries.

The Chesapeake Bay Critical Area Act (Section 8-1801 et. Seq., Natural Resources article, Annotated Code of Maryland) establishes the State of Maryland Chesapeake Bay Critical Area Commission and requires that Baltimore City prepare and adopt a Critical Area Management Program (CAMP) to protect and improve the shoreline habitat and tidal waters of the Chesapeake Bay and its tributaries. All land within 1,000 feet of the shore fall within the Critical Area and must be regulated to meet the program goals and requirements. The map on the previous page illustrates the extent and location of the Critical Area within Baltimore City.

1.2 CAMP Goals

The goals of the CAMP are as follows:

- Improve water quality by reducing the adverse impacts of human activity,
- Conserve and restore fish, plant and wildlife habitat while accommodating growth and revitalization, and
- Promote a more attractive and sustainable environment for Baltimore's citizens.

1.3 Overview of CAMP Requirements

The Maryland State Critical Area Regulations as defined in COMAR Title 27 establish criteria which the City's CAMP must meet. By these regulations, development within the Critical Area must:

- Meet "The 10% rule" by reducing pollutants running off the land by 10% above existing conditions, as measured by phosphorus,
- Preserve, enhance and restore trees, vegetation and habitat throughout the Critical Area,
- Plan for and manage the Critical Area Buffer to preserve, enhance and restore trees, vegetation and habitat,
- Preserve and restore shoreline, and
- Follow CAMP regulations on use, zoning, subdivision, lot consolidation and reconfiguration.

1.4 This Manual

This Manual has been developed to help property owners and developers better understand the requirements that apply to their land or project. Once the classification of the land is determined, the owner or developer can refer to the appropriate section of this manual for a detailed description of not only the development area designation, but also a complete description of the types of projects allowed, prohibited uses, and the Critical Area guidelines. Based upon a site's location, it may be subject to multiple categories of regulations, which may include IDA or RCA requirements, Buffer requirements, Habitat Protection requirements and other requirements, conditions, or limitations.

This manual is meant to be used in conjunction with COMAR Title 27 and the Baltimore City Zoning Code, Title 7, Subtitle 4. The Baltimore City CAMP and all development within the Critical Area must comply with COMAR Title 27 and the City Code.

1.5 Actions Requiring Critical Area Project Review

Development in the Critical Area is subject to Critical Area review and requirements each time one or more of the following public actions occurs:

- Building/Grading Permit
- Zoning Variance
- Conditional Use or Special Exception
- Subdivision or Lot Consolidation
- Rezoning
- Other City, State and Federal project requirements

The above actions may include: construction, reconstruction, modification, expansion or demolition of structures; placement of fill; dredging; drilling; mining; grading; paving; land excavation; clearing; land improvement, or storage of materials.

Once the Critical Area review process is triggered by one of the above public actions, the project will be evaluated by the Department of Planning to determine whether or not the proposed development is “significant development.”

Table 1.1 specifies which actions in Baltimore City are “significant” and require a full review and notification of the Critical Area Commission in accordance with COMAR 27.03.01.

Table 1.1 – Summary of Notification Requirements – Critical Area Commission

Type of Application	IDA	RCA
Disturbance to a Habitat Protection Area	Y	Y
Physical disturbance to the Buffer	Y	Y
Variance from Critical Area provisions	Y	Y
Development resulting in less than 5,000 sq. ft. of disturbance	N	N
Development resulting in between 5,000 and 10,000 sq. ft. of disturbance	N	Y
Development resulting in greater than 10,000 sq. ft. of disturbance	Y	Y
Subdivision of 10 lots or fewer	N	Y

Subdivision of greater than 10 lots	Y	Y
Subdivision affecting growth allocation	N/A	N/A
Intra-family transfer	N/A	Y
Rezoning that would occur wholly or partially within the Critical Area	Y	Y
Special exception or conditional use for industrial, commercial, institutional, non-residential, or multi-family	Y	Y
Substantial alteration to applications previously submitted to the Critical Area Commission	Y	Y
Expenditure for improvements to the property equal to or greater than 50% of the assessed value (only the first instance applies, a second renovation does not trigger a review) see criteria for exemption in section 9	Y	Y

*Y indicates that the action requires a full Critical Area Review and notification to the Critical Area Commission. Mitigation for vegetation removal may be required even when a full review is not necessary.

If a development is deemed “significant,” an applicant must meet all the requirements of the Critical Area Program. Plans, worksheets and other requirements are listed in Section 11: Materials Needed for Compliance.

Certain development projects and uses may be judged to be significant development when a property is developed over time or through obtaining multiple building or use and occupancy permits. In cases where the cumulative impact of the use or development ultimately results in meeting the significant development definition above, the project or use will be subject to Critical Area review.

1.6 Prohibited and Conditional Uses in the Critical Area

Certain uses are prohibited within the Critical Area or the Buffer. Other uses may be permitted as conditional uses if they meet certain requirements and receive approval from the BMZA. If particular standards are met, some prohibited uses may be approved as exceptions.

Critical Area Prohibited Uses

The following uses are prohibited within all portions of the Critical Area:

- Dwelling unit or other non-water dependent structure on a pier, wharf, dock, walkway, bulkhead, breakwater, piles, or other similar structure, except as authorized under State Natural Resources Article § 8-108.4
- Collection, storage, handling, or disposal of hazardous and toxic materials, as defined in COMAR 11.07.01.01A
- Commercial or municipal incinerators
- Junk or scrap storage and yards, including storage on barges and belt conveyor systems used for the transfer of materials – this prohibition does not apply to the continuous process of loading or unloading processed metal for and during its transfer to or from a docked barge or vessel awaiting shipment
- Landfills
- Liquefied natural gas and petroleum gas terminals

- Non-water dependent uses on barges in tidal waters, except maritime museums
- Non-water dependent uses on permanently moored vessels in the Inner Harbor Basin, except maritime museums
- Storage and handling of radioactive waste
- Recycling collection stations
- Solid waste acceptance facilities as defined in City Code Article 23, except for facilities approved as a conditional use by the BMZA
- Automobile dismantling and recycling -- maintenance, dismantling or storage of abandoned, unlicensed, junked, or derelict vehicles

Prohibited Uses within the Buffer

The following uses are prohibited within the Buffer:

- Storage facilities for nutrients (that is, elements or compounds essential as raw material for organic growth and development; for example, carbon, nitrogen, and phosphorus)
- Sand or gravel extraction operations
- Cement plants
- Chemical plants

Exceptions to Prohibited Uses

The prohibitions listed above do not apply if the following standards are met:

- On recommendation of the Department of Planning, the Board of Municipal and Zoning Appeals finds that both:
 - There is no environmentally acceptable alternative outside the Critical Area.
 - The use is needed to correct an existing water quality or wastewater management problem.
- For any new use that constitutes a significant development or for any expansion of a nonconforming use, a best management practices plan that will achieve a net improvement in water quality and habitat is submitted and implemented as a requirement of the Critical Area review process.

Conditional Uses outside the Buffer

Solid waste acceptance facilities as defined in City Code Article 23 are prohibited in the Critical Area, with the exception of the following which are conditional uses outside of the Buffer requiring approval of the BMZA upon the recommendation of the Department of Planning:

- Waste-to-energy facilities;
- Indoor operated transfer facilities;
- Indoor operated composting facilities, such as ‘in-vessel’ composting facilities.

Grandfathered Uses

Any use which lawfully existed or was approved by the Board of Municipal and Zoning Appeals as of the date of the enactment of this ordinance, January 4, 1988, is considered grandfathered. Any expansion of these grandfathered uses must meet the standards of the Zoning Code for non-conforming uses and for uses Prohibited in the Critical Area.

I.7 Critical Area Commission Approval of Significant Projects

After projects are reviewed by the Baltimore City Department of Planning, CAMP staff will send an application package to the Critical Area Commission for review. Once the application is reviewed, a letter with either comments or approval is sent back to the Department of Planning.

The Department of Planning will then provide notice to the applicant of decisions regarding project approvals or denials in accordance with procedures approved by the Critical Area Commission.

For more detailed information on the Critical Area Review process, please see Section 10 - Implementation of the CAMP.

I.8 Compliance with Other City Ordinances

All development within the Critical Area must comply with all the applicable provisions of the City Code. This includes, but is not limited to:

- Baltimore City Code: Article 7-Natural Resources-Stormwater Management
- Baltimore City Code: Article 7-Natural Resources-Floodplain District
- Baltimore City Zoning Code: Title 7, Subtitle 4, --Critical Area Overlay District
- Baltimore City Building Code

Compliance with the City of Baltimore Stormwater Management regulations

In addition to the Critical Area 10% phosphorus reduction requirement, projects in the Critical Area are required to comply with all existing City of Baltimore stormwater management regulations for both quantity and quality. Procedures for permits, inspection, performance bonding, maintenance, appeals, and penalties are explained in the Stormwater Management Design Manual. The Department of Public Works, Bureau of Water and Waste Water, Surface Water Management Division can be reached at 410-396-0732.

Waivers, exceptions or variances from Stormwater Management requirements do not necessarily apply to the Critical Area pollution reduction requirements.

The Stormwater Management Design Manual provides guidelines for run-off pollution reduction in the Critical Area. The Manual also includes an assessment methodology for evaluating pollutant removal effectiveness of stormwater management facilities, and instructions for review and approval of runoff pollution reduction plans. The Department of Public Works administers the review and approval process.

Compliance with the City of Baltimore Landscape Manual

The Baltimore City Landscape Manual applies to any development or redevelopment project involving 5,000 square feet or more of site disturbance and requiring Site Plan Review Committee approval, including projects within the Critical Area. Plantings provided to meet Critical Area mitigation requirements may be credited towards the requirements of the Landscape Manual if the plantings also meet the conditions and standards of the Landscape Manual.

Conflicts with other Codes, Ordinances and Regulations

In some instances the application of the Critical Area Management Program may create conflicts with other City Codes, Ordinances or Regulations. In these situations, the stricter provisions shall apply.

1.9 Overview of CAMP Manual

Designation of Development Areas

The City is required by the State Critical Area Act to differentiate sub-areas within its Critical Area according to land use types and densities that existed at the time of program development. These areas are subject to different guidelines and restrictions that govern development and use. The Critical Area Regulations (COMAR 27) establish three land use classifications, which are designed to accommodate growth in such a manner as to conserve habitat and protect water quality. The three development areas are:

1. Intensely Developed Areas (IDA)
2. Limited Development Areas (LDA)
3. Resource Conservation Areas (RCA)

The land within Baltimore City's Critical Area falls into two of the three categories outlined in the Critical Area Act: Intensely Developed Areas and Resource Conservation Areas. Baltimore has no Limited Development Areas. The map below illustrates the distribution of Baltimore's Critical Area between Intensely Developed Areas and Resource Conservation Areas.

The vast majority of the City's Critical Area is designated as Intensely Developed Area, the guidelines and restrictions for which are further detailed in Section 2 – Intensely Developed Areas. The diversity of existing land uses in this sub-area necessitates that the City further differentiate this sector of its Critical Area into Waterfront Revitalization Areas and Waterfront Industrial Areas.

The remainder of the City's Critical Area is designated as Resource Conservation Area (RCA). Guidelines and restrictions for Resource Conservation Areas are provided in Section 3 – Resource Conservation Areas.

The Critical Area Buffer

The Critical Area Act requires the establishment of a protective buffer around aquatic resources within the Critical Area. The Buffer is measured 100-foot landward from the mean high water line of tidal waters, the landward edge of tidal wetlands, and both banks of tributary streams. In some instances, the Buffer is expanded beyond 100 feet to include contiguous steep slopes, hydric soils, highly erodible soils, or non-tidal wetlands. When a development project encroaches upon the Buffer, the submission and approval of a Buffer Management Plan is required. Guidelines, restrictions, and submission requirements for development projects containing land within the Buffer are further detailed in Section 4 – The Critical Area Buffer

Habitat Protection Areas and Designated Habitat Areas

The Critical Area Act also requires the City to identify existing natural resources in and around the Critical Area and establish provisions for protecting and enhancing these resources. In Section 5 – Habitat Protection Areas and Designated Habitat Protection Areas, specific resources and environmental concerns are described, including resource protection, wildlife habitat protection, water quality and shore erosion control. Maps and descriptions of Baltimore’s Designated Habitat Protection Areas are included in Section 13 – Designated Habitat Protection Areas

Mitigation Standards & Planting Guide for the Critical Area

To protect wildlife habitat, water quality, and forest cover, development and redevelopment projects are required to meet mitigation planting requirements. Detailed information on mitigation requirements and planting guidelines can be found in Section 6 – Mitigation Standards and Planting Guide for the Critical Area.

Stormwater Pollutant Reduction in the IDA

Development and redevelopment projects are required to reduce stormwater runoff pollutant levels by at least 10% below that of existing land use, through the use of best management practices. This is known as the 10% Rule. Further guidance for meeting the 10% Rule can be found in Section 7 – Stormwater Pollutant Reduction in the IDA.

Offset Programs

Alternative methods of compliance are allowed if the applicant can prove that the Critical Area Requirements cannot be met onsite, or if the CAMP goals are better met by alternative compliance. This is most often done through offsite mitigation or offset fee programs. These topics are detailed further in Section 8 – Offset Programs.

Additional Information About the Camp

Additional requirements and exceptions apply to some development and uses within the Critical Area. Because they were in place before the adoption of the Critical Area Regulations, some uses or sites may be subject to Grandfathering.

Implementation of the CAMP and Materials Needed for Compliance

The Critical Area Act requires that each jurisdiction establish administrative procedures for implementing a local development review process. These procedures must include provisions for interagency coordination, enforcement and appeals are in Section 10 – Implementation of the CAMP.

Forms, Worksheets, and Additional Resources

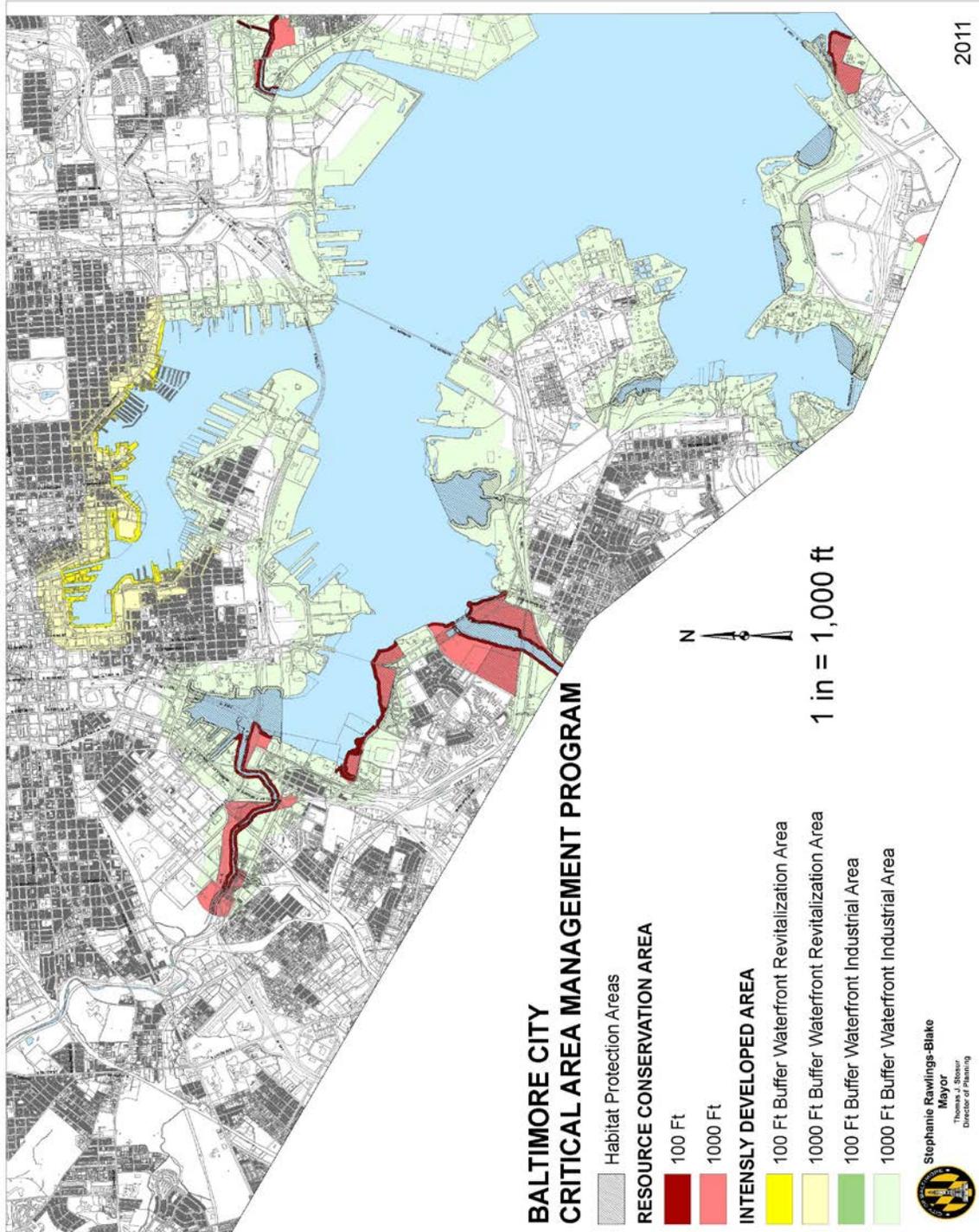
The materials needed for compliance for Baltimore’s Critical Area Management Program, and other resources helpful to preparing required submissions are provided in Section 11 – Forms, Worksheets, and Additional Resources.

Definitions

Definitions of terms used throughout the manual are provided in Section 12 – Definitions.

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Note: when the new zoning code is adopted, some areas within the IDA will change from waterfront industrial areas to waterfront revitalization areas as the underlying zoning changes.



2 INTENSELY DEVELOPED AREAS (IDA)

The vast majority of the City's Critical Area is designated as Intensely Developed Area (IDA). The diversity of existing land uses in the IDA necessitates further differentiation of the IDA into Waterfront Revitalization Areas and Waterfront Industrial Areas. The map above illustrates where Waterfront Revitalization Areas and Waterfront Industrial Areas are located within the IDA.

2.1 Waterfront Revitalization Area

The Waterfront Revitalization Area (WRA) is one of two sub-districts within the Intensely Developed Area and is undergoing redevelopment. This area is approximately 617 acres, or 12.7% of the land area of the City's Critical Area. The area starts at the Harborview property and proceeds clockwise around the harbor to the intersection of Boston and Clinton streets in Canton. [When the new Zoning Code is adopted in 2012, there will be additional Waterfront Revitalization Areas.] The intensity of use, extensive storm drain system and bulkheaded shores often preclude the habitat and stormwater filtering benefits of the Buffer. In addition, a hard-edged urban public promenade exists and is almost complete along the full length of the area.

Critical Area Requirements in the Waterfront Revitalization Area

Buffer Requirements in the WRA

Buffer Management Plans are required for any project that encroaches upon the Buffer in order to mitigate or establish vegetated areas that serve to protect aquatic, wetland, and shoreline environments from man-made disturbances. The requirements for Buffer establishment and mitigation are detailed in Section 4 – The Critical Area Buffer.

Afforestation Requirement in the WRA

Projects within the WRA must meet afforestation requirements for the portions of the site within the WRA but not within the Buffer. Areas within the Buffer have separate planting requirements. Afforestation requirements for projects in the WRA can be found in Section 6 – Mitigation Requirements and Planting Guidelines.

Mitigation Requirements for Vegetation Removal in the WRA

The removal of trees or woody plants within the WRA requires advanced approval of the Director of Planning and must be mitigated in accordance with this manual. Mitigation requirements for projects in the WRA can be found in Section 6 – Mitigation Requirements and Planting Guidelines.

Runoff Pollution Reduction in the WRA

Development and redevelopment projects are required to reduce stormwater runoff pollutant levels by at least 10% below that of existing land use, through the use of best management practices. This is known as the 10% Rule. Total phosphorus is used as the basis for computing pre-development and post-development pollutant loads to determine compliance with the 10%

Rule. Further guidance for meeting the 10% Rule can be found in Section 7 – Stormwater Pollutant Reduction.

2.2 Waterfront Industrial Area

The Waterfront Industrial Area (WIA) is the second sub-district in the Intensely Developed Area and generally has fewer structures and less lot coverage than the Waterfront Revitalization Area. This portion of the City's IDA is 3,795 acres, or 78.4% of the City's Critical Area.

A large amount of the City's industrially zoned land lies within the WIA, which has long been developed for port-related purposes. The City encourages the redevelopment of this area as part of its effort to retain and create jobs and industry. The City seeks the development of port-related facilities within its Critical Area, but cannot reserve it exclusively for this purpose. The development of marinas is primarily regulated by the Zoning Code and guided by the Maritime Master Plan. Portions of the City's industrial waterfront areas are protected and reserved for industrial uses by the Maritime Industrial Zoning District, Title 11, Subtitle 1 of the Baltimore City Zoning Code .

Critical Area Requirements in the WIA

Afforestation Requirement in the WIA

Projects within the WIA must meet afforestation requirements for the portions of the site within the WIA but not within the Buffer. Areas within the Buffer have separate requirements. Afforestation requirements for projects in the WIA can be found in Section 6 – Mitigation Requirements and Planting Guidelines.

Mitigation Requirements for Vegetation Removal in the WIA

The removal of trees or woody plants within the WIA requires advance approval of the Director of Planning and must be mitigated in accordance with this manual. Mitigation requirements for projects in the WIA can be found in Section 6 – Mitigation Requirements and Planting Guidelines.

Runoff Pollution Reduction in the WIA

Development and redevelopment projects are required to reduce stormwater runoff pollutant levels by at least 10% below that of existing land use, through the use of best management practices. This is known as the 10% Rule. Total phosphorus is used as the basis for computing pre-development and post-development pollutant loads to determine compliance with the 10% Rule. Further guidance for meeting the 10% Rule can be found in Section 7 – Stormwater Pollutant Reduction.

Buffer Requirements in the WIA

Critical Area requirements for development in the Buffer vary, depending on whether the development is a water-dependent use or not. To the extent possible, non-water-dependent structures or operations associated with water-dependent projects or activities must be located outside the Buffer, in accordance with COMAR 27.01.03.03-(a)(4). Any proposals for new or expanded water-dependent facilities shall be considered in relation to the criteria set forth in

COMAR 27.01.03.04 - Local Plan Requirements for Water-Dependent Facilities. Buffer Management Plans are required for any project that encroaches upon the Buffer in order to mitigate or establish vegetated areas that serve to protect aquatic, wetland, and shoreline environments from man-made disturbances. The requirements for Buffer establishment and mitigation are detailed in Section 4 – The Critical Area Buffer.

Buffer Requirements for a Water-Dependent Use in WIA

Water-dependent development within the Buffer of the Waterfront Industrial Area requires that the applicant offset for the land area within the Buffer which has been disturbed for new construction or new paving. The applicant is also required to mitigate for any vegetation disturbed by development and meet Buffer establishment requirements for any new lot coverage. In addition, shore erosion problems must be corrected.

Development within the Buffer for a Non-Water-Dependent Use in WIA

Non-water dependent development within the Buffer of the Waterfront Industrial Area is limited to 50% of the total Buffer area. Buffer establishment requirements must be met for at least half the Buffer area and the applicant must mitigate for the remainder that is not vegetated. The applicant is also required to mitigate for any vegetation disturbed by development and meet Buffer establishment requirements for any new lot coverage. In addition, shore erosion problems must be corrected.

A Buffer Management Plan that meets the requirements of this manual and COMAR 27 must be submitted to the Department of Planning for approval. The Buffer must then be vegetated, or mitigated for by other means, according to the plan.

3 RESOURCE CONSERVATION AREAS (RCA)

The portion of the City's Critical Area not designated as IDA is designated as Resource Conservation Area (RCA). This sub-area represents 8.9% of the land area of the City's Critical Area. The Resource Conservation Area is almost exclusively floodplain areas and shoreline parks. Resource Conservation Areas are regulated by COMAR 27.01.02.05

3.1 Development within the RCA

Permitted, Conditional, and Prohibited Uses outside the Buffer

In addition to the uses identified as prohibited and conditional uses in the Critical Area in Section 1.6 of this manual, there are additional limitations on development within the RCA. Development outside the Buffer within the RCA will be limited to recreational, cultural, and educational facilities. Permitted and accessory uses include open space, public recreation, natural parks, pedestrian easements, bike paths, and cultural and historical sites. Public facilities are conditional uses outside the Buffer within the RCA. Non-public water-dependent facilities are prohibited in Resource Conservation Areas.

Permitted, Conditional, and Prohibited Uses within the Buffer

In addition to the uses identified as prohibited uses in the Buffer in Section 1.6 of this manual, there are additional limitations on development within the Buffer within the RCA. Permitted and accessory uses permitted within the Buffer of the Resource Conservation Area include areas for passive recreation, such as nature study and education. Service facilities for these uses must be located outside of the Buffer. Public water-dependent facilities are conditional uses within the Buffer in the RCA.

3.2 Lot Coverage Limitations in the RCA

Within the RCA, lot coverage is limited as follows:

- Lot coverage is limited to 15% of a parcel or lot except as otherwise outlined below;
- If a parcel or lot one-half acre or less in size existed on or before December 1, 1985, then lot coverage is limited to 25% of the parcel or lot;
- If a parcel or lot greater than one half acre and less than one acre in size existed on or before December 1, 1985, then lot coverage is limited to 15% of the parcel or lot;
- If an individual lot one-acre or less in size is part of a subdivision approved after December 1, 1985, then lot coverage may not exceed 25% of the lot. However, the total lot coverage over the entire subdivision may not exceed 15%;
- Lot coverage limits provided in sub-sections 1 and 3 above may be exceeded, upon findings by the Director of Planning or their designee that the following conditions exist:
 - Lot coverage associated with new development activities on the property have been minimized;
 - For a lot or parcel one-half acre or less in size, total lot coverage does not exceed the lot coverage limitations described above by more than 25% or 500 square feet, whichever is greater;

- For a lot or parcel greater than one-half acre in size and less than one acre in size, total lot coverage does not exceed 15% lot coverage by more than 5,445 square feet;
- Water quality impacts associated with runoff from new development activities that contribute to lot coverage can be, and have been minimized through site design considerations or the use of best management practices approved by the City of Baltimore to improve water quality;
- The property owner performs on-site mitigation to offset potential adverse water quality impacts from the new development activities that contribute to lot coverage; or the property owner pays a fee in lieu of performing the on-site mitigation. The amount shall be \$2.50 per square foot of new lot coverage on the property. All fees collected under this provision will be used to fund projects that improve water quality within the Critical Area, consistent with the CAMP.

3.3 Critical Area Requirements in the RCA

Buffer Requirements in the RCA

Buffer Management Plans are required for any project that encroaches upon the Buffer in order to mitigate or establish vegetated areas that serve to protect aquatic, wetland, and shoreline environments from man-made disturbances. The requirements for Buffer establishment are detailed in Section 4 – The Critical Area Buffer.

Afforestation Requirement in the RCA

Projects within the RCA must meet afforestation requirements for the portions of the site not within the Buffer. Areas within the Buffer have separate planting requirements. Afforestation requirements for projects in the RCA can be found in Section 6 – Mitigation Requirements and Planting Guidelines.

Mitigation Requirements for Vegetation Removal in the RCA

The removal of trees or woody plants within the RCA requires advance approval of the Director of Planning and must be mitigated in accordance with this manual. Mitigation requirements for projects in the RCA can be found in Section 6 – Mitigation Requirements and Planting Guidelines.

Runoff Pollution Reduction in the RCA

When lot coverage is limited to 15% for projects in the RCA, so the 10% Rule for phosphorus reduction does not apply. Although the 10% Rule does not apply to projects in the RCA, local and state stormwater management requirements may still apply for projects in the RCA.

4 THE CRITICAL AREA BUFFER

The Buffer is the area immediately adjacent to the mean high water line of tidal waters, the edge of each bank of tributary streams and the landward edge of tidal wetlands. It includes areas that are naturally vegetated or not naturally vegetated and may include undeveloped land or land that has previously been developed or disturbed. The establishment and protection of the Buffer is intended to protect aquatic, wetland, shoreline, and terrestrial environments from man-made disturbances. The buffer is expanded to include for steep slopes, erodible soils and other sensitive areas;

The Buffer regulations in this chapter include comprehensive standards and procedures for the treatment of the Critical Area Buffer.

4.1 Measurement and Expansion of the Buffer

The Buffer is measured 100-feet landward from:

- The mean high water line of tidal waters;
- The landward edge of tidal wetlands; and
- The edge of each bank of tributary streams.
- The landward edge of rip rap or revetment if it is the shoreline of the site.

The Buffer is expanded when one or more of the following conditions exist, contiguous to the Buffer (see COMAR 27.01.09.01):

- Steep slopes, with the Buffer expanded at a rate of four feet for every one percent of slope or to the top of the slope, whichever is greater;
- Non-tidal Wetlands of Special State Concern, including both the wetland and its regulated 100-foot buffer;
- Non-tidal wetlands to the upland boundary of the non-tidal wetland; and
- Highly erodible soils and hydric soils, with the Buffer expanded to the landward edge of the soil or 300-feet (which includes the minimum 100-foot Buffer), whichever is less.

There is an alternative method for determining Buffer expansion for lots or parcels that existed prior to January 1, 2010 that have highly erodible or hydric soils. A development activity may be located in the expansion area, without a variance, provided that the Buffer and any expansion for hydric or highly erodible soils occupies at least 75 percent of the lot or parcel and mitigation occurs at a 2:1 ratio based on the lot coverage of the proposed development activity.

In accordance with provisions enacted by the Maryland General Assembly in 2008, a 200-foot Buffer from tidal waters and tidal wetlands is required for new subdivisions and site plan approvals in the Resource Conservation Area (RCA).

Before final recordation of a subdivision, the applicant must mark the Buffer in the field with a permanent sign that prohibits clearing or disturbance. There must be at least one sign per lot or for each 200 linear feet of shoreline. Concurrent with the recordation of the subdivision, the

applicant must record a protective measure, such as deed restrictions or an equivalent, within the Buffer Management Plan.

4.2 Prohibited Uses in the Buffer

The following uses are prohibited within the Buffer in all portions of the Critical Area:

- All storage facilities for nutrients (that is, elements or compounds essential as raw materials for organic growth and development: for example – carbon, nitrogen, and phosphorus)
- Sand or gravel extraction operations
- Cement plants
- Chemical plants

See Section 3 - Resource Conservation Areas (RCA) for additional use restrictions applicable to development in the RCA.

4.3 Sites with 15% or More Total Land Area in the Buffer

When the Buffer comprises 15% or more of a site, the applicant may be approved to develop within the Buffer up to the point where 85% of the total site area is developed, provided that the portion of the Buffer disturbed by such development is offset. This provision does not apply to Resource Conservation Areas, or Habitat Protection Areas.

Additional information about the Buffer Offset Fee Program is provided in Section 8 – Supplemental Information for the Critical Area.

4.4 Buffer Management Plans

The submittal of a Buffer Management Plan is required for any project that involves establishment of the Buffer or mitigation for disturbance in the Buffer. An applicant must submit a Buffer Management Plan to the Department of Planning for review and approval when establishment of all or a portion of the Buffer is required in accordance with COMAR 27 or when disturbance to the Buffer will result from issuance of a variance, permit, or other project approval. As set forth in COMAR 27, Baltimore City may not authorize a variance to Buffer planting and mitigation requirements or issue a final use and occupancy permit until the applicant completes the implementation of a Buffer Management Plan, or provides financial assurance to cover the costs for materials, installation and long-term survivability of plant materials.

Projects requiring submission of a Buffer Management Plan include:

- The creation of a new subdivision or a new lot;
- The conversion from one land use to another land use on a lot or a parcel; or
- Development or disturbance on a lot or a parcel created before March 8, 2010.

Buffer Management Plan requirements vary depending on the intensity of the proposed development activity. The project types and submission requirements for each type of Buffer Management Plan are described further in this section.

The three types of Buffer Management Plans are:

- Simplified Buffer Management Plan
- Minor Buffer Management Plan
- Major Buffer Management Plan

Simplified Buffer Management Plan

A Simplified Buffer Management Plan is required for a Buffer impact that is associated with:

- Providing access to a private pier or shoreline that is no greater than 3 feet wide;
- Manually removing invasive or noxious vegetation;
- Filling to maintain an existing grass lawn; or
- Cutting a tree that is in imminent danger of falling, except when actions are necessary in emergency situations. In such instances, a Simplified Buffer Management Plan shall be submitted at the earliest possible time.

A Simplified Buffer Management Plan must include:

- A brief narrative describing the proposed activity, including the anticipated start date and method to be used;
- The proposed mitigation;
- The proposed planting date; and
- The signature of the party responsible for the proposed activity and for ensuring the survival of the planting.

Minor Buffer Management Plan

A Minor Buffer Management Plan is required for a Buffer impact that is associated with:

- Establishment of less than 5,000 square feet of the Buffer
- Proposed Buffer disturbance that requires less than 5,000 square feet of mitigation

A Minor Buffer Management Plan must include:

- A plan that shows the proposed limit of disturbance, the total number and size of trees to be removed, if applicable, and the arrangement of the planting to be done;
- Calculations to determine the required Buffer establishment;
- Calculations to determine the required Buffer mitigation; and
- A landscape schedule that shows the proposed species type, the quantity of plants, the size of plants to be installed, and the planting date;
- A maintenance plan for the control of invasive species, pests, and predation that shows invasive species and pest control practices, the provision of at least two years of monitoring, and a reinforcement planting provision if survival rates fall below the standards set in this manual and COMAR 37
- An inspection agreement that grants permission to Baltimore City to inspect the plantings at appropriate times;
- The signature of the party responsible for the proposed activity and for ensuring the survival of the planting.

Major Buffer Management Plan

A Major Buffer Management Plan is required for a Buffer impact that is associated with:

- Establishment of the Buffer involving 5,000 square feet or greater
- Proposed Buffer disturbance requiring mitigation of 5,000 square feet or greater

A Major Buffer Management Plan must include:

- A plan that shows the proposed limit of disturbance, the total number and size of trees to be removed, if applicable, and the arrangement of the planting to be done;
- Calculations to determine the required Buffer establishment;
- Calculations to determine the required Buffer mitigation; and
- A landscape schedule that shows the proposed species type, the quantity of plants, the size of plants to be installed, and the planting date;
- A maintenance plan for the control of invasive species, pests and predation that shows invasive species and pest control practices, the provisions for at least two years of monitoring, and a reinforcement planting provision if survival rates fall below the requirements
- A long-term protection plan that includes evidence of financial assurance that adequately covers the planting and survivability requirement, a provision for at least two years of monitoring, and if planting, an anticipated planting date before construction or the sale of the lot;
- An inspection agreement that grants permission to the local government to inspect the plantings at appropriate times;
- The signature of the party responsible for the proposed activity and for the survival of the planting.

In a Major Buffer Management Plan, a single species may not exceed 20 percent of the total planting requirement; and shrubs may not exceed 20 percent of the total planting requirement without special permission from the Department of Planning.

4.5 Buffer Establishment and Mitigation Requirements

The Critical Area regulations require planting to establish the Buffer or mitigate vegetation removal within the Buffer. Calculations and plantings for mitigation or Buffer establishment are required as part of the submission of Buffer Management Plans.

Any portion of the Buffer which is not vegetated must be mitigated in an approved manner. If the mitigation requirement cannot be met on site, the mitigation requirement may be met off-site or through payment of a Buffer Offset Fee. Additional information about the Buffer Offset Fee Program is provided in Section 8 – Supplemental Information for the Critical Area.

Buffer Establishment Requirements

Buffer establishment is required when development activities take place on properties that include land within the Buffer, even if all development is outside the Buffer. The amount of Buffer establishment required is dependent on the type of proposed development activity and whether the proposed development activity is on a new lot or an existing lot.

The Buffer must be fully established for:

- Newly platted subdivisions,

- New development on a lot created after January 4, 1988, or
- Conversion of a property from one land use to another.

An area of the Buffer equal to the total amount of lot coverage must be planted for:

- New development on a lot created before January 4, 1988, or
- Substantial alterations on any lot.

An area of the Buffer equal to the increase in lot coverage must be planted for:

- Additions, and/or
- Accessory structures.

Buffer establishment is not required when the Buffer is already fully established in woody, forest, or wetland vegetation or when the project involves the in-kind replacement of principal structure. When the Buffer and adjacent lands will remain in agricultural use after subdivision, Buffer establishment is not required until the lot is developed.

New vegetation planted within the Buffer and new vegetation planted outside the Buffer meeting certain conditions may be credited toward the Buffer establishment requirements. Specific planting requirements and calculations for Buffer establishment can be found in Section 6 – Mitigation Requirements and Planting Guidelines.

Buffer Mitigation Requirements

Buffer mitigation is required for disturbance in the buffer or for vegetation removed from the Buffer. The calculation of required mitigation is based upon the area of disturbance and vegetation removed, the caliper of trees removed, and the condition of trees removed. Specific planting requirements and calculations for Buffer mitigation can be found in Section 6 – Mitigation Requirements and Planting Guidelines.

4.6 Buffer Credit for Plantings Outside the Buffer

New vegetation planted outside the Buffer may be credited toward Buffer requirements provided that:

- it is contiguous to existing or planned vegetation within the Buffer, and
- vegetation planted outside the Buffer is at least 25 feet in width or as wide as site constraints will allow, and
- existing or planned vegetation within the Buffer is the entire depth of the Buffer and includes at least 50 linear feet along the shoreline or as wide as site constraints will allow, and
- the buffer plan has prior City approval.

4.7 Shoreline Erosion Control

To protect shoreline against erosion while retaining natural shoreline form, habitat, and ecological function, the State of Maryland has established regulations to promote the use of nonstructural shoreline stabilization measures. Nonstructural shoreline stabilization measures are required where shoreline erosion control is necessary, except in areas mapped by the Maryland Department of the Environment (MDE) as appropriate for structural shoreline stabilization measures. In areas designated for nonstructural shoreline stabilization measures, structural measures may be allowed where the applicant can demonstrate to the satisfaction of

MDE that nonstructural measures are not feasible. These may involve areas of excessive erosion, areas subject to heavy tides, and areas too narrow for effective use of nonstructural shoreline stabilization measures.

In Baltimore, all shoreline within the IDA is designated as appropriate for structural shoreline stabilization measures. Maps indicating areas within the RCA designated as appropriate for structural measures are available through MDE.

The construction of structural shoreline stabilization measures is a development activity requiring Buffer mitigation planting. Calculations and guidelines for mitigation planting are provided in Section 6 – Mitigation Requirements and Planting Guidelines.

4.8 Piers, Barges, Vessels, and Docks

Piers, barges, permanently moored vessels, and docks are subject to various Critical Area regulations, requirements and offsets. All piers, barges, vessels and docks must also comply with all applicable State and Federal rules and regulations.

Piers and Fill Piers

Pursuant to Natural Resources Article, Title 8, subtitle 18, Annotated Code of Maryland as amended, and the Baltimore City Zoning Code, Title 7 Subtitle 4, no building permit shall be issued for any project involving the construction of a dwelling unit or other non-water dependent structure on a pier waterward of the mean high waterline of tidal streams, waters, or wetlands within the Critical Area, except as provided in subsection 1808.4 of said subtitle. Non-water-dependent structures include, but are not limited to: dwelling units, restaurants, shops, other commercial buildings and recreational areas; swimming pools; sheds or storage buildings; parking lots; and sanitary facilities.

The following piers have been approved by MDE for non-water dependent uses, and have been grandfathered:

- Belt's Wharf – 960 Fell Street
- North Shore – 2327 Boston Street
- Harborview, Two Piers – 1101 Key Highway and 100 Harberview Drive
- Power Plant, 601 East Pratt Street , Three Dining Areas on Piers

Filling the water to create a pier creates a new area of the Critical Area Buffer, and all Critical Area Buffer regulations and fees are applicable.

Barges

Non-water dependent uses in tidal waters are not permitted on barges located in the City of Baltimore. A barge is defined as non-self-propelled water craft, as opposed to a vessel which is defined as self-propelled. Uses on barges approved as of the original date of the enactment of this legislation are grandfathered.

Barges that have been approved by the City for non-water dependent uses and are grandfathered include:

- Lighthouse Point Boat Sales Barge (2701 Boston Street)
- Harborview Swimming Pool Barge (500 Harborview Drive)

Permanently Moored Barges and Vessels

Non-water dependent uses are not allowed on permanently moored barges and vessels in the Inner Harbor Basin with the exception of permanently moored vessels used as maritime museums. Permanently moored barges and vessels become part of the Critical Area and are subject to all regulations, requirements and offsets.

Floating Piers and Docks

Concrete, wood or other materials used for floating piers and docks are considered impervious for the calculation of lot coverage, unless the dock is constructed of slats with spaces between that are wide enough to allow water to freely pass through. Buffer requirements and Buffer fees do not apply to floating piers and docks located over the surface of the water.

4.9 The Promenade

Privately-owned land or piers within the Critical Area for which the applicant grants a public pedestrian and bicycle access easement, approved by the Board of Estimates, is excluded from Buffer requirements. The portion of the site which has been dedicated as public promenade or trail or for access to the promenade or trail may be excluded in the calculation of the net Buffer area or excluded from the total area of lot coverage used to calculate Buffer establishment requirements.

5 HABITAT PROTECTION AREAS AND DESIGNATED HABITAT AREAS

The Critical Area regulations require local jurisdictions to identify important natural and community resources within the Critical Area and to devise strategies for protecting and enhancing those resources. Within COMAR 27, the Critical Area regulations identify ten types of Habitat Protection Areas (HPA) to be included in local habitat protection programs. In addition, twelve important natural areas within Baltimore have been identified as Designated Habitat Protection Areas (DHPA).

5.1 Habitat Protection Area (HPA)

Habitat Protection Areas are designated areas that receive special protection within the Critical Area because they provide habitat for fish, wildlife, and plant species that are significant to the local ecosystem. The ten types of HPAs identified in the Critical Area regulations include:

1. The Critical Area Buffer
2. Areas containing threatened and endangered species and species in need of conservation
3. Colonial water bird nesting sites
4. Historic waterfowl staging and concentration areas
5. Riparian forests
6. Forest interior dwelling bird habitat (forests of 100 acres or more)
7. Designated Natural Heritage Areas
8. Anadromous fish propagation waters
9. Habitats of local significance including non-tidal wetlands
10. Areas which may in the future be identified by State and Federal agencies as important plant or wildlife habitats

The Critical Area Buffer

The Buffer is one of the designated Habitat Protection Areas. The majority of Baltimore's Buffer has been previously altered by development, including filling and structural stabilization or alteration of the shoreline, leaving little remaining natural habitat. The remaining undeveloped Buffer areas primarily consist of beaches, vegetated slopes and banks, eroding banks, vegetated tidal wetlands, and tributary streams.

Species Threatened, Endangered, or in Need of Conservation

The Maryland Department of Natural Resources (DNR) identifies Significant Habitats within Baltimore. Maryland DNR also maintains lists of rare, threatened, and endangered plant and animal species for each Maryland jurisdiction, including Baltimore City.

Colonial Water Bird Nesting Sites

Chesapeake Bay Foundation staff and Baltimore Department of Parks and Recreation staff have documented rookeries of black crowned night heron at the mouth of Curtis Creek and at the northern end of the Middle Branch of the Patapsco River. The State of Maryland cannot

officially designate these sites until documented by the Maryland Department of Natural Resources through site surveys.

Historic Waterfowl Staging and Concentration Areas

The Chesapeake Bay is located within the Atlantic Flyway and plays a role in migratory bird patterns. The Baltimore Harbor provides habitat for wintering waterfowl in its tidal wetlands and open water areas. The Patapsco River mainstem, from the Hanover Street Bridge eastward to the Dundalk Marine Terminal, supports various wintering waterfowl. According to the Maryland Department of Natural Resources, documented areas of special importance to wintering waterfowl include the west cove adjoining the Masonville dredge disposal site, the upper Middle Branch, and Stonehouse Cove on Curtis Creek.

Riparian Forests

Riparian forests are crucial to the protection and enhancement of the water resources of the Chesapeake Bay. They are complex ecosystems that help provide food and habitat for wildlife, as well as being useful in mitigating or controlling stormwater runoff and pollution.

Forest Interior Dwelling Bird Habitat

The impact of the loss of forests impacts all species of birds and wildlife. Although small forests are less optimal breeding habitat for most forest-interior birds, these forests can be an important migratory stopover. Maximizing forest cover, improving forest interconnectivity, and increasing forest widths can increase habitat in the Critical Area.

Designated Natural Heritage Areas

The Maryland Natural Heritage program has no designated Natural Heritage Areas in Baltimore City.

Anadromous Fish Propagation Waters

Anadromous fish propagation waters are those streams that are a tributary to the Chesapeake Bay where the spawning of anadromous species, including rockfish, striped bass, yellow perch, white perch, shad, and river herring, occurs or has occurred. The Upper Middle Branch of the Patapsco River and the Lower Gwynns Falls are classified as anadromous fish propagation waters.

It is the policy of the City of Baltimore to require protection of the in-stream and stream bank habitat of anadromous fish propagation waters. The City promotes land use policies and practices in the watershed of spawning streams within the Critical Area which will minimize the adverse impacts of development on the water quality of the streams and provide for the unobstructed movement of spawning and larval forms of anadromous fish in streams.

The following standards apply within anadromous fish propagation watersheds:

- The installation or introduction of concrete riprap or other artificial surfaces onto the bottom of natural streams shall be prohibited unless it can be demonstrated that water quality and fisheries habitat can be improved.
- Channelization or other physical alterations, which may change the course of circulation of a stream and thereby interfere with the movement of fish, shall be prohibited.

- The City shall require each development activity that occurs within a watershed draining to anadromous fish propagation waters to fulfill the following objectives:
 - Minimize development activities or land disturbances within the watershed;
 - Maintain, or if practicable, improve water quality in affected streams or other water bodies;
 - Minimize to the extent possible the discharge of sediments into affected streams or other water bodies;
 - Maintain, or if practicable, increase the natural or native vegetation of the watershed and tree canopy over the streams.

The City shall ensure coordination and compliance with complimentary State laws and regulations. This includes prohibiting the construction or placement of dams or other structures that would interfere with or prevent the movement of spawning fish or larval forms in streams or other designated water bodies. If practical, existing structures that block streams or other water bodies shall be removed. The City shall ensure that the construction, repair or maintenance activities associated with bridges, or other stream crossing, or with utilities and roads, which involve disturbance within the Buffer or which occur in-stream as described in COMAR, shall be prohibited between March 1 and June 15 of each year. These activities must also meet State and Federal tidal wetlands license requirements.

Habitats of Local Significance Including Non-Tidal Wetlands

Habitats of local significance in the City of Baltimore are different in quality from significant habitat areas in less disturbed or non-urbanized environments. Herbaceous, scrub-shrub, and woodland communities include native plants and often-exotic volunteer species. Common resident birds, wintering species, migrants and an assortment of urban-tolerant small mammals are supported by these habitats, each of which is considered desirable in our urban context. Naturalized areas of any reasonable size, especially when located near water, are valuable to the wildlife populations of City of Baltimore and therefore are protected within the Critical Area. For these reasons, selected naturalized areas are proposed for designation as Habitat Protection Areas (HPAs).

Woodlots are valuable habitats to a diversity of species as well as providing many benefits to a city, including reducing water and air pollution and moderating temperatures. COMAR 27.01.05 requires protection of “developed woodlands.” These areas, whether or not they lie within an HPA, are protected through the Critical Area Management Program.

The National Wetland Inventory Maps indicate, and our site investigations have confirmed that the City of Baltimore has fewer than 10 acres of palustrine wetlands within its Critical Area. These wetlands are scattered in isolated pockets and include small stands of both palustrine forested and palustrine emergent wetlands.

The Critical Area Commission does not regulate non-tidal wetlands. All permits for construction will be contingent on the applicant receiving all proper approvals from the Maryland Department of the Environment (MDE). An applicant is required to obtain a permit from MDE for any activity that alters a non-tidal wetland or its 25-foot Buffer. The 25-foot Buffer is expanded to 100 feet for Wetlands of Special State Concern as defined in COMAR 26.23.06.

To begin the permit process, the applicant is required to complete a ‘Joint Federal/State Application for the Alteration of any Floodplain, Waterway, Tidal or Non-tidal Wetland in Maryland’, which may be obtained from the U.S. Army Corps of Engineers. Applicants are required to demonstrate those proposed impacts to non-tidal wetlands are necessary. The application review process first eliminates and then reduces impacts through avoidance and minimization. An alternative analysis may be required as part of this process. Mitigation is required for all authorized impacts, and wetland mitigation monitoring is required and will extend beyond construction of an approved mitigation project. For more information see: Environmental Article Title 5, subtitle 5-901 through 5-901 through 5-911; Annotated Code of Maryland; COMAR 26.23.

Future Areas Identified as Important Plant or Wildlife Habitat

Since the City’s CAMP was originally adopted in January 1988, no State or federal agency has designated such an area within Baltimore’s Critical Area. If such an area is designated in the future, it will be incorporated into the Program as provided in COMAR 27.

5.2 Designated Habitat Protection Area (DHPA)

The City of Baltimore has identified twelve important natural areas as Designated Habitat Protection Areas (DHPA). The DHPAs include:

1. Upper Middle Branch
2. Gwynns Falls
3. Lower Middle Branch
4. Reedbird
5. Masonville
6. Stonehouse Cove
7. Cabin Branch
8. Hawkins Point
9. Quarantine Road
10. Thoms Cove
11. Fort Armistead
12. Colgate Creek

Locations, maps, and types of habitats existing for each of the DHPAs listed above are provided in Section 13 – Designated Habitat Protection Areas (DHPAs).

5.3 Habitat Protection Requirements

In order to protect undeveloped Habitat Protection Areas and Designated Habitat Protection Areas, encroachment by development or redevelopment will be permitted only on those portions of an HPA or DHPA, which are already developed, subject to the habitat protection and mitigation requirements outlined in this section.

Determination by the Director of Planning

When development is proposed for any portion of an HPA or DHPA, the Director of Planning will determine the extent of existing development on the project site. The Director will base determinations regarding the extent of existing development on a review of the following:

- Habitat Assessment
- Field investigations and other verification methods deemed appropriate and necessary by the Director
- Consultation with experts including the Maryland Department of Natural Resources

Undeveloped HPAs and DHPAs

In those portions HPAs and DHPAs where the Director of Planning determines that the area is not developed, no disturbance or encroachment by development, redevelopment, destruction of vegetation or certain uses will be allowed. Provisions for appeals of determinations and requests for variances are presented in Section 9 – Implementation of the CAMP.

Previously Developed HPAs and DHPAs

On portions of HPAs and DHPAs that the Director of Planning determines are developed, the applicant may encroach upon the HPA or DHPA, subject to the following conditions:

- The applicant must submit a habitat assessment for the development site as described below.
- The applicant must demonstrate that the proposed development cannot be located elsewhere on the property and the disturbance is limited to the absolute minimum required, as determined by the Director of Planning.
- The applicant must submit a mitigation plan for the development site as described below.

The Director of Planning will certify that the above conditions have been met and that the proposed development will not adversely affect the HPA or DHPA. In determining whether the proposed development will adversely affect the HPA or DHPA, the Director of Planning will, where appropriate, seek review and/or technical expertise from the Maryland Department of Natural Resources

Habitat Assessment and Forest Stand Delineation

Where a development project is proposed to encroach upon a HPA or DHPA, the applicant will perform a habitat assessment of the site to determine the impact of the proposed development on the protected habitat located on or adjacent to the development site. Any such assessment will be subject to field investigations and other verification methods deemed appropriate and necessary by the Director of Planning.

The Department of Planning will make a determination based on site conditions as to whether a separate Forest Stand Delineation will be required. When required, consultants should use the State of Maryland Forest Conservation Manual to determine whether an Intermediate or Full Forest Stand Delineation is needed.

Mitigation Plan

If the Director of Planning has reviewed the habitat assessment and concurs with its findings and has further determined that the proposed development or use will have a minimal adverse impact on the habitat designated for protection, the applicant must then propose appropriate environmental mitigation. The proposed mitigation plan must include sufficient elements so as

to render the larger HPA or DHPA substantially unaltered with respect to the habitat designated for protection as required in COMAR 27.01.09. The proposed mitigation plan shall include any tree replacement required to mitigate the removal of existing trees to accommodate the proposed development within the HPA or DHPA. Mitigation requirements for tree removal can be found in Section 6 – Planting Guide and Mitigation for the Critical Area.

In no case will any building, use, or occupancy permit be issued, partially or otherwise, in any HPA or DHPA until or unless the Director of Planning has certified that the mitigation plan proposed by the property owner is consistent with the requirements of the CAMP. Likewise, no use or occupancy permit, whether it is permanent, temporary or partial will be issued for any development or use until or unless the Director of Planning has certified that the mitigation measures proposed in the approved mitigation plan have been satisfactorily installed, protected, and maintained.

In the event that a property owner has been issued a valid building, use, or occupancy permit on the basis of an approved mitigation plan, but subsequent to the issuance of such permits the owner fails to install, protect, or maintain the approved on-site mitigation specified in the mitigation plan, all such permits shall be subject to immediate suspension or revocation.

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6 MITIGATION STANDARDS & PLANTING GUIDE FOR THE CRITICAL AREA

The Critical Area regulations task local jurisdictions with conserving, maintaining, and increasing the forest and woodland vegetation within the Critical Area. This includes ensuring that tree and woody vegetation clearing to accommodate development activities is minimized and appropriately mitigated.

In accordance with the Critical Area regulations, various development activities and conditions within the Critical Area and the Buffer require mitigation through planting. These requirements include:

- Afforestation of sites within the Critical Area but outside the Buffer
- Mitigation of forest or vegetation clearing within the Critical Area outside the Buffer
- Buffer establishment for development or redevelopment sites containing land within the Critical Area Buffer not forested or fully established in woody or wetland vegetation
- Buffer mitigation for the clearing of forest or woody vegetation and disturbance within the Critical Area Buffer.

This section details how the various mitigation requirements are calculated and provides guidelines on how they can be met.

6.1 Afforestation Requirements

Many development and redevelopment sites in the City of Baltimore have little or no existing forest or developed woodland cover. The portions of sites located within the Critical Area but outside the Critical Area Buffer shall be planted to provide a forest or developed woodland cover or tree canopy of at least 15 percent. At highly developed, urban sites, the afforestation requirement is often met through landscaping.

Existing vegetation on that portion of the site in the Critical Area but not in the Buffer may be credited towards the required 15% if:

- The forested area or vegetation is over 70% native species
- Any areas of non-native species will be subtracted from the above 70%
- The area will be protected from disturbance during development

The required area for afforestation shall be calculated as follows:

(Total Site Area within the Critical Area - Total Site Area within the Buffer) x 0.15 = Required Forest or Developed Woodland Cover (Acres)

Required Forest or Developed Woodland Cover – Existing Vegetation Credit = Afforestation Requirement (Acres)

Planting credits for afforestation on sites or portions of sites outside the Buffer and within the Critical Area are based upon the State Forest Conservation Manual and the Baltimore City

Supplement to the State Conservation Manual. The following formula should be used to determine the amount of planting needed to satisfy afforestation requirements:

$$\text{Afforestation Requirement (Acres)} \times 100 = \# \text{ of 2.5 inch caliper trees required}$$

Another way to express the planting credit for afforestation is:

$$1 \text{ tree at 2.5 inch caliper} = 435.6 \text{ sq. ft. of Afforestation Credit}$$

6.2 Mitigation Requirements for Forest and Vegetation Clearing

Within Baltimore’s Critical Area and Critical Area Buffer, no tree or woody plant may be cut, removed, or destroyed unless approved in advance by the Director of Planning. Any clearing of forest or woody vegetation must be replaced and maintained by the property owner. Mitigation requirements vary according to the purpose of the clearing activity and in what portion of the Critical Area the clearing is to occur.

Mitigation for Clearing outside the Buffer

For highly vegetated sites, a Forest Stand Delineation (FSD) may be required as described in the State Forest Conservation Manual and the Baltimore City Supplement to the State Forest Conservation Manual. For such sites, the FSD shall be used to determine mitigation requirements.

The Department of Planning will make the final determination of how the mitigation should be estimated. One of the following methods will be used to calculate required mitigation:

- Calculating the square footage of the vegetation removed, or
- Counting or estimating the total number of caliper inches of trees or woody plants removed.

Any vegetation disturbed outside the Buffer within the Critical Area must be mitigated according to the ratios in the table below. Where ratios are used to express mitigation requirements, they indicate either the number of caliper inches of replacement required per caliper inch of vegetation removed, or the number of square feet of planting required per square foot of vegetation removed.

Table 6.1 - Mitigation Requirements for Forest and Vegetation Clearing

DEVELOPMENT AREA TYPE & ACTIVITY	OUTSIDE OF BUFFER	OUTSIDE OF BUFFER VIOLATION
ALL AREAS – Dead or Dying Trees Removal	1 caliper inch of replacement per tree removed	1 caliper inch of replacement per tree removed
ALL AREAS – Invasive Species Removal	1:1	2:1
INTENSELY DEVELOPED AREAS (IDA)	1:1	2:1
RESOURCE CONSERVATION AREAS (RCA)	3:1	4:1
DESIGNATED HABITAT PROTECTION AREAS (DHPAS)	3:1	4:1

As shown in the table, the removal of dead or dying trees must be mitigated with 1 caliper inch of replacement per tree removed. Clearing violations require mitigation at a higher ratio than

vegetation removal that is approved in advance by the Director of Planning. Because Resource Conservation Areas and Designated Habitat Protection Areas are intended to provide a higher level of resource and habitat protection, the mitigation ratios for these areas are more stringent than that for Intensely Developed Areas.

Planting credits for mitigation of vegetation removal on sites or portions of sites outside the Buffer and within the Critical Area are based upon the State Forest Conservation Manual and the Baltimore City Supplement to the State Conservation Manual.

Mitigation for Clearing within the Buffer

Any trees or woody vegetation disturbed within the Critical Area Buffer must be mitigated according to the ratios in the table below. The area of the limits of disturbance in the Buffer shall be multiplied by the applicable mitigation ratio in Table 6.2. For projects involving both disturbance in the Buffer and tree removal, mitigation is calculated as the sum of both.

Where ratios are used to express mitigation requirements, they indicate either the number of caliper inches of replacement required per caliper inch of vegetation removed, or the number of square feet of planting required per square foot of vegetation removed.

Table 6.2 - Buffer Mitigation for Forest and Vegetation Clearing

DEVELOPMENT AREA TYPE & ACTIVITY	BUFFER	BUFFER VIOLATION
ALL AREAS – Dead or Dying Trees Removal	1 caliper inch of replacement per tree removed	1 caliper inch of replacement per tree removed
ALL AREAS – Invasive Species Removal	1:1	2:1
IDA – Shore Erosion Control	1:1	4:1
IDA – Riparian Water access	2:1	4:1
IDA – Development/redevelopment of water-dependent facilities	2:1	4:1
IDA – Variance to Critical Area Development Standards	3:1	4:1
DESIGNATED HABITAT PROTECTION AREAS	3:1	4:1
RESOURCE CONSERVATION AREA (RCA)	3:1	4:1

As shown in the table, the removal of dead or dying trees must be mitigated with 1 caliper inch of replacement per tree removed. For the removal of an individual live tree that is at least two inches in diameter measured at 4.5 feet above the ground, mitigation will be required at a rate of 100 square feet for every one inch of diameter. Clearing violations require mitigation at a higher ratio than vegetation removal that is approved in advance by the Director of Planning.

Planting credits for Buffer mitigation planting are based upon the Critical Area Commission’s “Local Government Assistance Guide: Critical Area Buffer”, as shown in Table 6.3. Regardless of the size and type of vegetation selected, the areas of the Buffer required to be planted must be covered with mulch, groundcover, or a combination of the two until understory vegetation is established.

Variations may not be granted to planting and mitigation standards. If Buffer mitigation planting cannot be located on site within the Buffer due to site constraints, required planting should be located on site adjacent to the Buffer or elsewhere on site within the Critical Area. If onsite mitigation is not possible, offsite mitigation or an offset fee can be considered.

6.3 Buffer Establishment Requirements

The amount of Buffer establishment required is dependent on the type of proposed development activity and whether the proposed development activity is on a new lot or an existing lot. Buffer establishment is not required when the Buffer is already fully established in woody, forest, or wetland vegetation or when the project involves the in-kind replacement of a principal structure. The Buffer must be established as follows:

The Buffer must be fully established for:

- Newly platted subdivisions,
- New development on a lot created after January 4, 1988, or
- Conversion of a property from one land use to another.

An area of the Buffer equal to the total amount of lot coverage must be planted for:

- New development on a lot created before January 4, 1988, or
- Substantial alterations on any lot.

An area of the Buffer equal to the increase in lot coverage must be planted for:

- Additions, and/or
- Accessory structures.

Planting credits for Buffer establishment planting are based upon the Critical Area Commission’s “Local Government Assistance Guide: Critical Area Buffer”, as shown in Table 6.3. Regardless of the size and type of vegetation selected, the areas of the Buffer required to be planted must be covered with mulch, groundcover, or a combination of the two until understory vegetation is established.

Table 6.3 –Planting Credit for Buffer Mitigation and Buffer Establishment*

VEGETATION TYPE	MINIMUM SIZE ELIGIBLE FOR CREDIT	SURVIVABILITY REQUIREMENT	MAXIMUM CREDIT ALLOWED (SQ. FT.)	MAXIMUM PERCENT OF CREDIT
CANOPY TREE	2 inch caliper and 8 feet high	100 %	200	No max.
CANOPY TREE	1 inch caliper and 6 feet high	100 %	100	No max.
UNDERSTORY TREE	1 inch caliper and 6 feet high	100 %	75	No max.
LARGE SHRUB	1 gallon and 4 feet high	100 %	50	30%
SMALL SHRUB	1 gallon and 18 inches high	100 %	25	20%
HERBACEOUS PERENNIAL**	1 quart	100 %	2	10%
PLANTING CLUSTER 1**	1 canopy tree at 1” caliper; and 3 large shrubs or 6 small shrubs at sizes listed above	100 %	300	No max.
PLANTING CLUSTER 2**	2 understory trees at 1” caliper; and 3 large shrubs or 6 small shrubs at sizes listed above	100 %	350	No max.

APPROVED SEED MIX	85 pounds/ acre or per vendor's instructions - May be required.	100 %	-----	-----
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* All stock shall be subject to a 2 year replacement warranty.

**These options are available only for Buffer establishment and Buffer mitigation of more than 1/4 acre. The first 1/4 ac must be landscape stock. [must check w/ CAC about this reg: COMAR 27.01.09.01-2]

Because of the harsh urban environment and lack of native seed sources, natural regeneration and smaller planting stock are not accepted in Baltimore City.

6.4 Planting Standards for Afforestation, Mitigation and Buffer Establishment

Planting Approach

The composition and arrangement of required Buffer and Critical Area planting may depend on the constraints and opportunities of the site and the proposed development program. Planting requirements for the Buffer, including Buffer establishment and Buffer mitigation, are more restrictive than the planting standards to satisfy required afforestation or mitigation of vegetation cleared outside the Buffer. Buffer planting requirements are intended to improve the functions of the Buffer, including protecting water quality and conserving and enhancing habitat.

In highly developed urban sites, the afforestation, mitigation, or Buffer establishment requirements may be met through traditional site landscaping rather than reforestation. Plantings provided to meet mitigation requirements may also be used to satisfy the requirements of the Baltimore City Landscape Manual, if the plantings proposed meet the conditions and standards required by the Landscape Manual.

Preferred Species

To receive credit towards afforestation, mitigation, or Buffer establishment planting requirements, species native to the Maryland Coastal Plain region must be used. Exceptions may be granted for specific cases where sufficient justification is presented for the use of non-native species outside the Buffer within the Critical Area but not within the Buffer. All plantings receiving credit towards Buffer establishment or Buffer mitigation must be native species.

The City of Baltimore Department of Planning maintains a list of native species acceptable for meeting Critical Area planting requirements. The criteria for selection of this list are as follows:

- Predominately Coastal Plain native species
- Ability to perform the desired dynamic function in the community as planted
- Commercial availability
- Anticipated survival and hardiness

The Baltimore City Critical Area Native Plant List is available at:

<http://www.baltimorecity.gov/LinkClick.aspx?fileticket=X5ZovJte2J4%3d&tabid=1177&mid=230>. Only species listed in the Critical Area Native Plant List or those included in the U.S Fish & Wildlife Service publication “Native Plants for Wildlife Habitat and Conservation

Landscaping, Chesapeake Bay Watershed” (<http://www.nps.gov/plants/pubs/chesapeake/>) are acceptable for credit without special approval. Native species not included in the above sources may receive credit with approval from the Department of Planning. The Department of Planning must approve, and may choose to prescribe the size and composition of any planting list.

Questions about species selection may be directed to the Critical Area Planner at the City of Baltimore Department of Planning by calling (410) 396-PLAN.

Invasive Species

Invasive plant species may not be planted in the Critical Area and where they exist, the City encourages removal of the species and replanting with native species. A list of invasive species may be found in the guide “Plant Invaders of the Mid-Atlantic Natural Areas (2002 - National Park Service and U.S. Fish and Wildlife Service).

<http://www.nps.gov/plants/alien/pubs/midatlantic/> Also helpful is the Maryland Native Plant Society “Control of Invasive Non-Native Plants - A Guide for Gardeners and Homeowners in the Mid-Atlantic Region” <http://www.mdflora.org/publications/invasivesframe.html>

Native Grasses and Woody Shrub Seed Mix:

Sites that are to be reforested or otherwise not to be mown or disturbed shall be seeded with an appropriate wildlife habitat mix, herbaceous mix, woody shrub mix, reclamation mix, or other mix as approved by the Department of Planning. In locations where the Buffer is not programmed with dedicated uses or activities, this planting regime can create a low maintenance natural area.

For any native seed mix in the Critical Area, the criteria used for species selection will be:

- High germination rate
- High wildlife value
- Native species of the Coastal Plain
- Ability to survive in dry, hot conditions and poor soils

Field observations will be performed to determine the establishment success rate.

Traditional Grasses and Lawns

Traditionally maintained lawn or turf grass areas provide little to no habitat, and may not be credited towards mitigation or Buffer establishment requirements. New lawn areas are not permitted within the Buffer.

Afforestation and Mitigation Offset Fees

The Department of Planning may approve the payment of offset fees if the requirements cannot be met onsite and no offsite mitigation opportunities are. Further information on the use and calculation of offset fees can be found under Section 8 – Offset Programs.

7 STORMWATER POLLUTANT REDUCTION IN THE IDA

7.1 The 10% Rule

The criteria set forth in conjunction with the Critical Area Act require that any development within the IDA be accompanied by practices to reduce water quality impacts associated with stormwater runoff. The Criteria further specify that these practices must be capable of reducing stormwater pollutant loads from a development site to a level at least 10% below the load generated by the same site prior to development. This requirement is commonly referred to as the “10% Rule.”

The concentration of phosphorus in stormwater runoff is the element used to characterize the requirement for meeting the 10% Rule. Phosphorus reduction requirements shall be calculated using the formulas provided in Worksheet A in Section 10 – Materials Needed for Compliance. The pollution reduction requirement should be met on-site. If onsite compliance is not feasible, the applicant may mitigate offsite, or if an offsite project is not available, pay an offset fee. See Section 8 – Supplemental Information for the Critical Area for more information about the stormwater offset program.

For information on the 10% Rule, see the Critical Area 10% Rule Guidance Manual, which addresses and clarifies the differences between complying with the 10% Rule and the Maryland Stormwater Design Manual.

7.2 Calculating Off-site Impervious Removal

Removal of off-site impervious surface is an offset that may be used to compensate for existing phosphorus load in the site stormwater runoff. In Step 1 on Worksheet A, list the area of off-site impervious surface removed as Off-Site Impervious Removal Offset. Subtract this area from the Post-Development Impervious Surface Area Subtotal to determine the Total Post-Development Impervious Surface Area.

In completing the calculations on Worksheet A, the site area to be used is the actual area of the site that falls within the IDA, with no additional area included to account for the offsite impervious removal.

8 OFFSET PROGRAMS

8.1 Background

Baltimore City's Critical Area review process may be triggered at sites where the Critical Area mitigation requirements cannot be met on the site. The second preferred option is to perform the mitigation off site. To allow necessary development and redevelopment to proceed while meeting the Critical Area requirements when no offset mitigation options are available, the City of Baltimore has established two fee en lieu offset programs:

- The Buffer Mitigation and Afforestation Offset Program, and
- The Stormwater Pollution Reduction Offset Program.

Before an applicant is permitted to pay an offset fee, the City requires the applicant to review the many methodologies available for reducing environmental impacts. Alternative strategies for water quality and habitat enhancement must be incorporated into the applicant's project to comply with the current Maryland Stormwater Design Manual and the 10% Pollutant Reduction Requirement (10% Rule).

A project may qualify for an offset if the Director of Planning determines that it is infeasible for the applicant to meet all or part of the Critical Area Buffer, afforestation, and/or stormwater pollution reduction requirement on the development site or through an offsite mitigation project.

8.2 Critical Area Buffer and Afforestation Offset Program

Applicants who are unable to comply with the Buffer mitigation and afforestation requirements are required to contribute a fee to the Critical Area Buffer and Afforestation Offset Fund. These options are a last resort and fees are only accepted if the applicant can prove compliance is not feasible onsite, and no suitable offsite projects are available. The fee amount will be based on costs associated with installing and maintaining the quantity and type of landscaping required to satisfy the project's afforestation and/or Buffer mitigation requirements. Buffer establishment costs are determined on a square-foot-basis and may be amended periodically with approval from both the Planning Commission and State Critical Area Commission. The current offset fee for Buffer mitigation and Buffer establishment is \$ 2.50 per square foot. The offset fee for afforestation is based upon current costs to plant and maintain landscaping equivalent to the required landscaping not able to be met on site. This cost is set in the Baltimore City Landscape Manual. Collected offset fees will be used to install a diverse plant community, including elements of a stratified forest.

Alternative offset projects may be considered, provided that the applicant is able to demonstrate to the City that the proposed alternative will result in an environmental benefit to the City's Critical Area equivalent to the installation of the prescribed vegetation on the development site. The City may seek comments and recommendations from the Critical Area Commission.

Because the Buffer offset fees may be substantial when a large proportion of a site is in the Buffer, an alternative is available to provide relief if a property has more than 50% of its total area within the Buffer. If the Buffer covers more than 50% of the site, the total Buffer fee is

levied on a maximum of 50% of the site area within the Buffer. This alternative may only be used if the following conditions are met:

- The project minimizes impacts on the Buffer whenever possible;
- The project meets the stormwater pollution reduction standards;
- Vegetated parts of the shoreline are protected to the greatest extent possible.

At the discretion of the Baltimore City Planning staff, which may seek recommendations from the Critical Area Commission, an applicant may elect to increase the pollutant reduction requirement to 20% for the entire Buffer on the site as an alternative to the payment of Buffer offset fees.

8.3 Receiving Areas for Buffer Offset Projects

The City can designate sites throughout its Critical Area as receiving areas for the Buffer offsets described above. In selecting sites for receiving areas, the City will give priority to lands covered with an impervious surface or lots containing compacted soils. The City will encourage landowners within its Critical Area to allow Buffer offset projects to be installed on private property in exchange for the granting of conservation easements. Participating landowners will be granted a credit toward Buffer offset requirements in the event that future development takes place in portions of the Buffer which remain un-vegetated. The City will explore additional incentives to encourage the use of private lands as receiving areas for Buffer offsets and these additional incentives will be incorporated as future amendments to the City's offset program.

Minimum requirements for qualifications as potential receiving areas include the following:

- The site is determined by the City as being unlikely to be redeveloped for a water-dependent use, and
- The planting plan includes at least 50 linear feet along the shoreline for the entire width of the Buffer. Planting may extend outside the Buffer provided it is contiguous to the vegetated portion of the Buffer and is no less than 25 feet in width and depth.

If suitable private land is not available, City-owned land within the Resource Conservation Area may be used for this purpose. The focus in these areas will be to enhance existing vegetation and habitat.

8.4 Stormwater Offset Program

Projects that are unable to comply with the runoff pollution reduction requirements as described in Section 7 will be required to contribute a fee to the Stormwater Offset Fund before building, use, and occupancy permits will be issued for the property. A project may qualify for an offset when it is determined that it is infeasible for the project to meet all or part of the 10% pollution reduction requirement on site or through offsite mitigation.

Any subsequent redevelopment of a site already assessed an offset fee for either the 10% runoff pollution reduction requirement or the Buffer establishment requirement will require additional Critical Area review if the further redevelopment is determined to be significant development or would result in any change to on-site mitigation required for prior development or use. Such additional redevelopment may require modification of the permit or denial of the permit application. In some cases, further offsets may be required if the redevelopment increases

impervious surfaces or displaces vegetation originally approved as part of a Critical Area determination.

8.5 Assessing the Fee for a Stormwater Offset

The amount of the fee is based on the costs that a project would incur for installation and maintenance of a stormwater pollution reduction facility on-site. Methodologies for computing existing and proposed pollutant loading and the effectiveness of stormwater management facilities in fulfilling the pollution removal goals are specified in the Maryland Stormwater Management Design Manual. The formula for computing the offset fee can be obtained from the Department of Planning. The fee is \$35,000 per pound of phosphorous per year, as calculated using Worksheet A.

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9 ADDITIONAL INFORMATION ABOUT THE CAMP

9.1 Stormwater Offset Program Criteria for Small Sites and Derelict Buildings

Critical Area compliance costs for reducing the stormwater pollution by 10% on small lots can be significant and out of proportion to the cost of the overall development and construction process. Construction on existing structures on residential lots less than 1,500 square feet and commercial lots less than 2,000 square feet can activate Critical Area requirements based upon the 50% assessment criteria used to define “significant” development. In these cases, the engineering fees can cost more than the mitigation or the offset fees, therefore, the following special provision will apply to these projects:

Small Residential Projects

Development activities on existing structures for residential use outside the 100-foot Buffer on sites less than 1,500 square feet are not required to pay offset fees, even if the project activates the 50% assessment criteria. This does not apply to new subdivisions or new construction.

Small Non-Residential Projects

Development activities on existing structures in Residential, Office-Residential and Business zoning districts for commercial use outside of the 100-foot Buffer on sites less than 2,000 square feet are not subject to Critical Area requirements, even if the project meets or exceeds the 50% assessment criteria. This does not apply to new subdivisions or new construction.

9.2 Mitigation for Public Uses

The City of Baltimore maintains a policy of requiring development projects in the Waterfront Revitalization Area to include the construction and maintenance of a public pedestrian promenade or hiking biking facilities along the Inner Harbor, the Middle Branch and other waterfront areas. Cultural and educational facilities may also require paved areas to accommodate public traffic. The portions of these public areas dedicated by public access easements, approved by the Board of Estimates, may be excluded from Buffer establishment and Buffer mitigation requirements. However, they are not exempt from the 10% rule, stormwater requirements.

9.3 Growth Allocation

The Critical Area Act provided for a limited expansion of the City’s Intensely Developed Area, provided that such expansion is limited to 2.5% of the total acreage of the City’s Resource Conservation Area. The City has converted all of its allotment for growth allocation, so additional growth allocation is no longer possible.

9.4 Marina Requirements

Water Quality Best Management Practices

For the development of new marinas and the expansion or alteration of existing marinas, developers and operators are required to comply with certain environmental best management practices or provide offsets to prevent adverse effects on water quality.

Marina developers and operators are required to meet sanitary requirements by installing, maintaining, and operating year-round, sanitary pump-out facilities, or through payment into an offset fund. Such facilities must be constructed in conformity with the provisions of the Environment Article, Annotated Code Maryland, Sec. 9-333 as amended.

For marinas with boatlift facilities, marina developers and operators are required to install, maintain, and operate devices for the interception of boat-bottom wash-waters whenever a marina offers pullout, lifts, or bottom-cleaning facilities or services. The discharge of any boat-bottom wash-waters into the harbor will be allowed only in the event that the operator has obtained a valid National Pollution Discharge Elimination System (NPDES) permit if one is required, and provided that all such waters are properly treated prior to discharge.

Maritime Master Plan Compliance

All marinas must comply with the City of Baltimore's Maritime Master Plan. The Maritime Master Plan can be found on the Department of Planning website at: <http://www.baltimorecity.gov/Government/AgenciesDepartments/Planning/MasterPlansMapsPublications/PlanningResources.aspx>

9.5 Subdivisions

Are regulated under COMAR 27.01.02.08

9.6 State and Local Agency Actions within the Critical Area

Development in the Critical Area resulting from actions of state or local agencies shall be in accordance with the provisions COMAR Title 27, Subtitle 2.

9.7 Green Roofs

Green roofs qualify as stormwater best management practices in accordance with the Maryland Stormwater Design Manual and may be counted as pervious surface in the determination of stormwater management requirements, However if a green roof is located on a new or expanded structure within the Buffer, Buffer mitigation requirements will still apply for Buffer impacts associated with the structure.

Credit for Plantings on Roofs

Trees planted on a roof may be used to meet the afforestation requirement within the IDA. Vegetation planted on a roof may not be credited towards Buffer mitigation or Buffer establishment requirements.

9.8 Criteria for Grandfathering and Non-Conforming Use

Grandfathering

The City shall permit the continuation, but not necessarily the intensification or expansion, of any use in existence on the date of program approval, unless the use has been abandoned for more than one year or is otherwise restricted by existing local ordinances. If any existing use does not conform to the provisions of the program, its intensification or expansion may be permitted only in accordance with the variance procedures outlined in the Baltimore City Zoning Code and COMAR.

In addition, all buildings and development existing in the Buffer prior to January 4, 1988 are not subject to a Buffer Offset fee, as long as the development activity is within the existing building or footprint. This holds true if the development activity meets or exceeds 50% of the assessed full base cash value of the property. Expansion beyond the existing building or footprint must be addressed with the regulations listed in this manual.

Grandfathered Lots

Except as otherwise provided, the City shall permit the types of land described in the following subsections to be developed in accordance with density requirements in effect prior to adoption of the CAMP notwithstanding the density provisions of the program. The City shall permit a single-lot or parcel of land that was legally on record at the date of program approval to be developed with a single-family dwelling if a dwelling is not already placed there (notwithstanding that such development may be inconsistent with the density provisions of this ordinance) provided that:

- It is on land where development activity has progressed to the point of the pouring of the foundation footings or the installation of structural members.
- It is a legal parcel of land, not being part of a recorded or approved subdivision, that was recorded as of December 1, 1985, and land that was subdivided into recorded, legally buildable lots, where the subdivision received the City's final approval prior to June 1, 1984, if:
 - At the time of development, the land is brought into conformance with the Critical Area program insofar as possible, including the consolidation or configuration of lots not individually owned or the procedures are approved by the Critical Area Commission; or
 - The land has received a building permit subsequent to December 1, 1985, but prior to the local program approval.
- It is on land that was subdivided into recorded, legally, buildable lots, where the subdivision received the City's final approval between June 1, 1984 and December 1, 1985; and
- It is on land that was subdivided into recorded, legally buildable lots, where the subdivision received the final approval after December 1, 1985, and provided that either development of any such land conforms to the IDA or RCA requirements in this CAMP or the area of the land is counted by the City against the growth allocation permitted through the City's CAMP.

- Nothing in this section may be interpreted as altering any requirements for development activities set out in the water-dependent facilities section or the habitat protection section of this manual.

9.9 Criteria for Brownfield Sites

The US Environmental Protection Agency (EPA) defines Brownfields, “IN GENERAL- The term "brownfield site" means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.”

Because many of these sites are in the Critical Area and because these sites are undergoing clean-up that the City wishes to encourage, the City of Baltimore will work closely with developers to redevelop these sites. Under these conditions, special provisions shall be applied to these sites.

To be considered a Brownfield, a site must be eligible for and participating in the Maryland Department of the Environment Brownfield Voluntary Cleanup Program (BVCP). Listed below are criteria for development of these sites:

- If a paved/capped area is required as part of the Brownfields mitigation, that paving/capping is temporarily exempt from Critical Area fees;
- The Brownfields property will remain exempt and payments deferred until a portion of the site is re-used, requiring a new occupancy permit or building permit. The property owner will be required to provide a letter to the Planning Department explaining that they understand this deferment and will convey this requirement to prospective buyers or tenants of the property;
- When the building or occupancy permit application process is started, the site will have to comply with Critical Area regulations. Only if the capped/paved portion of the site is re-used as part of the new use or re-development will all Critical Area requirements have to be met for that portion of the site;
- At the time the building or occupancy permit is requested, the stormwater quality standards must be met.

10 IMPLEMENTATION OF THE CAMP

10.1 Local Adoption of the CAMP

The City's CAMP was originally enacted into law by City Council Resolution Number 107 and companion Ordinances Numbers 1130, 1131, and 1132, effective January 4, 1988. As of that date, all development activity, which requires any public action and which constitutes significant development as defined herein is subject to any and all applicable CAMP requirements specified in the City Code and this CAMP document. Subsequent to its adoption, the City's CAMP was amended by Ordinance Number 356, effective June 22, 1994, and approved by the Chesapeake Bay Critical Area Commission on November 2, 1994. This CAMP document was further modified by Ordinance Number 517, effective March 21, 1995, and approved by the Chesapeake Bay Critical Area Commission on May 3, 1995. Development projects for which Critical Area findings were made prior to January 4, 1988, (i.e., interim findings as required by Natural Resources Article, Section 8-1813) are also subject to CAMP requirements in the event that such projects require additional public actions after the effective date of the City's CAMP.

Baltimore's CAMP was reviewed in 2002, and was repealed and re-ordained by Ordinance 02-350, effective June 13, 2002 and approved by the Chesapeake Bay Critical Area Commission on November 13, 2002. The terms and conditions contained herein reflect the most current amendments to the CAMP.

10.2 Critical Area Review Process

Submissions & Reviews

Review of all site plans and proposals within the City's Critical Area is the responsibility of Baltimore City Department of Planning. The Department of Planning will determine if a development proposal meets local Critical Area requirements for "significant" development. If a project is deemed significant, the following is the minimum that will be requested:

- Two copies of the existing conditions plan
- Two copies of the proposed site plan
- Two copies of the mitigation/landscaping plan with planting details, spacing, and species
- CAMP Program Certification and Landscape Maintenance Agreement signed and included as part of the mitigation plan or landscape plan package (See Section 10 – Materials Needed for Compliance)
- Two copies of the Buffer Management Plan if one is required
- Two copies of the Forest Stand Delineation (FSD) if required
- Two copies of Worksheet A showing the proposed pollution reduction method (See Section 10 – Materials Needed for Compliance)
- Two copies of the Habitat Assessment if there will be any encroachment in a Habitat Protection Area or Designated Habitat Protection Area
- Any additional information deemed necessary by the Director of Planning
- An electronic copy of all documents submitted may also be required

Appropriate documents will be sent to the Critical Area Commission by the Department of Planning, as required by the Critical Area Act. For projects requiring technical water quality review, the applicant must also submit appropriate documents to the Department of Public Works for a technical water quality review. The Department of Public Works will review the applicant's runoff pollution reduction requirements and the proposed best management practices. Once these agencies have specified how the project will meet these requirements, the applicant will provide plans that comply with the requirements and/or provide a written statement of intent regarding any applicable offsets to the responsible agencies. When the applicant has submitted development plans and/or a statement of intent regarding offsets, the Department of Planning will again review the plans for compliance to meet local Critical Area requirements. All applicants will be required to meet all applicable Building Code or other code requirements before a building permit will be issued.

Inter-Agency Coordination

The Department of Planning has established notification and review procedures to insure timely and maximum communication among affected City agencies. To the extent possible, these procedures utilize existing plans and permits review mechanisms. Inter-agency coordination is currently built into these review processes, which allows Federal, State and Local agencies the opportunity to review Critical Area compliance as well.

Key agencies reviewing all significant development projects in the Critical Area include the:

- Department of Planning
- Department of Public Works
- Department of Housing and Community Development

The City Health and Fire Departments review all development that involves the generation, storage or use of hazardous, toxic or nutrient materials. The City Law Department is consulted as necessary.

Building and Occupancy Permits and Inspections

An applicant will not be issued an occupancy permit or certificate of completion unless or until the City has certified that the on-site vegetation and/or runoff pollution reduction systems have been installed in a satisfactory manner. Once the applicant has demonstrated that all on-site requirements have been completed, the City will re-inspect the property to certify that Critical Area requirements have been satisfied.

In cases where the Director of Planning determines that Critical Area requirements may be satisfied off-site through one or both of the offset programs, an occupancy permit or certificate of completion for the property will not be issued until and unless the applicant has fully complied with offset agreements. The Department of Planning will determine compliance with offset agreements.

The Director of Planning, in conjunction with other responsible City agencies, will effectuate procedures to assure that proper compliance with Critical Area requirements occurs prior to issuance of occupancy permits.

10.3 Variances

Variances from the provisions of this CAMP may be granted by the Baltimore Board of Municipal and Zoning Appeals when, due to special features of a site or other circumstances, implementation of this CAMP by the City or a literal enforcement of CAMP provisions would result in unwarranted hardship to an applicant. Unwarranted hardship means that without a variance, an applicant would be denied reasonable and significant use of the entire parcel or lot for which the variance is requested. The applicant must submit evidence to demonstrate that the standards for granting a variance have been met.

Applications for a variance must be made in writing to the Baltimore Board of Municipal and Zoning Appeals, the Department of Planning, and the Critical Area Commission. After hearing an application for a Critical Area Management Program variance, the Baltimore Board of Municipal and Zoning Appeals shall make findings reflecting analysis of each standard.

Standards for Granting a Variance

A variance to the City's Critical Area Management Program may not be granted unless:

- Due to special features of a site, or special conditions or circumstances peculiar to the applicant's land or structure, a literal enforcement of the Critical Area Management Program would result in unwarranted hardship to the applicant.
- Without the variance, the applicant would be deprived of rights permitted to other properties in similar areas in accordance with the provisions of the Critical Area Management Program.
- The local jurisdiction finds that the applicant has satisfied each one of the variance provisions. [is this superseded by the following]

The City shall make findings which demonstrate that the variance request meets the following standards:

- In considering an application for a variance, the City shall presume that the specific development activity in the Critical Area that is subject to the application and for which a variance is required does not conform with the general purpose and intent of Natural Resources ARTICLE, Title 8, Subtitle 18, COMAR 27, and the requirements of the City's Critical Area Management Program. An applicant has the burden of proof and the burden of persuasion to overcome the presumption of non-conformance.
- If the variance request is based on conditions or circumstances that are the result of actions by the applicant, including commencement of development activity before an application for a variance has been filed; the City may consider that fact.
- Based on competent and substantial evidence, the City shall make written findings as to whether the applicant has overcome the presumption of the non-conformance as established above.
- With due regard for the person's experience, technical competence, and specialized knowledge, the written findings may be based on evidence introduced and testimony presented by:
 - The applicant;
 - The City or any other government agency; or
 - Any other person deemed appropriate by the City.

Findings

The City shall notify the Critical Area Commission of its findings and decision to grant or deny the variance request. Within ten working days after a written decision regarding a variance application is issued, the Commission shall receive a copy of the decision from the City. The City may not issue a permit for the activity that was the subject of the variance application until the applicable 30-day appeal period has elapsed. A development activity commenced without a required permit, approval, variance, or special exception is a violation of the state Natural Resource Code.

The City may not accept an application for a variance to legalize a violation of the CAMP including an un-permitted structure or development activity, unless the City first issues a notice of violation, including assessment of an administrative or civil penalty for the violation. If the final adjudication of a notice of violation results in a determination that a violation has occurred, the person shall be liable for a penalty that is twice the amount of the assessment in the notice of violation, in addition to the cost of the hearing and any applicable mitigation costs. Application for a variance in such a case constitutes a waiver of the right to appeal the terms of a notice of violation and its final adjudication, including the payment of any penalties and costs assessed.

If the City finds that the activity or structure for which a variance is requested commenced without permits or approvals, and does not meet each of the variance criteria, the City shall deny the requested variance and order removal or relocation of any structure and restoration of the affected resources. If the City finds that the activity or structure that was commenced without permits or approvals does meet each of the variance criteria, the City may grant proposed approval to the requested variance. This does not apply to building permits or activities that comply with a Buffer Exemption Plan or Buffer Management Plan which has been approved by the City and the Commission.

Mitigation

The Baltimore Board of Municipal and Zoning Appeals may impose conditions on the use or development of a property which is granted a variance as it may find reasonable to ensure that the spirit and intent of the CAMP is maintained including but not limited to the following: Impacts resulting from the granting of the variance shall be mitigated by planting on the site per square foot of the variance granted at no less than a 3:1 basis or as recommended by City staff. New or expanded structures, impervious surfaces and/or lot coverage shall be located the greatest possible distance from mean high water, the landward edge of tidal wetlands, tributary streams, non-tidal wetlands, or steep slopes.

Appeals

Appeals of decisions concerning the granting or denial of a variance under these regulations shall be taken in accordance with all applicable laws and procedures of the City for variances, as described in the next section. Appeals may be taken by any person, firm, corporation or governmental agency aggrieved or adversely affected by any decision made as part of the approval or denial of a variance.

10.4 Appeals

Disputes & Requests for Hearings

In the event that an applicant disputes a determination rendered by a City agency pursuant to the Critical Area review process, the applicant may appeal the determination by presenting a written request for a hearing to the applicable agency describing fully the nature and extent of disagreement with the determination. The affected agency will conduct an administration hearing regarding the dispute promptly in accordance with the City Code. The affected agency will then notify the applicant of its decision. A copy of the decision, available in the City's Legislative Reference office, along with the applicant's original request for a hearing, will be forwarded to the Chesapeake Bay Critical Area Commission.

Such appeals will be made as follows:

City Code (Edition 2000):

- Zoning appeals shall be filed with the Baltimore Zoning Administrator and forwarded to the Baltimore Board of Municipal and Zoning Appeals for a hearing, in accordance with Article-Zoning 17-201-204;
- Stormwater Management appeals shall be filed with the Director of the Department of Public Works, in accordance with Article 7-Natural Resources;
- Building Permit and Occupancy Permit appeals shall be filed with the Commissioner of the Department of Housing and Community Development, in accordance with Article 32-Building Code.

City Charter (1995):

- Other appeals from determinations by the Director of the Department of Planning regarding the CAMP provisions shall be made to the Planning Commission pursuant to Article 32-Building Code.

Additional Appeals

Further appeal from any decision rendered by the hearing officers or bodies specified above may be taken to the Circuit Court for the City of Baltimore, as follows:

- Baltimore Board of Municipal and Zoning Appeals, proceeds in accordance with Article VII, Section 88 (City Charter, 1995) or Article-Zoning (City Code, Edition 2000).
- Director of Public Works, proceeds in accordance with Article 7 (City Code, Edition 2000).
- Commissioner of Housing and Community Development proceeds in accordance with Article 32 (City Code, Edition 2000).
- Planning Commission proceeds in accordance with Article VII, Section 79 (City Charter, 1995).

10.5 Enforcement

Violation of the provisions of this CAMP document shall be dealt with in the manner provided for in the applicable Critical Area provisions of the City Code. Penalty citations are as follows:

- Stormwater management violations-Article 7-Natural Resources, Subtitle 26-3, City Code (Edition 2000).
- Zoning violations-Article-Zoning, Section 17-501-507, City Code (Edition 2000).
- Building Code violations-Article 32-Building Code, Section 116.2-116.3, City Code (Edition 2000).

Afforestation & Mitigation

Any tree or vegetation clearing must have the prior written approval of the Director of Planning. No occupancy permit shall be issued until the required afforestation or mitigation has been completed or until an escrow account or non-revocable letter of credit has been established in the name of the Mayor and City Council of Baltimore. Such account shall be for an amount equal to the total estimated cost of the required planting, plus an additional forty percent for contingencies and project management fees in the event the applicant fails to implement the plan.

Restoration

Any development, redevelopment, construction or excavation undertaken in violation of any provision of this CAMP document must promptly be corrected after written notice from the Director of Planning and/or the Director of Housing and Community Development. The property owner will have thirty (30) days from the receipt of such written notice in order to correct any violations.

Civil and Criminal Penalties

In addition to any other penalty applicable under state or city law, each person who violates a provision of Natural Resources Article, Title 8 Subtitle 18, or the City's Critical Area Management Program, ordinance, or regulations including a contractor, property owner, or any other person who committed, assisted, authorized, or participated in the violation, is subject to a fine not to exceed \$10,000, and administrative enforcement procedures in accordance with due process principles. A "property owner" includes two or more persons holding title to the property under any form of joint ownership. Due process principles shall include proper notice and an opportunity to be heard, and establishing that:

- Each violation of a regulation, rule, order, program, or other requirement constitutes a separate offense;
- Each calendar day that a violation continues constitutes a separate offense;
- For each offense, a person will be subject to separate fines, orders, sanctions, and other penalties;
- Civil penalties for continuing violations will accrue without a requirement for an additional assessment, notice, or opportunity for hearing for each separate offense; and
- On consideration of all the factors included under the Natural Resources Code and any other factors in Baltimore's Critical Area Management Program, the City will impose the amount of the penalty; satisfaction of all required conditions will be a condition precedent to the issuance of any permit, approval, variance, or special exception for the affected property; and unless an extension of time is appropriate because of adverse planting conditions, within 90 days of the issuance of a permit, approval, variance, or special exception for the affected property, any additional mitigation required as a

condition of approval for the permit, approval, variance, or special exception shall be completed.

In determining the amount of the penalty to be assessed, the City may consider the following:

- The gravity of the violation;
- Any willfulness or negligence involved in the violation; and
- The environmental impact of the violation.
- The cost of restoration of the resource affected by the violation and mitigation for damage to that resource, including the cost to the State or Baltimore City for performing, supervising, or rendering assistance to the restoration and mitigation.

Baltimore City will not issue a permit, approval, variance, or special exception unless the person seeking the permit approval, variance, or special exception has:

- Fully paid all administrative, civil, and criminal penalties imposed under paragraph of this subsection;
- Prepared a restoration or mitigation plan, approved by the Baltimore City Director of Planning, to abate impacts to water quality or natural resources as a result of the violation; and
- Performed the abatement measures in the approved plan in accordance with Baltimore's Critical Area Management Program.

10.6 Local Program Administration

Program Amendments and Refinements

The Planning Commission and the City Council may from time to time amend or refine the Baltimore CAMP. A program amendment is any change or proposed change to an adopted program that is not determined by the chairman of the critical Area Commission to be a program refinement. Program Refinement is any change or proposed change to an adopted program that the chairman of the Critical Area Commission determines will result in a use of land or water in the Chesapeake Bay Critical Area or Atlantic Coastal Bays Critical Area in a manner consistent with the adopted program, or that will not significantly affect the use of land or water in the Critical Area. Program refinement may include:

- A change to an adopted program that Results from State law;
- A change to an adopted program that affects local processes and procedures;
- A change to a local ordinance or code that clarifies an existing provision; and
- A minor change to an element of an adopted program that is clearly consistent with the provisions of State Critical Area law and all the criteria of the Commission

All such amendments and refinements shall be approved by the Critical Area Commission as established in Section 8-1809 of the Critical Area Act. No such amendment shall be implemented without approval of the Critical Area Commission. Standards and procedures for the Critical Area Commission approval of proposed amendments or refinements are as set forth in the Critical Area Act Section 8-1809 (I) and Section 8-1809 (d), respectively. In addition, the Department of Planning and the City Council shall review the entire program and propose any necessary amendments or refinements as required at least every six (6) years.

When an amendment or refinement is requested, the applicant shall submit the amendment or refinement request to the Planning Commission for review. Upon completing Findings of Fact, these documents shall be forwarded to the City Council. The City Council shall hold at least one public hearing at which parties of interest and citizens shall have an opportunity to be heard. At least fifteen (15) days notice of the time and place of such hearing shall be published in a newspaper of general circulation in Baltimore. The City Council shall forward the approved amendment or Refinement request to the Critical Area Commission for final approval.

Except for program amendment or program refinements developed during a six-year comprehensive review, a zoning map amendment may only be granted by the City upon proof of a mistake in the existing zoning. This requirement does not apply to proposed changes to a zoning map that meets the following criteria:

- Are wholly consistent with the land classifications in the adopted program; or
- Propose the use of growth allocation in accordance with the adopted program.

Revisions to this Manual

Between the required 6 year program review, revisions to this manual will be submitted to the Baltimore City Planning Commission for review and approval, and will be subject of a public hear by the Planning Commission. If the revision is approved by the Planning Commission, it will be forwarded to the Critical Area Commission for approval.

The Director of Planning and the Critical Area Commission are authorized to correct any typographical errors, eliminate redundant or extraneous material or rearrange portions of Baltimore's CAMP document from time to time, provided the Baltimore Law Department concurs that any such corrections do not constitute changes in the City's adopted program within the intent of Title 8, Subtitle 18 of the Natural Resources Article of the Annotated Code of Maryland and other applicable State or City laws.

II FORMS, WORKSHEETS, & ADDITIONAL RESOURCES

The materials in this section are intended to assist applicants in the preparation of their submissions by providing various forms, worksheets, and other information that may be required for the review and approval of projects in the Critical Area.

DRAFT

11.1 Stormwater Pollutant Reduction Calculations

Worksheet A: Standard Application Process Calculating Pollutant Removal Requirements *

Project Name: _____

Date: _____

Step I: Project Description

A. Calculate Percent Imperviousness

1) Site Area within the Critical Area IDA, Acreage = _____ acres

2) Site Impervious Surface Area, Existing and Proposed

	(a) Existing (acres)	(b) Post-Development (acres)
Rooftop	_____	_____
Roads	_____	_____
Sidewalks	_____	_____
Parking lots	_____	_____
Pools/ponds	_____	_____
Decks	_____	_____
Other	_____	_____

Total	(2a) Existing (acres)	(2b) Post-Development (acres)
Impervious Surface Area	_____	_____

Imperviousness (I)

Existing Impervious Surface Area/Site Area = (Step 2a)/(Step 1) = _____

Post-Development Impervious Surface Area/Site Area = (Step 2b)/(Step 1) = _____

B. Define Development Category (circle one)

1) Redevelopment Existing imperviousness greater than 15% I (Go to Step 2A)

2) New development Existing imperviousness less than 15% I (Go to Step 2B)

*NOTE: All acreage used in this worksheet refer to areas within the Intensely Developed Areas of the Critical Area only

Step 2: Calculate the Pre-Development Load (L_{pre})

A. Redevelopment

$$L_{pre} = (R_v) (C) (A) (8.16)$$

$$R_v = 0.05 + 0.009 (I_{pre})$$
$$= 0.05 + 0.009 (\text{_____}) = \text{_____}$$

$$L_{pre} = (\text{_____}) (\text{_____}) (\text{_____}) 8.16$$
$$= \text{_____ lbs/year of total phosphorous}$$

Where:

L_{pre} = Average annual load of total phosphorous exported from the site prior to development (lbs/year)

R_v = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff

I_{pre} = Pre-development (existing) site imperviousness (i.e., I=75 if site is 75% impervious)

C = Flow-weighted mean concentration of the pollutant (total phosphorous) in urban runoff
= 0.30 (milligrams per liter)

A = Area of the site within the Critical Area Intensely Developed Area (IDA) in acres

8.16 = Includes regional constants and unit conversion factors

B. New Development

$$L_{pre} = (0.5) (A)$$
$$= (0.5) (\text{_____})$$
$$= \text{_____ lbs /year of total phosphorous}$$

Where:

L_{pre} = Same as above

0.5 = Annual total phosphorous load from undeveloped lands (lbs/acre/year)

A = Same as above

Step 3: Calculate the Post-Development Load (L Post)

A. New Development and Redevelopment

$$L_{\text{post}} = (R_v) (C) (A) (8.16)$$

$$\begin{aligned} R_v &= 0.05 + 0.009 (I_{\text{post}}) \\ &= 0.05 + 0.009 (\text{_____}) = \text{_____} \end{aligned}$$

$$\begin{aligned} L_{\text{post}} &= (\text{_____})(\text{_____})(\text{_____}) (8.16) \\ &= \text{_____ lbs P/year} \end{aligned}$$

Where:

- L_{post} = Average annual load of total phosphorous exported from the post development site (lbs/year)
- R_v = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff
- I_{post} = Post-development (proposed) site imperviousness (i.e., $I = 75$ if site is 75% impervious)
- C = Flow-weighted mean concentration of the pollutant (total phosphorous) in urban runoff
- C = 0.30 milligrams per liter
- A = Area of the site within the Critical Area Intensely Developed Area (IDA) in acres
- 8.16 = Includes regional constants and unit conversion factors

Step 4: Calculate the Pollutant Removal Requirement (RR)

$$\begin{aligned} RR &= L_{\text{post}} - (0.9) (L_{\text{pre}}) \\ &= (\text{_____}) - (0.9) (\text{_____}) \\ &= \text{_____ lbs/year of total phosphorous} \end{aligned}$$

Where:

- RR = Pollutant removal requirement (lbs/year)
- L_{post} = Average annual load of total phosphorous exported from the post development site (lbs/year)
- L_{pre} = Average annual load of total phosphorous exported from the site prior to development (lbs/year)

Step 5: Identify Feasible Urban BMP

Select Best Management Practice options from the 2003 10% Rule Guidance Manual, Table 4.8 - (%) at the Critical Area WEB site: <http://www.dnr.state.md.us/criticalarea/>

Calculate the load removed for each option.

BMP	(Lpost)	x	(BMPre)		(% DA Served)	LR
_____	_____	x	_____	x	_____	= _____ lbs/year
_____	_____	x	_____	x	_____	= _____ lbs/year
_____	_____	x	_____	x	_____	= _____ lbs/year
_____	_____	x	_____	x	_____	= _____ lbs/year
Load Removed, LR (total)						= _____ lbs/year
Pollutant Removal Requirement, RR (from Step 4)						= _____ lbs/year

Where:

- Load Removed, LR = Annual total phosphorous load removed by the proposed BMP (lbs/year)
- Lpost = Average annual load of total phosphorous exported from the post development site (lbs/year)
- BMPre = BMP removal efficiency for total phosphorus, Table 4.8 (%)
- % DA Served = Fraction of the site area within the Critical Area IDA served by the BMP (%)
- RR = Pollutant removal requirement (lbs/year)

HAS THE RR (POLLUTANT REMOVAL REQUIREMENT) BEEN MET?

___ YES ___ NO

If the Load Removed is equal to or greater than the pollutant removal requirement (RR) calculated in Step 4, then the on-site BMP option complies with the 10% Rule.

11.2 Program Certification/ Landscape Maintenance Agreement Form

Directions:

Once the City has notified you that the Critical Area submittal has been approved:

1. Send one signed copy of this Program Certification/Landscape Maintenance Form to:
Gary Letteron, Critical Area Coordinator
Baltimore City Department of Planning
417 East Fayette Street-8th Floor
Baltimore, MD 21201

Phone: 410-396-4369

FAX: 410-244-7358

E-mail: gary.letteron@baltimorecity.gov

2. Attach/splice one copy onto the:
 - Landscape Plans, and
 - Best Management Practice sheet(s) of the plans accompanying the building permit application.

CITY OF BALTIMORE CHESAPEAKE BAY CRITICAL AREA MANAGEMENT PROGRAM

City of Baltimore, Maryland
Department of Planning

I am aware of the requirements of the City of Baltimore Critical Area Management Program and I agree to comply with these regulations and all applicable policy, guidelines and ordinances. I further agree to:

1. Certify installation of the approved Best Management Practice(s), to maintain such practices and have signed, if appropriate, a Declaration of Covenants-Inspection/Maintenance Agreement for Stormwater Management Facility and filed it with the Department of Public Works, Construction Management Division.
2. Certify installation of the Landscaping/Planting Plan not later than one (1) year from the date of occupancy to the Baltimore City Planning Department, 417 E. Fayette Street, 8th Floor, Baltimore, MD 21202.
3. Certify implementation of the landscape maintenance agreement listed in items A-F below. I shall be responsible for this maintenance and tree care for a period of two years. Services shall include, but not be limited to the following:
 - A. WATERING
 - Watering shall be provided during the growing season as required.
 - First Growing Season: Once per week.
 - Second and Subsequent Growing Seasons: As needed, but not less than once per month during July and August. This includes trees planted in the sidewalk and the public right-of-way.
 - B. REINFORCEMENT OF PLANTING REQUIREMENTS
 - A minimum of 100% of the total number of trees is required to survive at the end of the two-year maintenance period.
 - C. MOWING AND FERTILIZER USE
 - Mowing: Areas requiring mowing should be kept to a minimum. If mowing is necessary, raise the lawn mower blade to at least 5 inches. This will reduce soil erosion, increase water absorption, and increase turf drought tolerance. On areas that are lawn that do not require close mowing, allow the grass to attain a height of at least 10 inches. Mowing in these areas is permitted once per year in the fall after September.
 - Fertilizer, Pesticides and Herbicides: Avoid the use of any fertilizer, especially those containing phosphorous or nitrogen, chemical pesticides and herbicides. If pest (rat) control is necessary, use integrated pest management, which limits pesticide applications to times when a problem is actually present. Remove all human and pet waste sources: garbage, spoiled food, pet excrement, etc.-these are all rodent food sources.

D. STORMWATER FACILITIES

- Plantings in stormwater facilities/BMPs are to be left to grow in their natural form in order to provide habitat for birds and other species. Do not mow grass or other plants in these areas, but keep trash cleaned out.

E. CONTROL OF INVASIVE PLANT SPECIES

- Phragmites, ailanthus, and other non-native plant removal should be undertaken in any areas on-site in perpetuity. Invasive, non-native plants will overtake the newly planted, native landscaping plants and create a monoculture unless controlled. Non-native, invasive plants should be spot-controlled using a combination of "Rodeo" herbicide, hand-cutting and weeding. Care should be taken not to spray any newly planted, native plants.

F. PROTECTION FROM DISEASE AND INJURY

- Periodic inspection shall be made for any evidence of disease or damage.

Applicant/Developer's Name

Applicant/Developer's Signature

Owner's Name

Owner's Signature

11.3 Related Regulations and Resources

The following regulations and documents may be helpful in better understanding the requirements of the CAMP and other related regulations.

Critical Area Regulation & Critical Area Commission Publications

COMAR 27 - Critical Area Commission for the Chesapeake and Atlantic Coastal Bays:

http://www.dsd.state.md.us/comar/subtitle_chapters/27_Chapters.aspx

Critical Area 10% Rule Guidance Manual:

<http://www.dnr.state.md.us/irc/docs/00006419.pdf>

Other Critical Area Commission Publications:

<http://www.dnr.state.md.us/criticalarea/guidance.asp>

Related Regulations

Maryland Stormwater Design Manual:

http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.aspx

Baltimore City Zoning Code:

<http://www.baltimorecity.gov/Government/CityCharterCodes.aspx>

Baltimore Landscape Manual:

(pending approval)

City of Baltimore Forest Conservation Program:

<http://baltimorecity.gov/government/planning/images/ForestConservation.pdf>

Baltimore City Site Plan Review Guidelines:

<http://www.baltimorecity.gov/LinkClick.aspx?fileticket=NCjXQSjlsMw%3d&tabid=275&mid=643>

Baltimore Development Guidebook:

<http://www.baltimorecity.gov/LinkClick.aspx?fileticket=PYhJ3MWPzaA%3d&tabid=275&mid=643>

Maritime Master Plan

<http://www.baltimorecity.gov/Portals/0/agencies/planning/public%20downloads/MaritimeFinal.pdf>

Critical Area Planting Resources

Chesapeake and Atlantic Coastal Bays Critical Area Commission website

(<http://www.dnr.state.md.us/criticalarea/>) for planting guidance publications:

- “Native Trees and Shrubs in Maryland”
- “Forest Mitigation Guidance”
- “Living Shorelines- A Guide for Waterfront Property Owners”

U.S. Fish & Wildlife Service - Native Plants for Wildlife Habitat and Conservation Landscaping for the Chesapeake Bay Watershed:

<http://www.nps.gov/plants/pubs/chesapeake/>

Invasive Species of Concern in Maryland:

http://www.mdinvasivesp.org/list_terrestrial_plants.html

12 DEFINITIONS

The following terms have been incorporated into the Baltimore City Critical Area Management Program. Each of these terms has the meaning indicated below.

“Afforestation” means the establishment of forest cover on an area from which it has always or very long been absent, or the planting of open areas which are not presently in forest cover (source: Baltimore City Code, Article 7, Division iv, Subtitle 41-48, forest and tree conservation).

"Anadromous Fish" means fish that travel upstream (from their primary habitat in the ocean) to freshwaters in order to spawn.

"Anadromous Fish Propagation Waters" means those streams that are tributary to the Chesapeake Bay where spawning of anadromous species of fish (e.g., rockfish, yellow perch, white perch, shad, and river herring) occurs or has occurred. The streams are designated by the tidewater administration. For purpose of this program "streams" refers to designated anadromous fish propagation waters within the critical area.

“Barge” means a non-self-propelled vessel.

"Barren Land" means unmanaged land having sparse vegetation.

"Best Management Practices (BMPs)" means conservation practices or systems of practices and management measures that control soil loss and reduce water quality degradation caused by nutrients, animal waste, toxics, and sediment

"Brownfield" means abandoned, idled, or underused industrial or commercial facilities where expansion and redevelopment is complicated by real or perceived contamination (U.S. Environmental Protection Agency).

“Buffer” means an area that:

- Based on conditions present at the time of development, is immediately landward from mean high water of a tidal water, the edge of bank of a tributary stream, or the edge of a tidal wetland; and
- Exists or may be established in natural vegetation to protect a stream, tidal wetland, tidal waters, or terrestrial environment from human disturbance.

“Buffer” includes an area of:

- At least 100 feet, even if that area was previously disturbed by human activity; and
- Expansion for contiguous areas, including a steep slope, hydric soil, highly erodible soil, non-tidal wetland, or a Non-tidal Wetland of Special State Concern as defined in COMAR 26.23.01.01.

"Clear Cutting" means the removal of the entire stand of trees in one cutting with tree reproduction obtained by natural seeding from adjacent stands or from tress that were cut, from advanced regeneration or stump sprouts, or from planting of seeds or seedlings by man.

"Colonial Nesting Water Birds" means Herons, Egrets, Terns, and Glossy Ibis. For purposes of nesting, these birds congregate (that is "colonize") in relatively few areas, at which time, the regional populations of these species are highly susceptible to local disturbances.

“COMAR” means Code of Maryland Regulations. The Critical Area regulations are COMAR Title 27, or COMAR 27.

"Commercial Harvesting" means a commercial operation that would alter the existing composition or profile, or both, of a forest, including all commercial cutting operations done by companies and private individuals for economic gain.

"Commission" means the Chesapeake Bay Critical Area Commission.

"Community Piers" means boat docking facilities associated with subdivisions and similar residential areas, and with condominium, apartment, and other multiple-family dwelling units. Private piers are excluded from this definition.

"Comprehensive Master Plan" means a compilation of policy statements, goals, standards, maps, and pertinent data relative to the past, present, and future trends of the Baltimore City including, but not limited to, its population, housing, economics, social patterns, land use, water resources and their use, transportation facilities, and public facilities, prepared by or for the Department of Planning.

"Conservation Easement" means a non-possessory interest in land, which restricts the manner in which the land may be developed in an effort to reserve natural resources for future use.

"Cover Crop" means the establishment of a vegetative cover to protect soils from erosion and to restrict pollutants from entering the waterways. Cover crops can be dense, planted crops of grasses or legumes, or crop residues such as corn, wheat, or soybean stubble which maximize infiltration and prevent runoff from reaching erosive velocities.

"Critical Area" means all lands and waters defined in section 8-1807 of the Natural Resources, Annotated Code of Maryland. They include:

- All waters of and lands under the Chesapeake Bay and its tributaries to the head of tide as indicated on the state wetlands maps, and all state and private wetlands designated under Title 9 of the Natural Resources Article, Annotated Code of Maryland;
- All land and water areas within 1,000 feet beyond the landward boundaries of state or private wetlands and the heads of tides designated under Title 9 of the Natural Resources Article, Annotated Code of Maryland; and
- Modification to these areas through inclusions or exclusions proposed by the city and approved by the critical area commission as specified in Section 8-1807 of the Natural Resources Article, Annotated Code of Maryland.

"Developed Woodlands" means those areas of 1 acre or more in size which predominantly contain trees and natural vegetation and which also include residential, commercial, or industrial structures and uses.

"Developer" means a person who undertakes development activity as defined in this ordinance; or a person who undertakes development as defined in the criteria of the commission

"Development activities" or "Development" means the construction or substantial alteration of residential, commercial, industrial, institutional, or transportation facilities or structures and includes construction, reconstruction, modification, demolition or expansion of structures; placement of fill; dredging; drilling; mining; grading; paving; land excavation; land clearing; land improvement; storage of materials.

"Disturbance" means any alteration or change to the land and includes any amount of clearing, grading, or construction activity. (from COMAR Title 27)

"Documented Breeding Bird Areas" means forested areas where the occurrence of interior dwelling birds, during the breeding season, has been demonstrated as a result of on-site surveys using standard biological survey techniques.

"Dwelling Unit" means a single unit providing complete, independent living facilities for at least one person, including permanent provisions for sanitation, cooking, eating, sleeping, and other

activities routinely associated with daily life. Dwelling unit includes a living quarters for a domestic or other employee or tenant, an in-law or accessory apartment, a guest house, or a caretaker residence.

"Ecosystem" means a more or less self-contained biological community together with the physical environment in which the community's organisms occur.

"Establishment" means the creation of native vegetated cover throughout the Buffer.

"Excess Stormwater Runoff" means all increases in storm water resulting from:

- an increase in the imperviousness and/or lot coverage of the site, including all additions to buildings, roads and parking lots;
- changes in permeability caused by compaction during construction or modifications in contours, including the filling or drainage of small depression areas;
- alteration of drainage ways, or regrading of slopes;
- destruction of forest; or
- installation of collection systems to intercept street flows or to replace swales or other drainage ways.

"Forest" means a biological community dominated by trees and other woody plants covering a land area of 1 acre or more. This also includes forests that have been cut, but not cleared.

"Forested Area" means a biological community dominated by trees and other woody plants.

"Forest Interior Dwelling Birds" means species of birds which require relatively large forested tracts in order to breed successfully (e.g., various species of flycatchers, warblers, vireos, and woodpeckers).

"Highly Erodible Soils" means those soils with a slope greater than 15 percent; or those soils with a k value greater than 0.35 and with slopes greater than 5 percent.

"Historic Waterfowl Staging and Concentration Area" means an area of open water and adjacent marshes where waterfowl gather during migration and throughout the winter season. These areas are "historic" in the sense that their location is common knowledge and because these areas have been used regularly during recent times.

"Hydric Soils" means soils that are wet frequently enough to periodically produce anaerobic conditions, thereby influencing the species composition or growth, or both, of plants on those soils.

"Hydrophytic Vegetation" means those plants cited in "Vascular Plant Species Occurring in Maryland Wetlands" (Dawson, F. et al., 1985) which are described as growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content (plants typically found in water habitats).

"Improvements" means all physical improvements to the land or structures. Does not include consultant fees, portable equipment (restaurant ranges, moveable brewery equipment, etc.)

"Includes" means includes or including by way of illustration and not by way of limitation.

"Intensely Developed Area" means an area of at least 20 acres or the entire upland portion of the Critical Area within a municipal corporation, whichever is less, where:

- Residential commercial, institutional, or industrial developed land uses predominate; and
- A relatively small amount of natural habitat occurs.

Intensely Developed Area includes:

- An area with a housing density of at least 4 dwelling units per acre;
- An area with public water and sewer systems with a housing density of more than 3 dwelling units per acre; or

- A commercial marina re-designated by a local jurisdiction from a resource conservation area or limited development area to an intensely developed area through a mapping correction that occurred before January 1, 2006.

“In-Vessel Composting” means composting of biodegradable waste that occurs in enclosed reactors.

“K Value” means the soil erodibility factor in the universal soil loss equation. It is a quantitative value that is experimentally determined.

“Land-Based Aquaculture” means the raising of fish or Shellfish in any natural or man-made, enclosed or impounded, water body.

“Land Clearing” means any activity that removes the vegetative ground cover.

“Landforms” means features of the earth's surface created by natural causes.

“Legally Developed” means that all physical improvements to a property:

- Existed before commission approval of a local program; or
- Were properly permitted in accordance with the local program and impervious surface policies in effect at the time of construction.

“Lot Coverage” means the percentage of a total lot or parcel that is:

- Occupied by a structure, accessory structure, parking are, driveway, walkway, or roadway; or
- Covered with gravel, stone, shell, impermeable decking, a paver, permeable pavement, or any manmade material.

Lot coverage includes the ground area covered or occupied by a stairway or impermeable deck.

Lot coverage does not include:

- A fence or wall that is less than 1 foot in width that has not been constructed with a footer;
- A walkway in the Buffer or expanded Buffer, including stairway, that provides direct access to a community or private pier;
- A wood mulch pathway; or
- A deck with gaps that allow water to pass freely.

“Marina” means any facility for the mooring, berthing, storing, Or securing of watercraft, but not including community piers and other non-commercial boat docking and storage facilities.

“Mean High Tide” means the average height of all the daily high tides recorded over a specified period at a given location.

“Mitigation” means an action taken to compensate for an adverse impact to the environment resulting from a development activity or a change in land use or intensity.

“Natural Heritage Area” means any communities of plants or animals which are considered to be among the best statewide examples of their kind, and are designated by regulation by the secretary of the department of natural resources.

“Natural Vegetation” means those plant communities that develop in the absence of human activities.

“Nature-Dominated” means a condition where landforms or biological communities, or both, have developed by natural processes in the absence of human intervention.

“Natural Features” means components and processes present in or produced by nature, including but not limited to, soil types, geology, slopes, vegetation, surface water, drainage patterns, aquifers, recharge areas, climate, flood plains, aquatic life, and wildlife.

“Natural Parks” means areas of natural habitat that provide opportunities for those recreational activities that are compatible with the maintenance of natural conditions.

"Non-Point Source Pollution" means pollution generated by diffuse land use activities rather than from an identifiable or discrete facility. It is conveyed to waterways through natural processes, such as rainfall, storm runoff, or groundwater seepage rather than by deliberate discharge. Non-point source pollution is not generally corrected by "end-of-pipe" treatment, but rather, by changes in land management practices.

"Non-Renewable Resources" means resources that are not naturally regenerated or renewed.

"Non-Tidal Wetlands" means those lands in the critical area, excluding tidal wetlands regulation under Title 9 of the Natural Resources Article, Annotated Code of Maryland, where the water table is usually at or near the surface, or lands where the soil or substrate is covered by shallow water at some time during the growing season. These regulations apply to the palustrine class of non-tidal wetlands as defined in "Classification of Wetlands and Deepwater Habitats of the United States" (publication FWS/OBS-79/31, December 1979) and as identified on the national wetlands inventory maps, or which may be identified by site survey at the time of application for a development activity. These lands are usually characterized by one or both of the following:

- At least periodically, the lands support predominantly hydrophytic vegetation;
- The substrate is predominantly undrained hydric soils.

"Offsets" means structures or actions that compensate for undesirable impacts.

"Open Space" means land and water areas retained in an essentially undeveloped state.

"Palustrine" means all non-tidal wetlands dominated by trees, shrubs, persistent emergent plants, or emergent mosses or lichens and all such wetlands that occur in tidal areas where the salinity due to ocean-derived salts is below one-half part per 1,000 parts of water.

"Plant Habitat" means a community of plants commonly identifiable by the composition of its vegetation and its physiographic characteristics.

"Port Facility" means any one or more or combination of:

- Lands, piers, docks, wharves, warehouses, sheds, transit sheds, elevators, compressors, refrigeration storage plants, buildings, elevators, compressors, refrigeration storage plants, buildings, structures, and other facilities, appurtenances, and equipment useful or designed for use in connection with the operation of a port;
- Every kind of terminal or storage structure or facility useful or designed for use in handling, storing, loading, or unloading freight or passengers at marine terminals;
- Every kind of transportation facility useful or designed for use in connection with any of these.

"Private Harvesting" means the cutting and removal of trees for personal use.

"Program" means the City of Baltimore Critical Area Management Program.

"Program Amendment" means any change or proposed change to an adopted program that is not determined by the chairman of the Critical Area Commission to be a program refinement.

"Program Refinement" means any change or proposed change to an adopted program that the chairman of the Critical Area Commission determines will result in a use of land or water in the Chesapeake Bay Critical Area or Atlantic Coastal Bays Critical Area in a manner consistent with the adopted program, or that will not significantly affect the use of land or water in the critical area. Program refinement may include:

- A change to an adopted program that results from state law;
- A change to an adopted program that affects local processes and procedures;
- A change to a local ordinance or code that clarifies an existing provision: and

- A minor change to an element of an adopted program that is clearly consistent with the provisions of state critical area law and all the criteria of the commission

"Public Water-Oriented Recreation" means shore-dependent recreation facilities or activities provided by public agencies which are available to the general public.

"Redevelopment" means the process of developing land which is or has been developed.

"Reforestation" means the establishment of a forest through artificial reproduction or natural regeneration.

"Resource Conservation Area" means an area that is characterized by:

- Nature dominated environments, such as wetlands, surface water, forests, and open space; and
- Resource-based activities, such as agriculture, forestry, fisheries, or aquaculture.

Resource Conservation Area includes an area with a housing density of less than one dwelling per five acres.

"Riparian Habitat" means a habitat that is strongly influenced by water and which occurs adjacent to streams, shorelines, and wetlands

"Runoff Pollution" means those contaminants which are carried by precipitation that flows over land.

"Seasonally Flooded Water Regime" means a condition where surface water is present for extended periods, especially early in the growing season, and when surface water is absent, the water table is often near the land surface.

"Selection" means the removal of single, scattered, mature trees or other trees from uneven-aged stands by frequent and periodic cutting operations.

"Shore Erosion Protection Works" means those structures or measures constructed or installed to prevent or minimize erosion of the shoreline in the critical area.

"Significant Development" means development which: disturbs land in the Buffer; disturbs 10,000 or more square feet of land in the Critical Area; results in any disturbance, caused by use, development, or destruction of vegetation, to land in an area designated under the Critical Area Management Program as a habitat protection area; or involves an expenditure for improvements to the property equal to or greater than 50% of the assessed value of the property, as certified by the Department of Planning.

"Significantly Eroding Areas" means areas that erode 2 feet or more per year.

"Species In Need of Conservation" means those fish and wildlife whose continued existence as part of the state's resources are in question and which may be designated by regulation by the secretary of natural resources as in need of conservation pursuant to the requirements of natural resources article, sections 10-2a-06 and 4-2a-03, Annotated Code of Maryland.

"Solid waste acceptance facility" (from ART. 23, § 11-1 of Baltimore City Code) means any:

- Sanitary landfill;
- Transfer facility;
- Central processing facility;
- Incinerator;
- Medical/pathological waste incinerator;
- Waste-to-energy facility; or
- Any other type of facility that accepts solid waste for disposal, treatment, processing, composting, compacting, or transfer to a solid waste acceptance facility.

"Steep slopes" means slopes of 15 percent or greater incline.

"Thinning" means a forest practice used to accelerate tree growth of quality trees in the shortest interval of time.

"Topography" means the existing configuration of the Earth's surface including the relative relief, elevation, and position of land features.

"Transitional Habitat" means a plant community whose species are adapted to the diverse and varying environmental conditions that occur along the boundary that separates aquatic and terrestrial areas.

"Transportation Facilities" means anything that is built, installed, or established to provide a means of transport from one place to another.

"Tributary Streams" means a perennial stream or an intermittent stream within the critical area that has been identified by site inspection or in accordance with local program procedures approved by the commission.

"Unwarranted Hardship" means that without a variance, an applicant would be denied reasonable and significant use of the entire parcel or lot for which the variance is requested. (Natural Resources Article 8-1808 (d) (1))

"Utility Transmission Facilities" means fixed structures that convey or distribute resources, wastes, or both, including, but not limited to, electric lines, water conduits, and sewer lines.

"Water-Dependent Facility" means those structures or works associated with industrial, maritime, recreational, educational, or fisheries activities that require location at or near the shoreline within the Buffer and are dependent on the water by reason of the intrinsic nature of their operation, as specified in COMAR 27.01.09.

Water-dependent facilities include: ports, intake and outfall structures of power plants, water-use industries, marinas and other boat-docking structures, public beaches and water-oriented recreation areas, fisheries.

Water-dependent facilities do not include private piers that are installed and maintained by riparian landowners and are not part of a subdivision that provides community piers.

"Water-Use Industry" means an industry that requires a location near the shoreline because it utilizes surface waters for cooling or other internal purposes.

"Waterfowl" means birds which frequent and often swim in water, nest and raise their young near water, and derive at least part of their food from aquatic plants and animals.

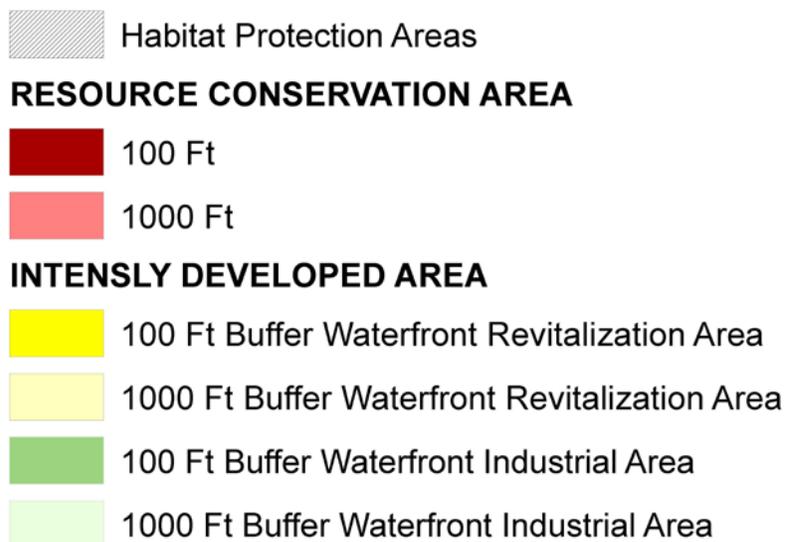
"Wildlife Corridor" means a strip of land having vegetation.

"Wildlife Habitat" means those plant communities and physiographic features that provide food, water and cover, nesting, and foraging or feeding conditions necessary to maintain populations of animals in the critical area.

I3 DESIGNATED HABITAT PROTECTION AREAS (DHPAS)

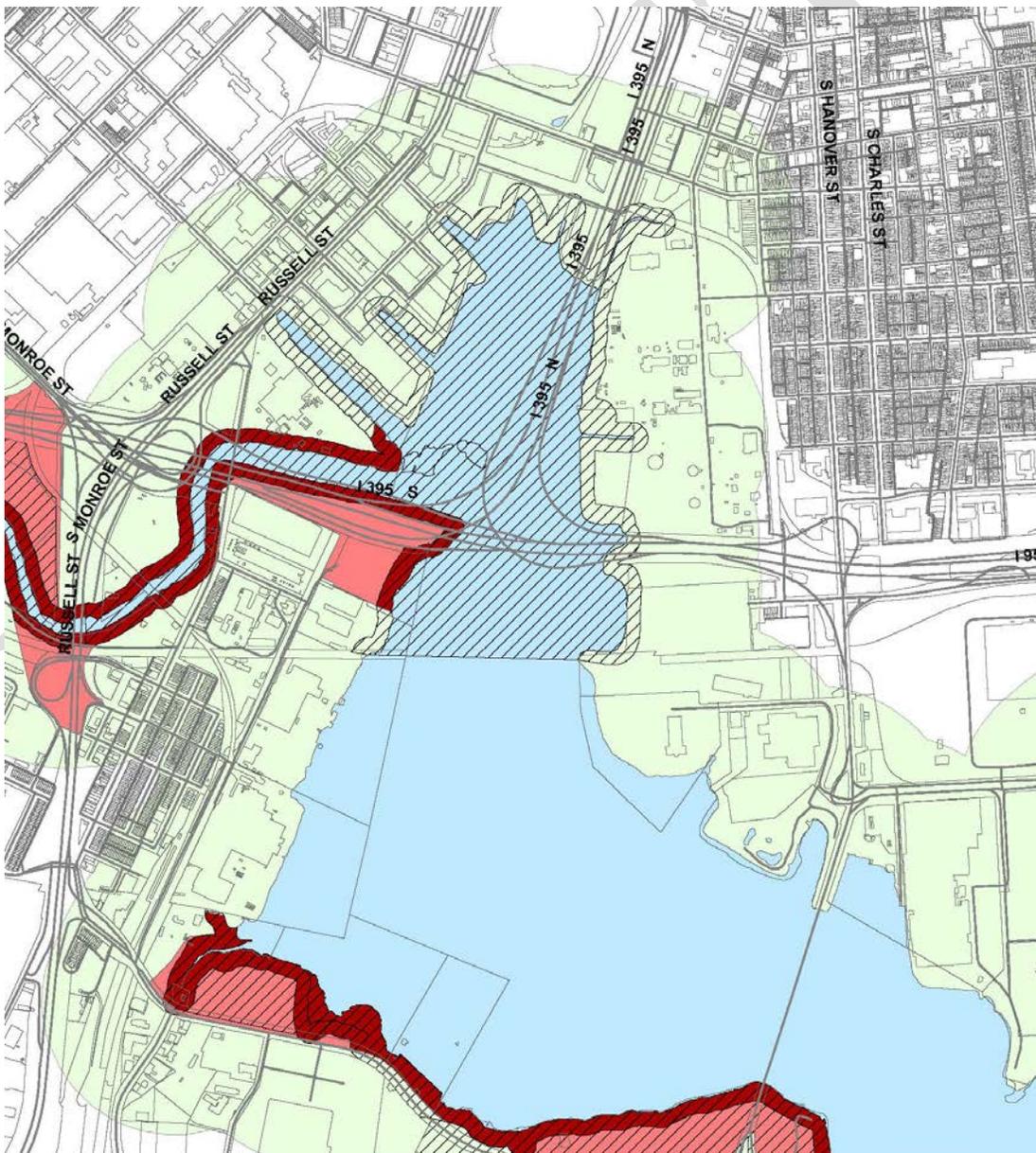
The Critical Area regulations require local jurisdictions to identify important natural and community resources within the Critical Area and to devise strategies for protecting and enhancing those resources. Twelve important natural areas within Baltimore have been identified as Designated Habitat Protection Areas (DHPA). Locations, maps, and types of habitats existing for each of the DHPAs are provided in this section.

Legend for Habitat Protection Area Maps



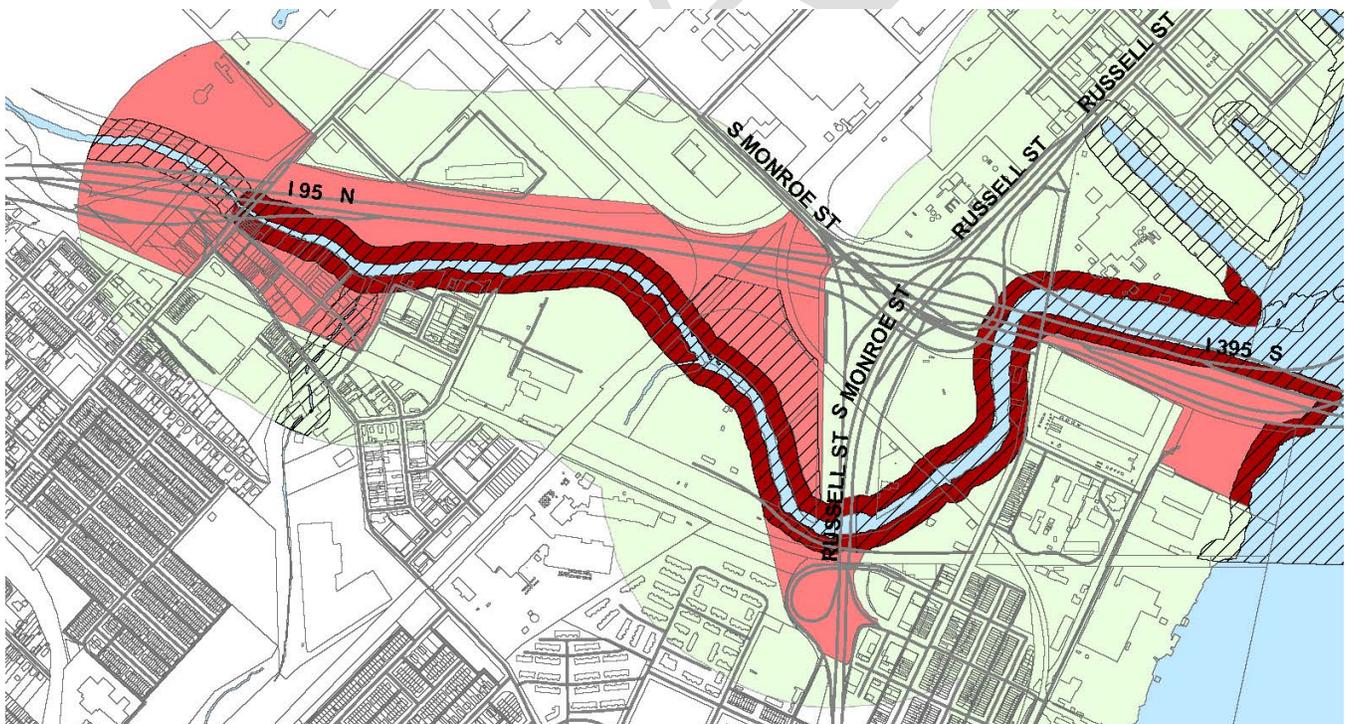
13.1 Upper Middle Branch

This DHPA has been identified as an historic waterfowl staging and concentration area. In addition, portions of this shallow water area have been used as wetland mitigation sites for various waterfront development projects. The Middle Branch area includes all waters to the mean high water line, which lie north of the Western Maryland Bridge and trestle. In addition, the area includes all uplands within 100 feet of the mean high water line of the waters described above. It also includes the wetland portion of Block #7612, Lot 2 and all lands lying within 25 feet of these wetlands.



13.2 Gwynns Falls

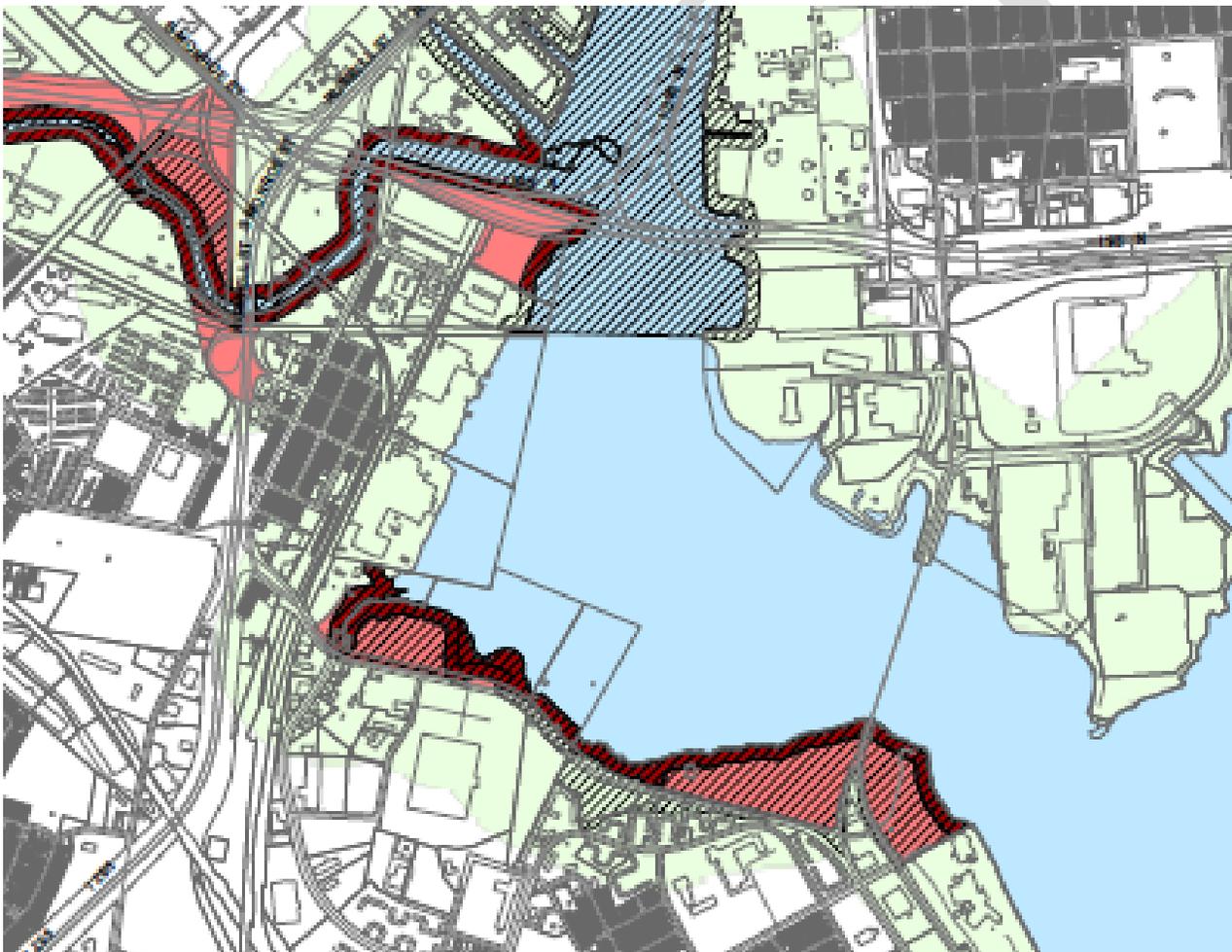
This DHPA has been identified as a major greenway, needing protection as a wildlife corridor. This corridor connects the upland forests of the upper Gwynns Falls Watershed with the wetlands and tidal waters of the upper Middle Branch. The area includes the waters of the Gwynns Falls from the upper Middle Branch continuing upstream to a point 1000 feet north and west of the southeast side of the Washington Boulevard Bridge. In addition, the area includes all lands within 100-feet of waters of the Gwynns Falls on the south side of the stream from the upper Middle Branch to the boundary of the Critical Area. On the north side of the stream, the area includes all lands within 100-feet of the waters of the Gwynns Falls extending from the upper Middle Branch to the point of intersection with the Russell Street bridge and then expands to various widths to be bounded on the north by the B & O Railroad right-of-way and continues along the I-95 right-of-way to the point where the I-95 right-of-way intersects Washington Boulevard. From this point, the area includes all lands within 100-feet from the waters of the Gwynns Falls on the north side of the stream continuing upstream to the boundary of the Critical Area. This area also includes the streambeds and all lands lying within 100-feet of the streambeds of the two tributary streams which intersect the Gwynns Falls on its south side. The first is located between Bremen and Berlin Streets and continues from the main stem of the Gwynns Falls southward to the Critical Area boundary and the second is located along the B & O Railroad right-of-way and also continues approximately 580 feet from the main stem of the Gwynns Falls.



13.3 Lower Middle Branch

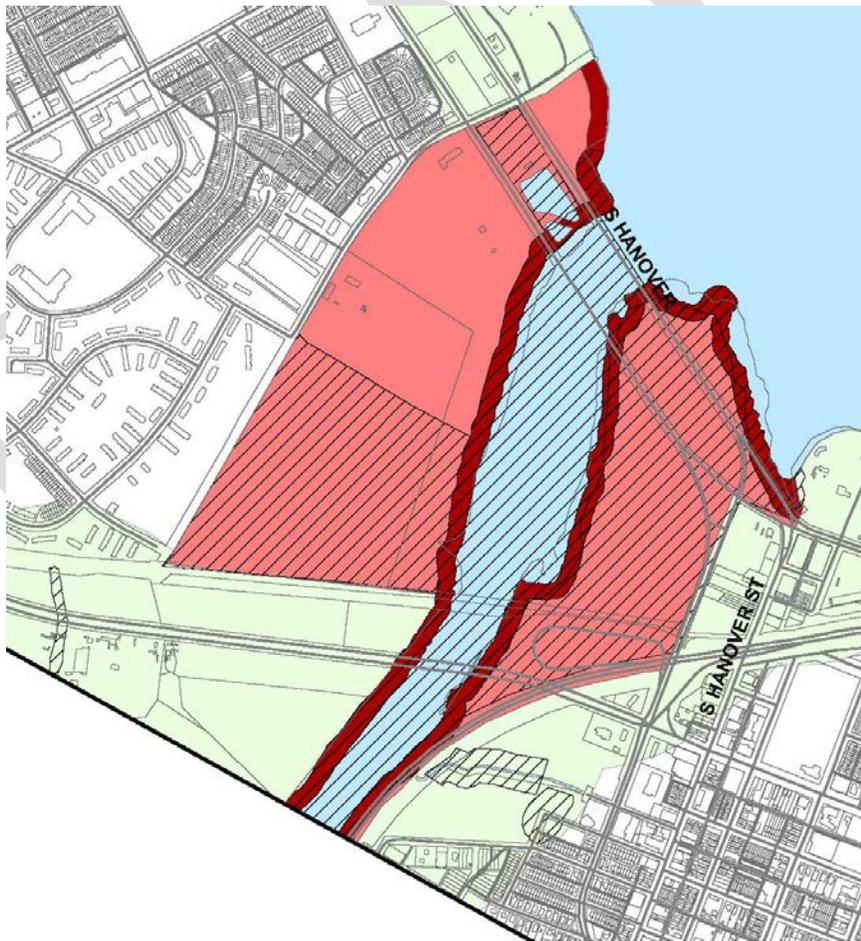
This DHPA includes two discontinuous areas including the following: 1) a tidal wetland and tidal stream on the lower Middle Branch; 2) a mature oak forest on the south side of Waterview Avenue. The first area includes the waters of the tidal stream which runs from Waterview Avenue northward to the lower Middle Branch; all lands within 100 feet of both sides of the stream; a 100-foot Buffer along the shoreline of Block #7611, Lot 1 and the entirety of Lots 2 and 7, and the shallow tidal waters of the lower Middle Branch which border these properties.

The second area includes a mature oak forest on portions of the following properties: Block #7612-E, Lot 10; Block #7610 including lots 4, 5, 7, 8, 9, and the entirety of Lots 18 and 19.



Reedbird

This DHPA includes three discontinuous areas including the following: 1) tidal wetlands and City-owned open spaces along both banks of the Patapsco River; 2) a streambed flowing under the 500 block of West Patapsco Avenue; and 3) a streambed west of the intersection of Garrett and Potee Streets. The first area encompasses the following: the waters of the Patapsco river; tidal wetlands, Critical Area Buffer and portions of the publicly-owned vegetated open space in Block #7612-L including Lots 1 and that portion of Lot 2 which lies south of an imaginary line that would be created where Cherryland Road extended at its present alignment through Lot 2 to the Patapsco River; those portions of Block #7612-N, Lots 7, 8, and 10 which lie in the 100 foot Buffer; all lands extending from the south bank of the Patapsco River to the right-of-way of the Baltimore Harbor Tunnel Thruway and continuing from the City line to the point where the Harbor Tunnel Thruway intersects Potee Street; the entirety of Block #7612-M; and that portion of Block #7027, Lot 20 that is bounded by S. Hanover Street, Potee Street, and Frankfurst Avenue. The second area includes 100 feet on either side of a stream flowing towards Baltimore County, located in Block #7612-G, Lots 1 and 4. The third area includes 100 feet on either side of a stream flowing northwesterly towards the Patapsco River starting from a point located 475 feet from the intersection of Potee and Garrett Streets, and 100 feet on either side of a small inlet tributary on the western side of the same stream, both of which are located in Block #7027-C, portions of Lots 3 and 4.



13.5 Masonville Cove

This DHPA has been identified as a historic waterfowl staging and concentration area with an extensive vegetated Buffer. The area includes all waters to the mean high water line which lie within the cove formed by the irregular shoreline of Block #7043, Lot 1 and all lands within 100 feet of the mean high water line. In addition, the area includes a 100-foot Buffer on both sides of the tributary stream that empties into this cove at the south end of the property. This 100-foot Buffer extends from the Critical Area line northward to the point where it intersects the Critical Area Buffer formed by the tidal waters of the Patapsco River.

It is important to note that the Maryland Port Administration (MPA) maintains and operates a dredge disposal site on the upland area immediately east of these waters. In addition, the MPA has for at least a decade now, identified this area for development as a major terminal similar to their Dundalk and Seagirt facilities. Part of the site has been developed by Mercedes Benz as an automobile Roll On / Roll Off.

As mitigation for the dredge disposal site and the port development, the MPA is developing the Masonville Cove as wildlife habitat area with an environmental education center, a fishing pier and small boat launch.

In response to the complex balance that must be achieved between economic development for the benefit of the State and protection of habitat, the Maryland Department of Transportation (MDOT) in cooperation with the Department of Natural Resources (DNR) has developed a comprehensive plan to address future expansion areas for the Port. An important part of this master plan is an environmental element for the improvement in quality and/or quantity of habitat areas in a manner consistent with the policies established in COMAR 27.01.09.04(B). The plan is part of MPA's plans for marine terminal facilities and dredged disposal.

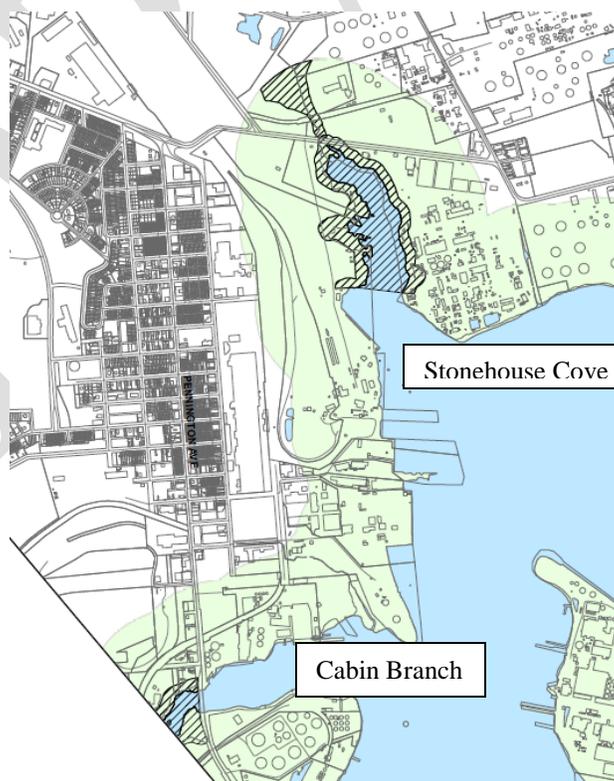


Stonehouse Cove

This DHPA has been identified as a historic waterfowl staging and concentration area with an extensive vegetated buffer. The cove contains vegetated tidal wetlands bordering on upland-forested areas. The upper reach of the cove contains an intermittent stream, which is heavily vegetated along both banks. The area includes all the waters of the cove extending out into Curtis Creek to a point located approximately 1,750 feet south of the roadbed when measured perpendicularly from East Patapsco Avenue. The area also includes: all lands within 100 feet of the tidal waters described above; all lands within 100 feet of the intermittent tidal stream extending from the north side of the East Patapsco Avenue bridge and continuing upstream to the limits of the Critical Area; and the forested area lying in Block #7335-E, covering portions of Lots 1, 3, and 6. In addition to the above, this habitat protection area includes the forested areas along the western side of the cove extending from East Patapsco Avenue and bounded on the west by the access road to the CSX Transportation coal terminal, further extending southward along the access road to a point located approximately 1,200 feet where the access road intersects the 100-foot Buffer. From this point of intersection, the HPA includes the 100-foot Buffer southward extending to a point along the shoreline situated approximately 1,750 feet from East Patapsco Avenue when measured perpendicularly.

13.7 Cabin Branch

This DHPA contains vegetated tidal wetlands along both its banks extending from the west side of the Pennington Avenue bridge to the City line. The area includes the waters off Block # 7173 including portions of Lots 11A, 12, and 13, and Block # 7173A including portions of Land 1E. In addition, all uplands within 100 feet of these waters are included as well.



13.8 Hawkins Point

This area on the Hawkins Point peninsula contains a historic waterfowl staging and concentration area and a densely vegetated Buffer. The DHPA includes the tidal waters off Block #7000, Lots 1, 7, 8, and 9, including I-695 right-of-way. The area also includes a 100-foot Buffer along the shoreline of these properties. In addition, the area includes the protection of woodlands adjoining the drainage areas located on Block #7000, Lots 7, 8, and 9.

13.9 Quarantine Road

This designated area contains a historic waterfowl staging and concentration area. The DHPA includes the waters off the vegetated portion of the shoreline of Block #7003, Lot 4 and a 100-foot Buffer along this same section of shoreline. The area also includes the wooded drainage area along the eastern side of the property and the forested portions of Block #7005, Lots 30 and 31 and Block #7002, Lot 3 which fall within the Critical Area.

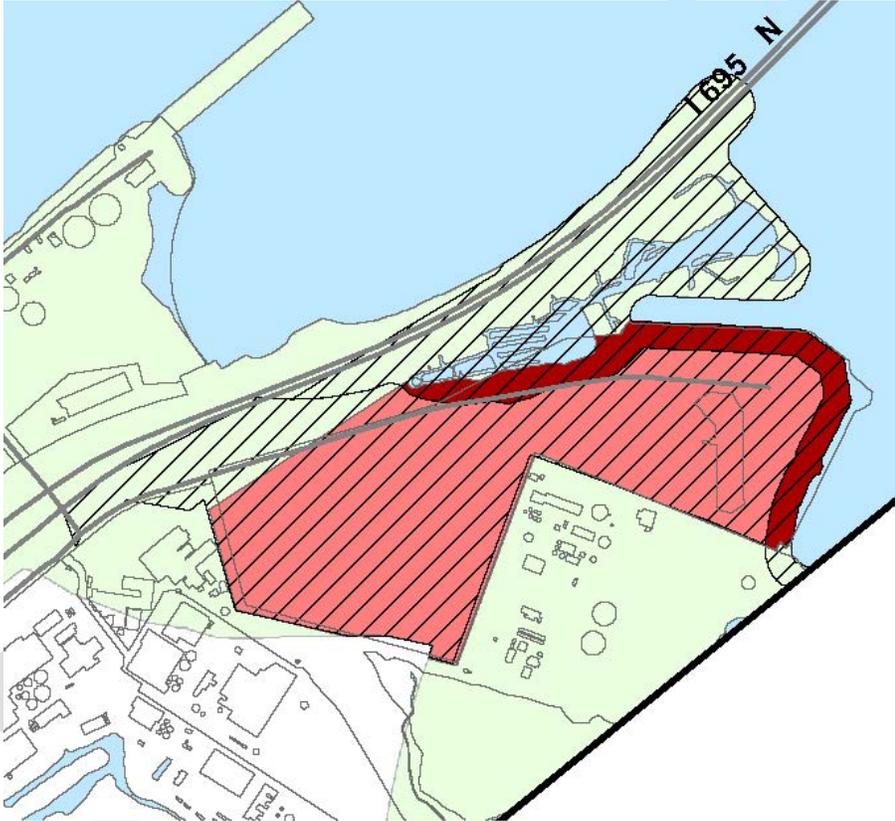
13.10 Thoms Cove

The third designated area on the Hawkins Point Peninsula is Thoms Cove. The cove has been identified as a historic waterfowl staging and concentration area. This DHPA includes the waters off the shoreline of Block #7005 Lot 35 as well as the 100-foot Buffer along the shoreline.



13.11 Fort Armistead

This DHPA contains a large tidal wetland that was created as mitigation for the construction of the Francis Scott Key Bridge. The designated area includes the Fort Armistead Park (Block #7006, Lot 8) and a portion of the I-695 right-of-way extending northeasterly from the intersection of Dock Road and I-695.



13.12 Colgate Creek

This DHPA is an important tidal tributary stream, which has a vegetated shoreline along most of its length. The designated area includes the following: Colgate Creek; the entirety of Block 6921, Lot #4; the entirety of Block #6922, Lots #1, #2 and #4, and the portion of Lot #5 which lies within 10 feet of mean high tide. Beginning at the point where Colgate Creek passes under Van Deman Street on its east side, the area includes all lands within 100 feet of mean high tide on the north, east and west sides of the stream as it traverses Block 6923, Lot #1. On the south side of Colgate Creek as it traverses Block 6923, Lot #1, the HPA shall consist of all lands within 100 feet of mean high tide.

