

BOARD OF SUPERVISORS WORK SESSION

GOVERNMENT CENTER BOARD ROOM

FEBRUARY 26, 2008 - 4 P.M.

A. Call to Order

B. Roll Call

C. Board Discussion

1. Chesapeake Bay Preservation Ordinance, Resource Management
Area Buffers

(Memorandum) (Ordinance) (Resolution) (Presentation)

D. Recess

MEMORANDUM

DATE: February 26, 2008
TO: The Board of Supervisors
FROM: Michael D. Woolson, Senior Watershed Planner
SUBJECT: Chesapeake Bay Preservation Ordinance, Resource Management Area Buffers

At the request of a Board of Supervisors (BOS) Member, in this work session staff will discuss the proposed ordinance change to Chapter 23 of the County Code. In 2006, staff was directed by the Board of Supervisors to develop language that implemented the recently approved expanded buffers that were put in place by a BOS resolution on October 10, 2006, for legislative cases to address developments that could develop without the need to go through a legislative process.

Staff presented proposed ordinance language on December 11, 2007, which was approved by the Board. On January 8, 2008, the BOS rescinded that approval and staff was directed to take the proposal through the Planning Commission and its Policy Committee. Staff took the proposal to the January 31, 2008, Policy Committee meeting, made a presentation to said Committee, and received comments from the public and Policy Committee. Staff then revised the proposal to take into account public and Committee comments, then made a presentation at the February 6 Planning Commission meeting. Again, staff received comments from the public and Planning Commission. This work session is the culmination of those efforts. The proposal has been revised again to take into account public and Commission comments.

Michael D. Woolson

CONCUR:

William C. Porter, Jr.

MDW/pb
ChesBay022608_mem

Attachments

RESOLUTION

CHESAPEAKE BAY PRESERVATION ORDINANCE TRANSITION -

AMENDMENTS AND GRANDFATHER/VESTING RULES

WHEREAS, the Board of Supervisors is considering amendments to Section 23-9, Performance Standards of Chapter 23, Chesapeake Bay Preservation, of the Code of the County of James City, Virginia, which would establish buffers to protect certain Resource Management Areas (“RMA”); and

WHEREAS, the orderly transition from the existing Chesapeake Bay Ordinance to the revised Ordinance requires transition rules to affect the changes in law.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of James City County, Virginia, hereby adopts the grandfathering/vesting rules for the revised Chesapeake Bay Preservation Ordinance, which has an effective date of February 26, 2008, as set forth below:

All site and subdivision plans (conceptual or preliminary) must comply with the revised Ordinance unless the plans fall under one or more of the following criteria:

1. Final Site and Subdivision Plans. Approved final plans that are still valid in accordance with Chapters 19 and 24 of the County Code will not be subject to the revised Ordinance.
2. Preliminary Site and Subdivision Plans. Approved preliminary plans that are still valid in accordance with Chapters 19 and 24 of the County Code will not be subject to the revised Ordinance.
3. Site and Subdivision Plans in the Review Process. Plans already in the development review process and those accepted for review prior to the effective date of the Ordinance will not be subject to the revised Ordinance. However, “accepted” shall mean that the plan contains all the information required in the Zoning and Subdivision Ordinance at the time of submission plus requirements set forth in Section 23-10 (2) (a) of the Chesapeake Bay Preservation Ordinance. Any plan determined to be deficient will need to be resubmitted, and if submitted after the effective date, it will have to comply with the revised Ordinance. However, revisions to such plans after submission that impact protected RMAs (protected RMAs as set forth in Section 23-9 (b) (11) of the County Code) will have to comply with the provisions of the exception process set forth in Section 23-9 (b) (11) of the County Code.
4. Conceptual Plans. Conceptual plans approved prior to the effective date of the Ordinance will not be grandfathered nor will they grandfather any subsequent site or subdivision plans.

5. Rezoning and Special Use Permits (SUPs). Approved rezoning and SUPs will have to comply with the provisions of the revised Ordinance unless the property cannot legally be developed to the proffered density, use, or square footage because of the new rules, or there is a specific feature shown on the binding master plan (such as a structure, road, utility, or some other site-specific facility) that is located within the buffers protecting RMAs; in which case the landowner may develop to the proffered density, use, or square footage minimizing any intrusions into the buffers protecting RMAs, to the extent possible. The specific feature must be built consistent with all other applicable zoning and subdivision requirements. Once the specific feature is developed as shown on the proffered zoning plan, the provisions of the Ordinance buffers protecting RMAs shall apply in full to any future development.

Bruce C. Goodson
Chairman, Board of Supervisors

ATTEST:

Sanford B. Wanner
Clerk to the Board

Adopted by the Board of Supervisors of James City County, Virginia, this 26th day of February, 2008.

ChesBay022608_res

ORDINANCE NO. _____

AN ORDINANCE TO AMEND AND REORDAIN CHAPTER 23, CHESAPEAKE BAY PRESERVATION, OF THE CODE OF THE COUNTY OF JAMES CITY, VIRGINIA, BY AMENDING SECTION 23-9, PERFORMANCE STANDARDS.

BE IT ORDAINED by the Board of Supervisors of the County of James City, Virginia, that Chapter 23, Chesapeake Bay Preservation, is hereby amended and reordained by amending Section 23-9, Performance standards.

Chapter 23. Chesapeake Bay Preservation

Section 23-9. Performance standards.

(a) *Purpose and intent.* The performance standards establish the means to minimize erosion and sedimentation potential, reduce land application of nutrients and toxics, and maximize rainwater infiltration. Natural ground cover, especially woody vegetation, is most efficient in holding soil in place and preventing site erosion. Indigenous vegetation, with its adaptability to local conditions without the use of harmful fertilizers or pesticides, filters and infiltrates stormwater runoff. Keeping impervious cover to a minimum enhances rainwater infiltration and effectively reduces increases of stormwater runoff.

The purpose and intent of these requirements is also to implement the following objectives: prevent a net increase in nonpoint source pollution from new development and development on previously developed land where the runoff was treated by a water quality protection best management practice; achieve a ten percent reduction in nonpoint source pollution from development on previously developed land where the runoff was not treated by one or more water quality best management practices; and achieve a 40 percent reduction in nonpoint source pollution from agricultural and silvicultural uses.

(b) *General performance standards:*

- (1) Land disturbance shall be limited to the area necessary to provide for the proposed use or development.
 - a. In accordance with an approved plan of development, the limits of clearing and/or grading shall be clearly defined. These limits shall be clearly shown on submitted plans and physically marked on the development site in accordance with subsection (2)b. below.
 - b. Impervious cover shall not exceed 60 percent of the site unless it can be demonstrated that the project will have the same impact on water quality as the project would have if it were 60 percent impervious. Demonstration of equivalent water quality will be through compliance with guidelines developed by the manager. For projects with an approved stormwater master

plan, compliance with this impervious cover provision can be demonstrated on a project basis rather than an individual site basis. However, in no case shall impervious cover exceed the limits established in section 24-9(c)(4) of the zoning ordinance.

- c. Ingress and egress during construction shall be limited to one access point, unless otherwise approved by the manager.
- (2) Existing vegetation shall be preserved to the maximum extent practicable, consistent with the use or development permitted by an approved plan of development.
 - a. Existing trees over 12 inches in diameter at breast height shall be preserved except in impervious areas and as necessary to accommodate site grading. Upon approval by the manager, diseased trees or trees weakened by age, storm, fire or other injury may be removed; provided, that when such removal results in a 20 percent or greater reduction in existing tree canopy, a sufficient number of trees with a 1-½ inch caliper shall be planted to restore the full canopy.
 - b. Prior to clearing or grading, suitable protective barriers, such as safety fencing, shall be erected outside of the dripline of any tree or stand of trees to be preserved unless otherwise approved on the clearing plan. Protective barriers shall remain so erected throughout all phases of construction. The storage of equipment, materials, debris or fill shall not be allowed within the area protected by the barrier.
 - (3) Land development shall minimize impervious cover to promote infiltration of stormwater into the ground consistent with the proposed use or development permitted.
 - (4) All development and redevelopment exceeding 2,500 square feet of land disturbance shall be subject to a plan of development review process conducted in accordance with section 23-10 of this chapter.
 - (5) Any land-disturbing activity exceeding 2,500 square feet, including construction of all single-family houses, and septic tanks and drainfields shall comply with the requirements of chapter 8 of this Code.
 - (6) All on-site sewage disposal systems not requiring a NPDES permit shall be pumped out at least once every five years. However, in lieu of requiring proof of septic tank pump-out every five years, owners of on-site sewage disposal systems can submit documentation every five years, certified by a sewage handler permitted by the Virginia Department of Health, that the septic system has been inspected, is functioning properly, and the tank does not need to have the effluent pumped out of it.
 - (7) A reserve sewage disposal site, with a capacity at least equal to that of the primary recorded prior to August 6, 1990, if such lot or parcel is not sufficient in capacity to accommodate a reserve sewage disposal site, as determined by the local health department. Building or construction of any impervious surface shall be prohibited on the area of all sewage disposal sites or on an on-site sewage treatment system which operates under a permit issued by the State Water Control Board until the structure is served by public sewer.
 - (8) For any development or redevelopment, stormwater runoff shall be controlled by the use of BMPs that are consistent with the water quality protection provisions (4 VAC 3-20-71 et seq.) of the

Virginia Stormwater Management Regulations (4 VAC 3-20). This consistency shall be demonstrated by compliance with the criteria and BMP facilities contained in the latest version of the James City County Guidelines for Design and Construction of Stormwater Management BMPs. In addition, increases in the quantity of stormwater runoff resulting from development or redevelopment shall be addressed by the requirements of chapter 8 of the County Code.

- a. If compliance for a development is based in whole or part on the use of existing downstream onsite or offsite structural BMPs, evidence shall be provided that facilities are currently in good working order and performing at the design levels of service. The manager may require a review of both the original design and maintenance plans to verify this provision. A new maintenance agreement may be required to ensure compliance with this chapter;
- (9) Prior to initiating grading or other on-site activities on any portion of a lot or parcel, all wetlands permits required by federal, state and county laws and regulations shall be obtained and evidence of such submitted to the manager. For those projects where no wetlands are proposed to be impacted or where the impacts do not require written authorization, documentation shall be submitted to the manager by a qualified wetlands professional attesting that the wetlands permitting process has been completed and no further documentation is necessary from the regulatory agencies.
- (10) All lands upon which agricultural activities are being conducted shall undergo a soil and water quality conservation assessment. Such assessment shall evaluate the effectiveness of existing practices pertaining to soil erosion and sediment control, nutrient management and management of pesticides, and where necessary, results in a plan that outlines additional practices needed to ensure that water quality protection is accomplished consistent with this chapter. Plans of development or water quality impact assessments are not required for activities on agricultural lands except for land disturbing activities not related to food and/or fiber production.
- ~~—(11) For any development or redevelopment, certain RMA's shall be protected as follows:~~
- ~~a. Intermittent streams and non RPA wetlands shall have a 50 foot buffer. The 50 foot buffer shall begin from the edge of the resource.~~
 - ~~b. In addition to the RPA buffer, a 175 foot buffer shall be imposed along creek mainstems with a watershed management plan which has been approved by the Board of Supervisors. The 175 foot buffer shall begin at the edge of the RPA buffer. The 175 foot buffer may be reduced to a minimum of 75 feet in the event the topographical divide is less than 175 feet from the RPA buffer or site characteristics otherwise adequately protecting water quality as determined by the environmental manager. For the purposes of this section, topographical divide shall mean the high point in terrain, topography or elevation, otherwise known as a ridge line, by which a drainage area is defined, delineated or where there exists an origin of sheet flow.~~
- ~~There shall be no encroachments into the 175 foot buffer except for the following:~~
- ~~a. Stormwater management facilities;~~
 - ~~b. Passive recreational facilities, such as boardwalks, trails, and pathways; and~~
 - ~~c. Public utilities, railroads, public roads and related facilities, provided said utilities, railroads, public roads and related facilities meet the conditions and requirements as set forth in sections 23-13(a)(1) and 23-13(a)(2) of this chapter.~~

~~e. A 25-foot buffer shall begin at the edge of the 175-foot buffer. The following items shall be prohibited from the 25-foot buffer, unless determined otherwise by the manager:~~

- ~~1. Septic tanks;~~
- ~~2. Primary or reserve septic fields; and~~
- ~~3. Impervious cover.~~

~~This section shall not apply to the following:~~

- ~~1. Lots or parcels created pursuant to and in accordance with section 19-17 of the county code.~~
- ~~2. Single family residences, and/or manufactured homes on a permanent foundation, on a lot or parcel recorded prior to January 1, 2008.~~

(11) For any development or redevelopment, certain RMA's shall be protected as follows:

a. Intermittent streams and non-RPA wetlands shall have a 50-foot buffer. The 50-foot buffer shall begin from the edge of the resource.

- 1. Exceptions to this provision shall be made in writing to the manager. The exception request shall include a water quality impact assessment per section 23-11, and replacement of equivalent buffer area and vegetation, and/or the use of low impact development practices.*

b. In addition to the RPA buffer, a buffer, not to exceed 125 feet shall be imposed along creek mainstems with a watershed management plan which has been approved by the board of supervisors. The buffer shall begin at the edge of the RPA buffer, and shall be a two zone buffer as set forth below:

- 1. Base Zone - shall be a 50-foot buffer, plus an additional variable width buffer not to exceed a total of 50 feet, based upon slopes as outlined in the table below. The base zone shall be measured horizontally from the edge of the RPA and shall be forested.*

<i>Slope within the first 50 feet of the base zone</i>	<i>Additional buffer to be added to the base zone</i>
<i>0% to 15%</i>	<i>None</i>
<i>15% to 25%</i>	<i>Add 25 feet</i>
<i>25% or greater</i>	<i>Add 50 feet</i>

In no case shall the base zone be less than 50 feet, unless a topographical divide is present. For the purposes of this section, a topographical divide shall mean the high point in terrain, topography, or elevation, otherwise known as a ridge line, by which a drainage area is defined or delineated. If a topographic divide exists 25 feet or closer to the edge of the RPA, than there shall be no base zone, and the outer zone (as defined below), shall begin at the edge of the RPA. If a topographic divide exists between 26 feet and 50 feet from the RPA, than the base zone shall end at the topographic divide and the

outer zone shall begin at edge of the topographic divide. In no case shall the RPA buffer be reduced or compromised by the base or outer zone.

There shall be no encroachments into the base zone except for the following:

- a. Stormwater management facilities;*
- b. Passive recreational facilities, such as boardwalks, trails, and pathways; and*
- c. Public utilities, railroads, public roads and related facilities, provided said utilities, railroads, public roads and related facilities meet the conditions and requirements as set forth in sections 23-13(a)(1) and 23-13(a)(2) of this chapter; and*
- d. The buffer may be modified as outlined in section 23-7(c) (1) (a) and section 23-7(c) (1) (c).*

- 2. Outer Zone - a fixed, 25-foot buffer beginning from the edge of the base zone. This buffer shall be either forested or grassed. The following items shall be prohibited from the outer zone, unless determined otherwise by the manager:*

- a. Septic tanks;*
- b. Primary and reserve septic fields; and*
- c. Impervious cover associated with a principle structure. For the purposes of the outer zone, decks, patios, and gazebos shall not be considered impervious cover.*

- c. For lots recorded prior to _____, 2008, the base zone and outer zone shall not impact the ability to develop as a matter of right under the county zoning or subdivision ordinance; provided, however that such buffers are protected to the maximum extent possible as defined by the following criteria:*

- 1. Reduction of the buffers shall be the minimum necessary to achieve a reasonable building area for a principal structure and necessary utilities; and*
- 2. Where practicable, a vegetated area that will maximize water quality protection, mitigate the effects of the reduced buffer, and is equal to the area of reduction shall be established elsewhere on the lot.*

- d. This sub-section (11) shall not apply to the following:*

- 1. Lots or parcels created pursuant to and in accordance with section 19-17 of the county code.*
- 2. Manufactured homes on a permanent foundation, and single-family residences, existing or as proposed on a final or preliminary site and subdivision plan, approved as of _____, 2008.*
- 3. Structures used and associated with bona fide agricultural activities.*

Bruce C. Goodson
Chairman, Board of Supervisors

ATTEST:

Sanford B. Wanner
Clerk to the Board

Adopted by the Board of Supervisors of James City County, Virginia, this 26th day of February,
2008.

Sec23-9_update_ord

Chesapeake Bay Preservation Ordinance:

Chapter 23, James City County Code

Resource Management Area Buffer Revisions

General Outline of Presentation

- Very Brief History/Overview
- Background
 - Science
- Current Proposal
 - Exemptions
- Discussion and Board directives

History & Importance of Proposal

- 10 - year history for the watershed management plan effort (*origin with the Stormwater Policy Framework*)
- 4 - 5 year history for the specific riparian buffer recommendation (*BOS adoption of Powhatan and Yarmouth Creek Watershed Management Plans in 2002 and 2003*)
- 1 - 1/2 year history with the current by-right application proposal. (*BOS adopted resolution in October 2006 for application on legislative cases*)
- Most recently: December 11, 2007 and January 8, 2008 regular BOS meetings and January 31, 2008 Planning Commission Policy Committee meeting and February 6, 2008 Planning Commission Meeting (*solicited PC and public input on proposal*)

History & Importance of Proposal

- RMA Buffers are direct recommendations from approved watershed management plans;
- Based on sound science and research;
- Benefits include water quality protection, preservation of contiguous forests/wildlife habitat and reduction of impacts from invasive species.
- Benefits include flood prevention/mitigation;
- Powhatan and other creeks and streams in the County are on the Virginia DEQ 303d “impaired stream” list.

History & Importance of Proposal

- Proposal is consistent with Action Item # 18 from the Environmental Section of the 2003 County Comprehensive Plan (page 67):

“Fully implement the watershed protection and restoration goals and priorities identified in the Powhatan Creek Watershed Management Plan adopted by the Board of Supervisors in 2002 and any other watershed management plans adopted by the Board of Supervisors.”

Background – Watershed Planning

Powhatan Creek Watershed Plan

- Six tools for watershed protection
- Aquatic buffers one of those tools
 - Provide physical separation
 - Maintain aquatic and terrestrial **transition zones**
 - Reduce the impact of invasive species
 - Serve as the “right-of-way” for stream networks
 - Help to **reduce** overall watershed **imperviousness**
 - **Protect private property from flooding**
 - Preserve contiguous forests

Background – Scientific Support

Site Factors – Slope

- Has the **greatest influence** over water residency times and sediment removal
- Determines the rate and nature of water flow
 - Steeper slopes increase runoff velocities and volume of stormwater runoff
- Expanded buffers are useful in compensating for the effects of steep slopes

Background – Scientific Support

Site Factors – Stream Order

- Forest buffers have the greatest potential for **enhancing water quality** when adjacent to intermittent and 1st order streams
 - Buffers can be smaller in size
 - Less contributing area per unit volume of water
- Higher order streams (creek mainstems) need wider buffers because of larger volume of water flowing into and through them

Background – Scientific Support

Site Factors – Soils

- Soil texture
- Depth to water table
- Organic matter content.
 - All affect infiltration rates
 - All affect capacity to remove nutrients
 - **Highly variable**
 - Site-specific information required

Background – Scientific Support

Site Factors that **enhance** pollutant removal effectiveness

- **Slopes** less than 5%
- Contributing flow length less than 150 feet
- Seeps, high water table
- Permeable, but not highly sandy soils
- **High organic matter** or mulch layer
- Surface runoff velocities less than 1.5 feet/second
- Forest
- **Sheet flow** of surface flow

Background – Scientific Support

Site Factors that **decrease** pollutant removal effectiveness

- **Slopes** greater than 5%
- Contributing flow length greater than 300 feet
- Compacted soils
- **Low organic matter**
- Surface runoff velocities greater than 5 feet/second
- Tall bunch grasses
- **Concentrated storm flows**

Background – Scientific Support

Flood issues:

- The balance between streams and their watersheds has been changed by the following:
 - **Increased runoff** from development
 - Drainage network efficiency
 - Channel instability upstream from increased velocities
 - Sediment deposition downstream
 - **Reduced storage** for flood waters

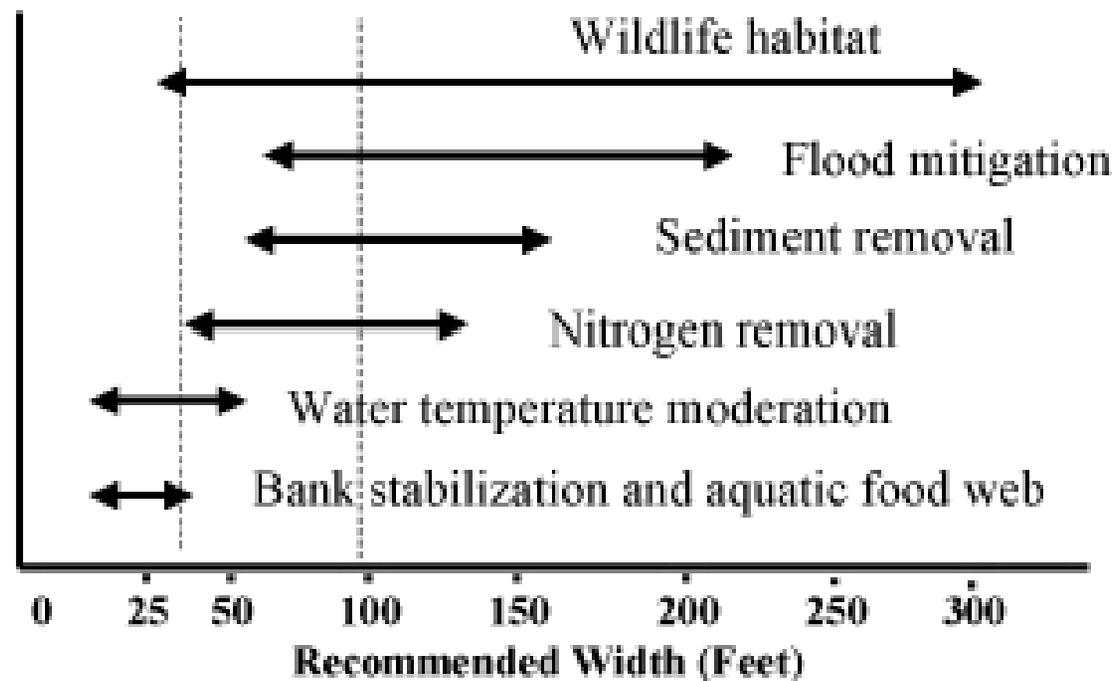
Background – Scientific Support

Flood reduction **benefits**:

- Forested buffers
 - **Slow velocities** and reduce energy of runoff
 - Increase sediment deposition
 - Dispersal of storm flow
 - Storm flow **retained** higher in watershed
 - Increased storm flow infiltration

- **Reduced downstream flooding**

FIGURE 1. Minimum Recommended Buffer Widths for Different Functions



From: Riparian Forest Buffer Widths. The Chesapeake Bay Watershed Forestry Program. USDA Forest Service. 2003.

Proposal

Add Section 23-9 (b) (11) General Performance Standards

For any **development or redevelopment**, the following Resource Management Areas (RMA's) shall be protected as follows:

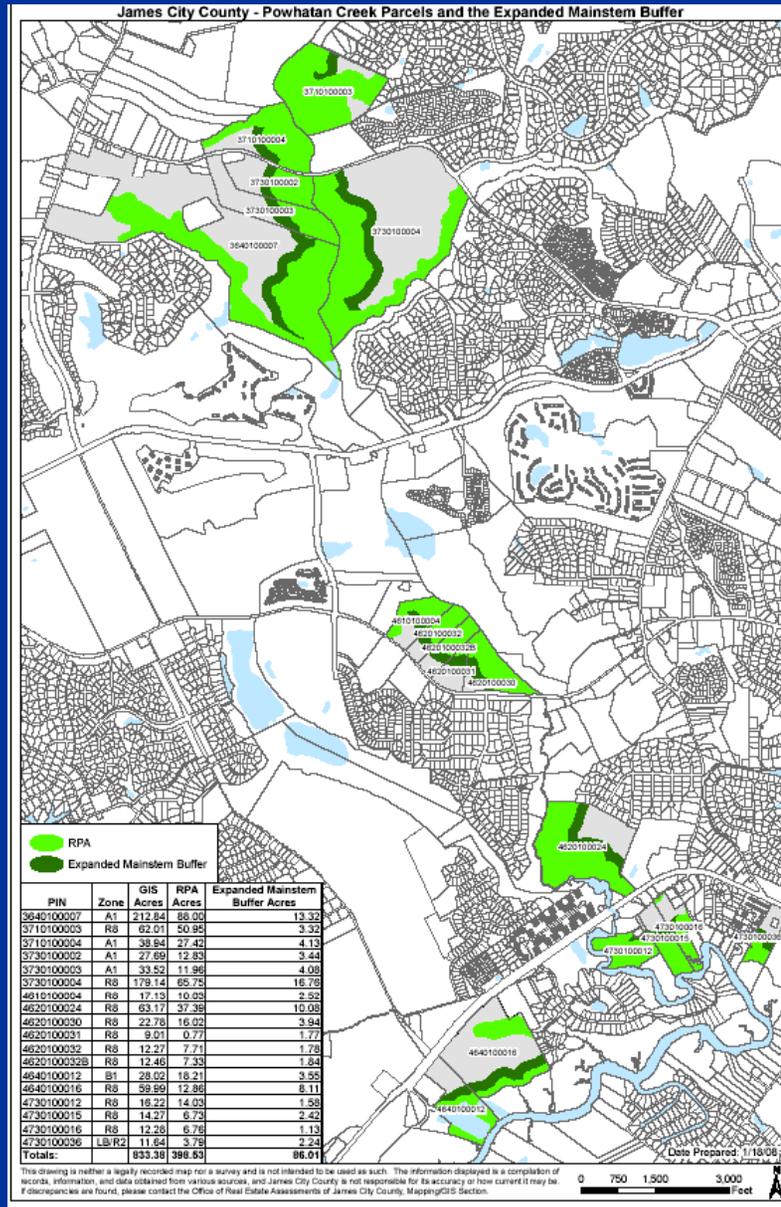
- Intermittent streams shall have a 50 foot buffer.
- Non-RPA wetlands shall have a 50 foot buffer.
 - Those wetlands that are **not** part of the Resource Protection Area .
 - Wetlands are the jurisdiction of the US Corps of Engineers and not determined by James City County.

Proposal

- In approved watershed management plan areas (Yarmouth and Powhatan), the creek mainstem shall have two separate buffers outside of the RPA.

- Base Zone of the mainstem buffer
 - Variable width, 50 feet to 100 feet, depending upon slope.
 - Forested

- Outer Zone of the mainstem buffer
 - 25 feet width
 - Forest or grass



Powhatan Creek

18 properties

86 acres +/-

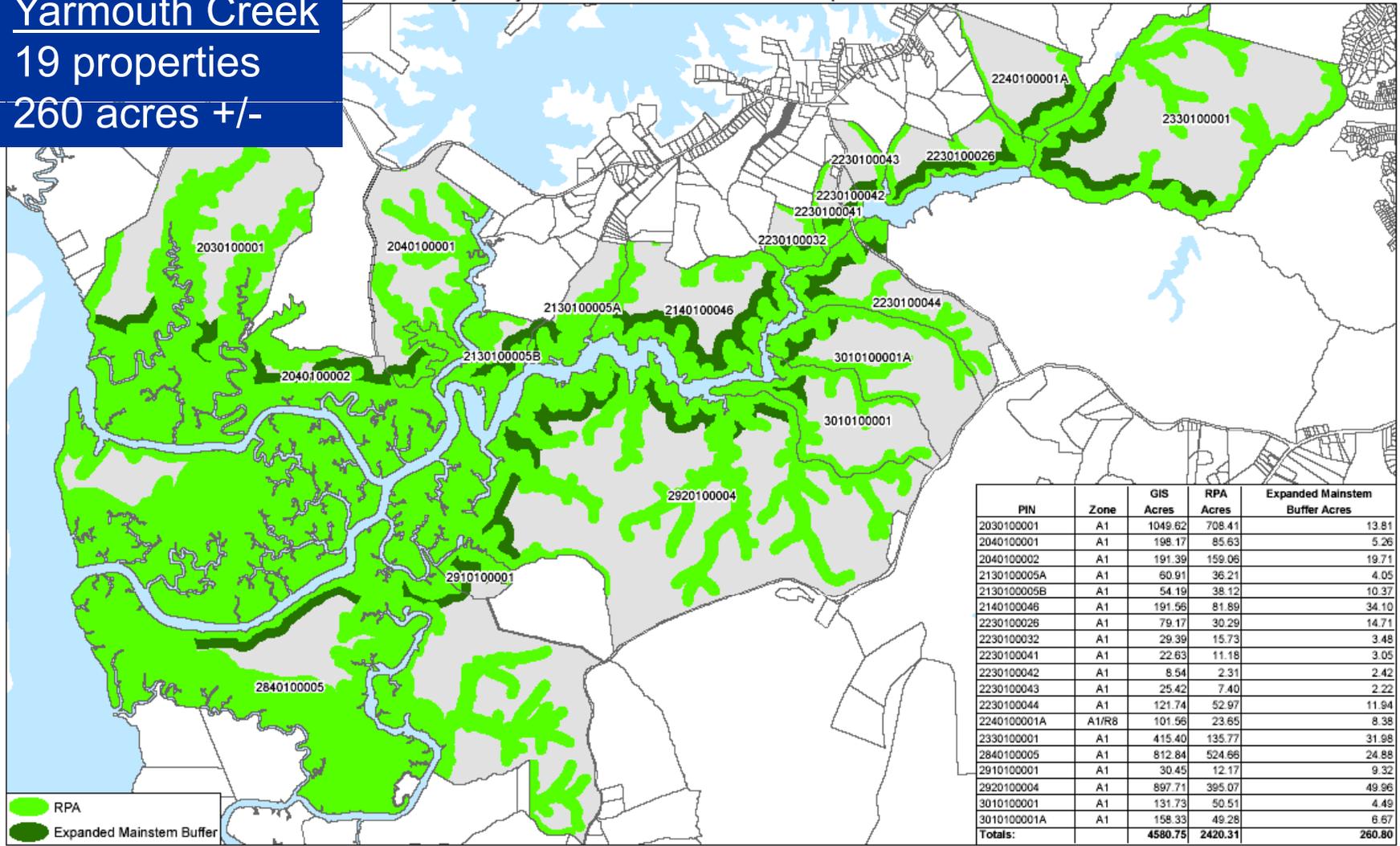
February 26, 2008

BOS Work Session

RMA Buffers

Yarmouth Creek
 19 properties
 260 acres +/-

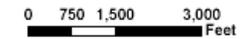
James City County - Yarmouth Creek Parcels and the Expanded Mainstem Buffer



PIN	Zone	GIS Acres	RPA Acres	Expanded Mainstem Buffer Acres
2030100001	A1	1049.62	708.41	13.81
2040100001	A1	198.17	85.63	5.26
2040100002	A1	191.39	159.06	19.71
2130100005A	A1	60.91	36.21	4.05
2130100005B	A1	54.19	38.12	10.37
2140100046	A1	191.56	81.89	34.10
2230100026	A1	79.17	30.29	14.71
2230100032	A1	29.39	15.73	3.48
2230100041	A1	22.63	11.18	3.05
2230100042	A1	8.54	2.31	2.42
2230100043	A1	25.42	7.40	2.22
2230100044	A1	121.74	52.97	11.94
2240100001A	A1/R8	101.56	23.65	8.38
2330100001	A1	415.40	135.77	31.98
2840100005	A1	812.84	524.66	24.88
2910100001	A1	30.45	12.17	9.32
2920100004	A1	897.71	395.07	49.96
3010100001	A1	131.73	50.51	4.49
3010100001A	A1	158.33	49.28	6.67
Totals:		4580.75	2420.31	260.80

This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. The information displayed is a compilation of records, information, and data obtained from various sources, and James City County is not responsible for its accuracy or how current it may be. If discrepancies are found, please contact the Real Estate Assessment Division of James City County, Mapping/GIS Section.

Date Prepared: 1/18/08



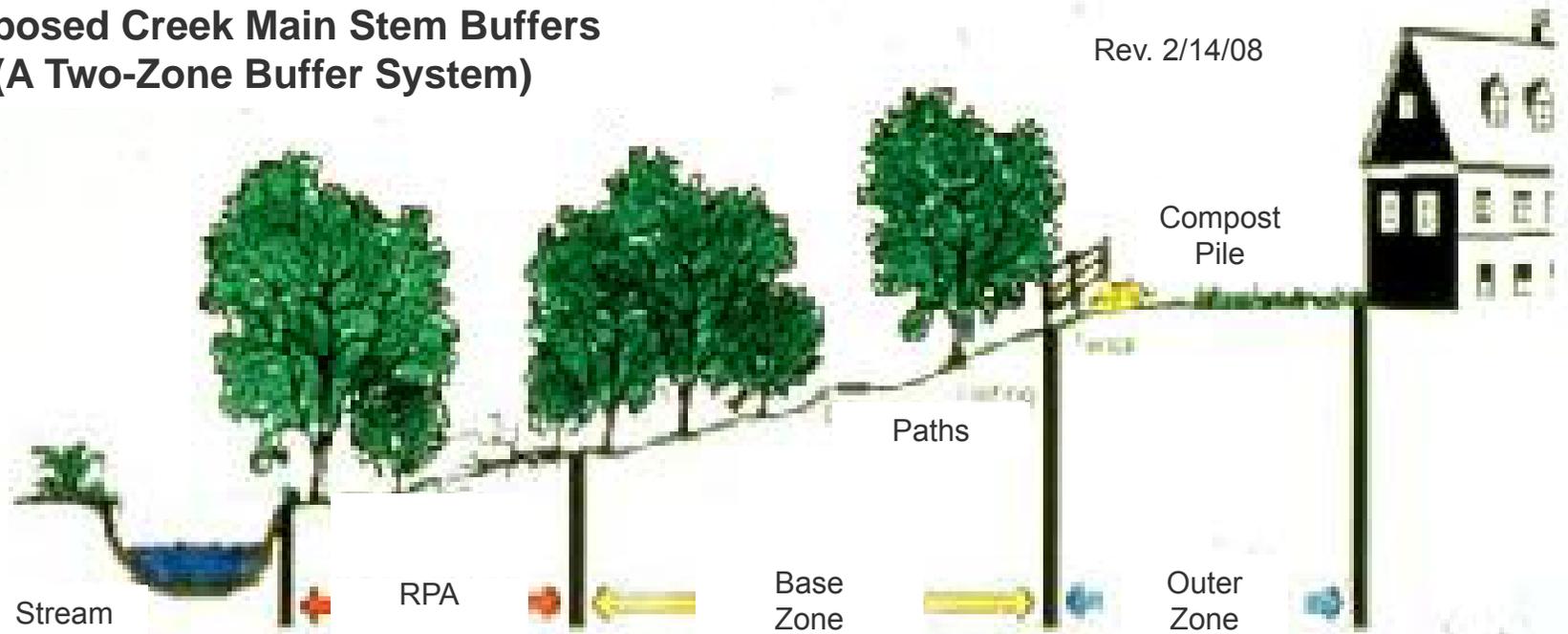
February 26, 2008

BOS Work Session

RMA Buffers

Proposed Creek Main Stem Buffers (A Two-Zone Buffer System)

Rev. 2/14/08



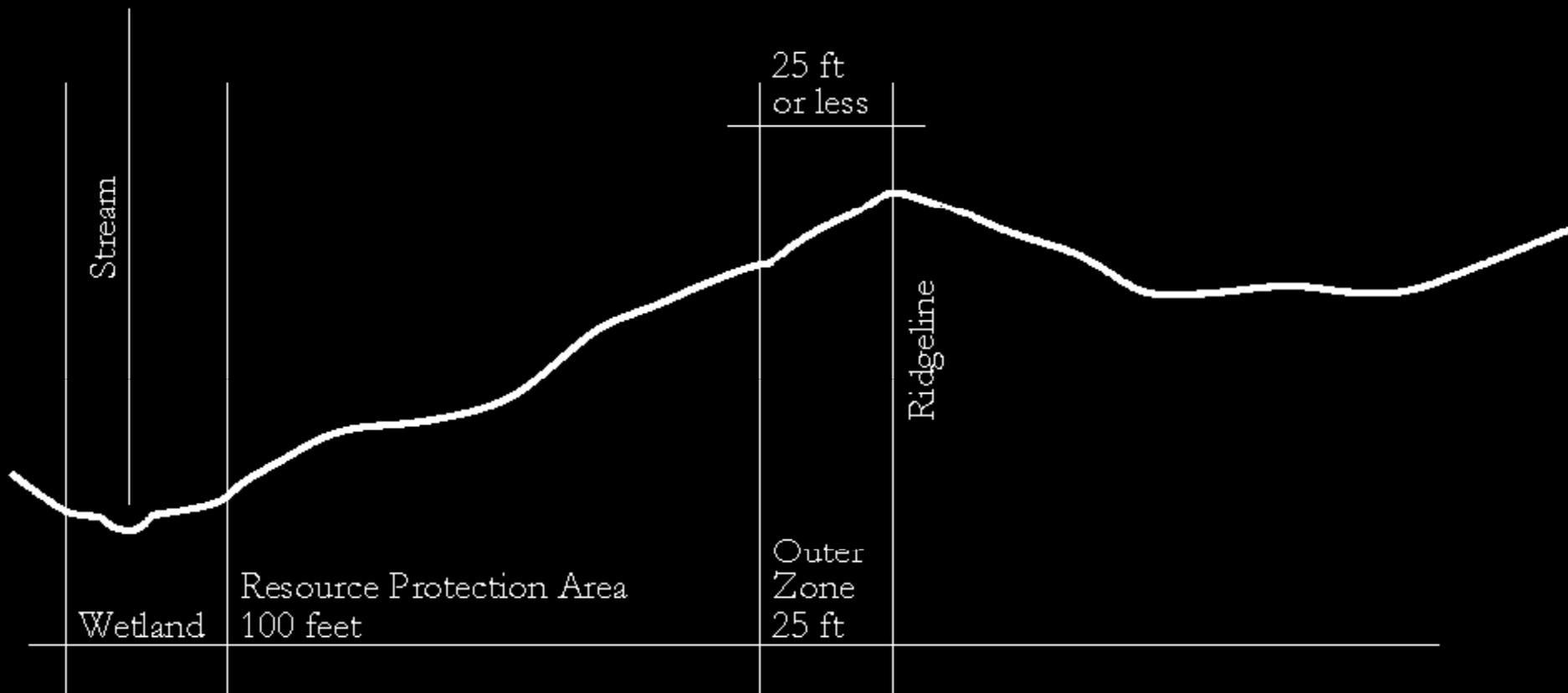
Characteristics	Resource Protection Area	Base Zone	Outer Zone
Function	Per Chesapeake Bay Preservation Ordinance requirements	Provide distance between upland development and streamside zone	Prevent encroachment and filter backyard runoff
Width	100 ft. buffer	50 feet to 100 feet depending on slope	25 feet
Vegetative Target	Undisturbed mature forests	Managed forest, some clearing allowable	Forest encouraged, usually lawns or turf grass
Allowable Uses	Very Restricted by ordinance	Restricted; passive recreational uses such as paths and BMPs	Limited; no septic systems or impervious cover

Proposal

Slope within the 50-foot base zone	Additional buffer to be added to the base zone
0% to 15%	None
15% to 25%	Add 25 feet
Greater than 25%	Add 50 feet

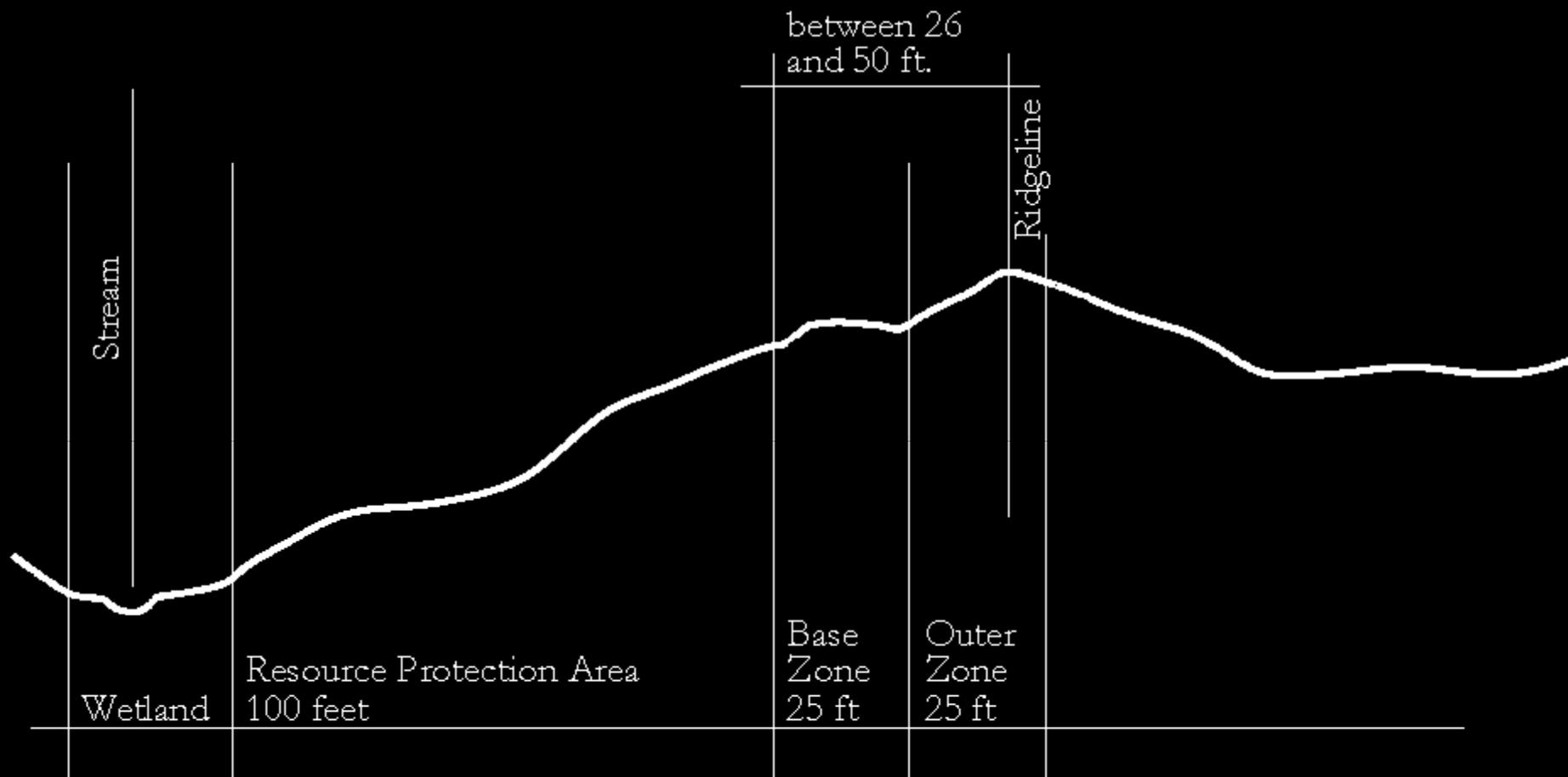
Proposal

- When a topographic divide exists in the proposed mainstem buffer area, the following conditions apply:
 - The outer zone extends 25 feet from the RPA when the topographic divide when it is closer than 25 feet. The base zone is non-existent.
 - The base zone shall be 25 feet when the topographic divide is between 25 feet and 50 feet.
 - In no case shall the RPA buffer be reduced or compromised by the base or outer zone.

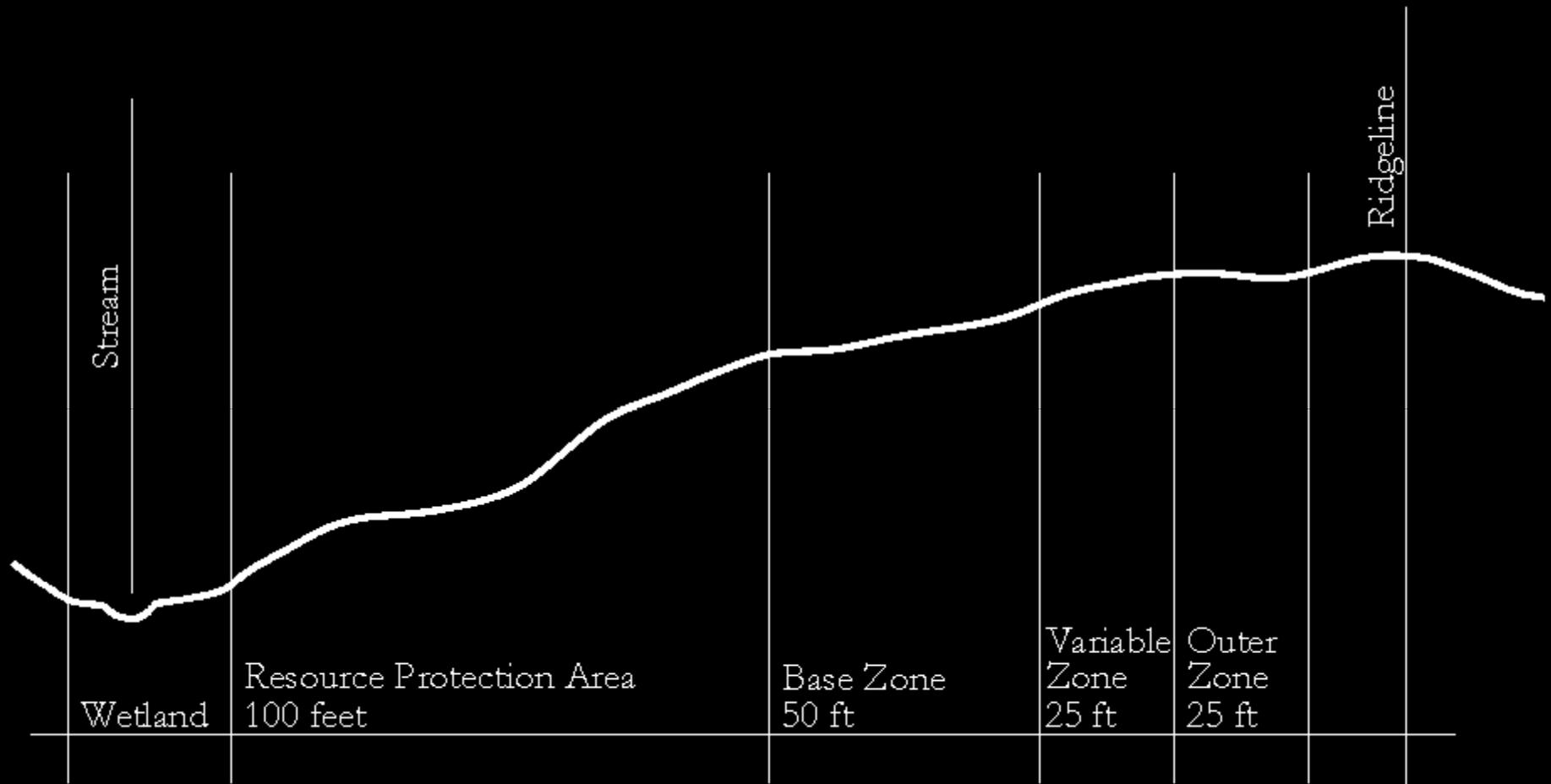


No Base Zone

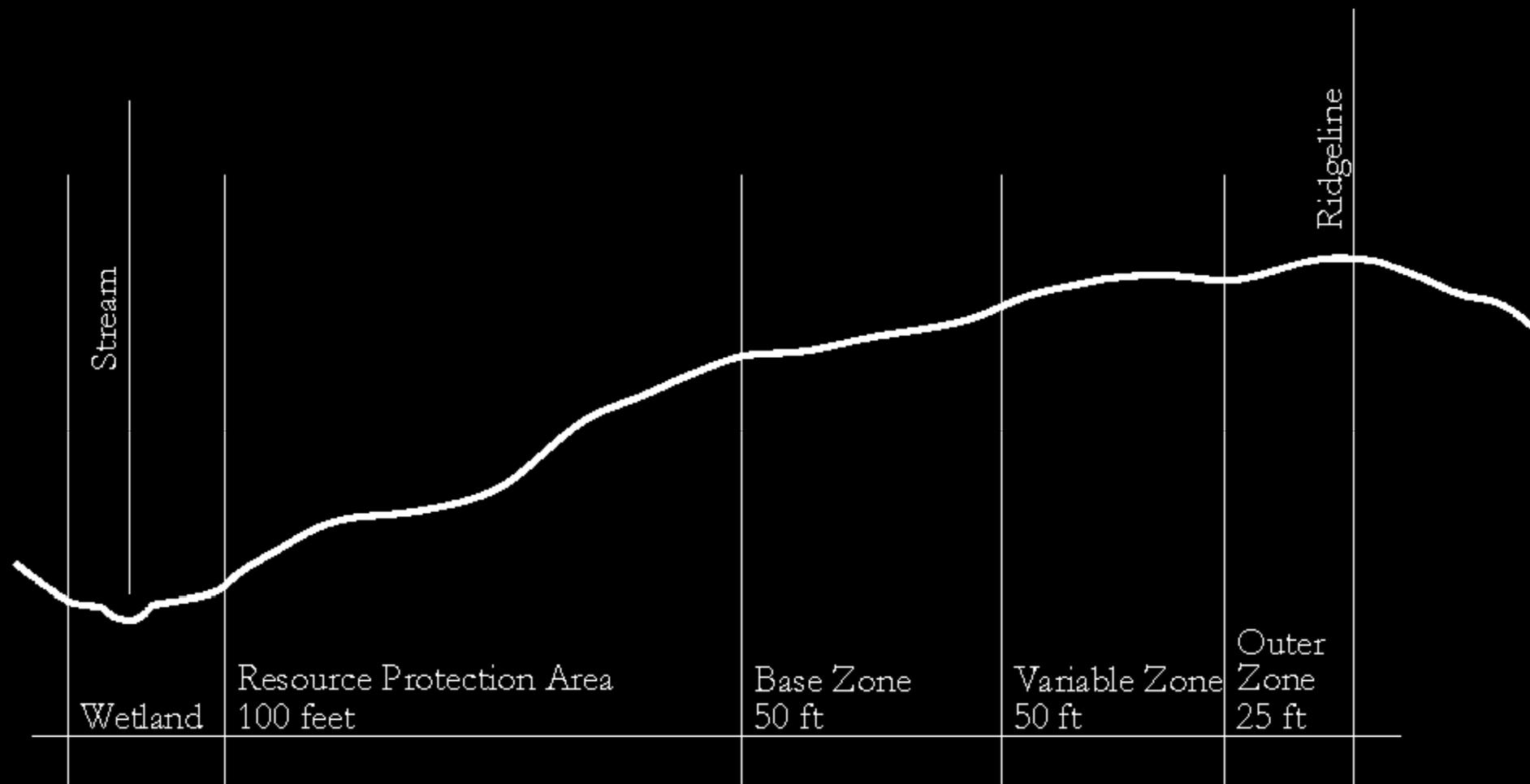
No Variable Width Zone



No Variable Width Zone



Variable Zone based upon slopes within Base Zone



Variable Zone based upon slopes within Base Zone

Proposal

- Exceptions for the Base Zone
 - stormwater ponds
 - passive recreation facilities (boardwalks, trails, and pathways)
 - public utilities, railroads, public roads
 - Must meet same conditions as RPA crossings
 - Removal of dead, dying and diseased plant material
 - Clearing for sight lines

Proposal

- Exceptions for the Outer Zone
 - Septic tanks
 - Primary and reserve septic fields
 - Impervious cover associated with the principle structure
 - Does not include decks, patios, gazebos

Proposal

- For lots recorded prior to the adoption date, the mainstem buffer shall not impact the ability to develop as a matter of right under the County zoning or subdivision ordinance; provided, however that such buffers are protected to the maximum extent possible as defined by the following criteria:
 - Reduction of the buffers shall be the minimum necessary to achieve a reasonable building area for a principle structure and necessary utilities; and
 - Where practicable, a vegetated area that will maximize water quality protection, mitigate the effects of the reduced buffer, and is equal to the area of reduction shall be established elsewhere on the lot.

Proposal

- These RMA buffers shall not apply to the following:
 - Lots or parcels created pursuant to and in accordance with the family subdivision section of the County Code.
 - Existing or proposed single family residences and/or manufactured homes on a permanent foundation, on a lot or parcel recorded prior to the adoption date.
 - Structures used and associated with bona fide agricultural activities.

Exemptions

- Public utilities (gas, fiber optic, railroads, telephone)
 - Construction, installation, operation and maintenance
 - Public roads must be optimized to prevent or minimize encroachments.
- County or Regional Service Authorities
 - Construction, installation and maintenance

Exemptions

- Forestry operations
- Agricultural operations, including agricultural structures
 - Both exempt from Chesapeake Bay Preservation Ordinance by state law

Grandfathering Resolution

- Approved final Site Plans and Subdivision Plans
- Approved preliminary Site plans and Subdivision Plans
- Plans in current review process
- Approved Rezoning and Special Use Permits
 - Must comply unless cannot be legally developed to proffered density, use or square footage
- Concept Plans
 - Not grandfathered

Policy Committee / Planning Committee suggestions

- Stormwater credits for RMA buffers
- Report back to BOS one year after approval
 - Assuming passage by BOS
- Change Outer Zone impervious cover to be more flexible
 - Changed to impervious cover associated with principle structure, includes driveway

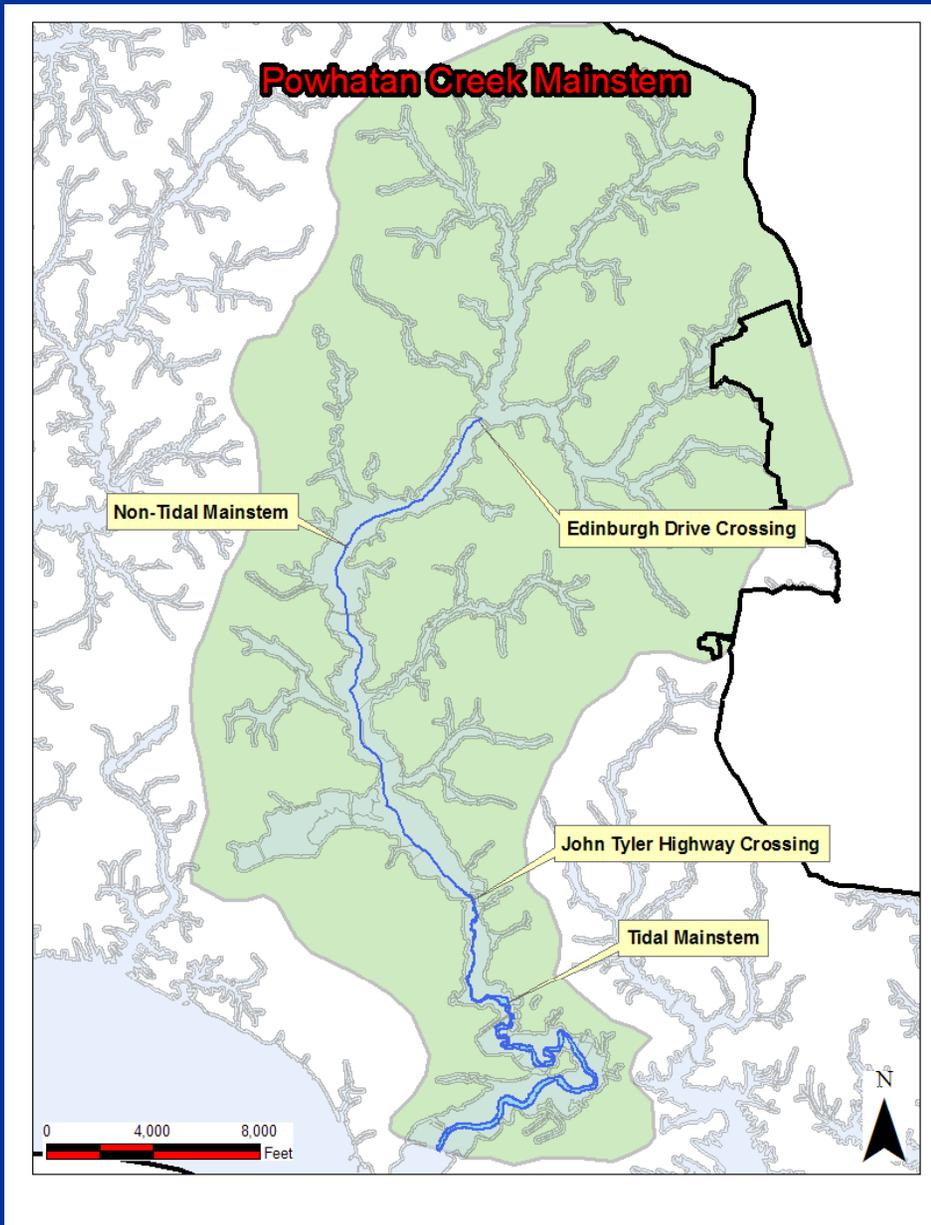
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Policy Committee / Planning Committee suggestions

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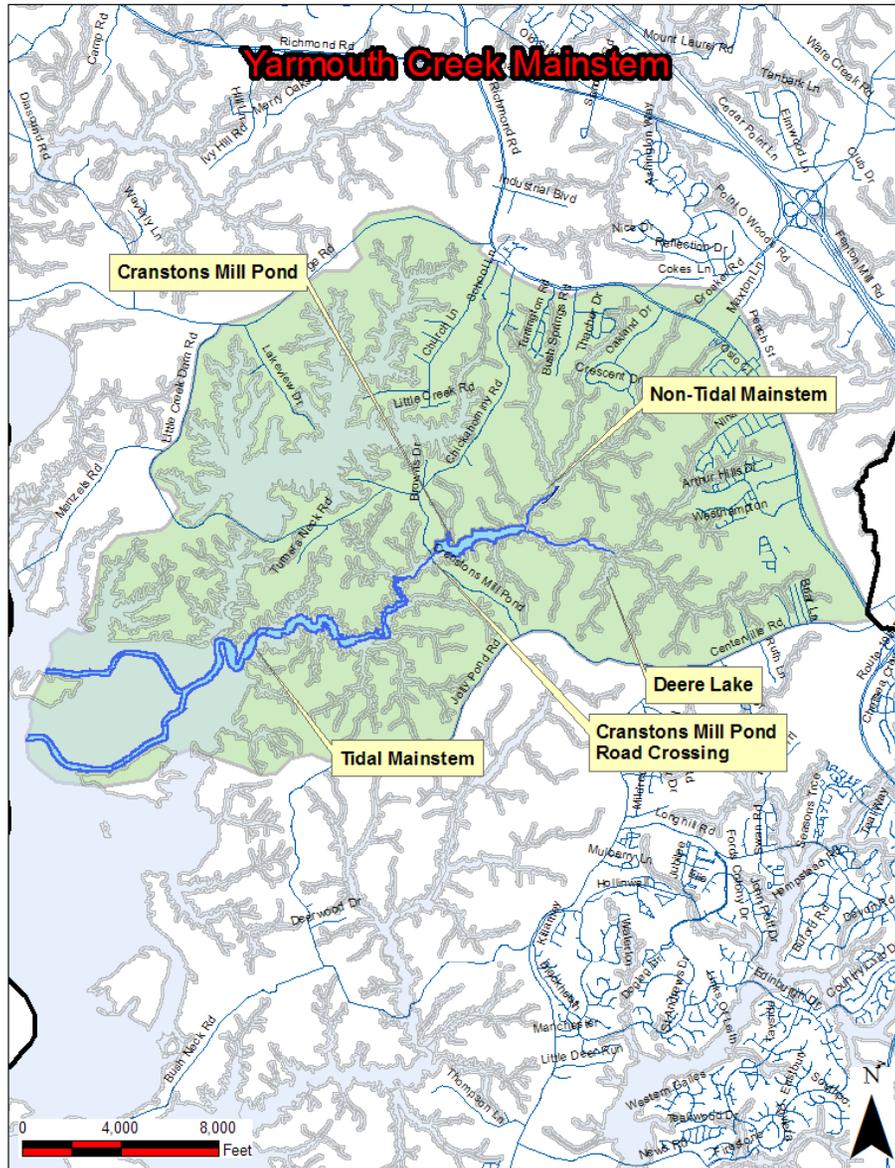
Powhatan Creek

Tidal Mainstem

-below John Tyler Highway crossing

Non-Tidal Mainstem

-between Edinburgh Drive and John Tyler Highway



Yarmouth Creek

Tidal Mainstem

-below Cranstons Mill Pond Road

Non-Tidal Mainstem

-between Cranstons Mill Pond Road and Deere Lake , as shown

Chesapeake Bay Preservation Ordinance:

Chapter 23, James City County Code

Resource Management Area Buffer Revisions

General Outline of Presentation

- Very Brief History/Overview
- Background
 - Science
- Current Proposal
 - Exemptions
- Discussion and Board directives

History & Importance of Proposal

- 10 - year history for the watershed management plan effort (*origin with the Stormwater Policy Framework*)
- 4 - 5 year history for the specific riparian buffer recommendation (*BOS adoption of Powhatan and Yarmouth Creek Watershed Management Plans in 2002 and 2003*)
- 1 - 1/2 year history with the current by-right application proposal. (*BOS adopted resolution in October 2006 for application on legislative cases*)
- Most recently: December 11, 2007 and January 8, 2008 regular BOS meetings and January 31, 2008 Planning Commission Policy Committee meeting and February 6, 2008 Planning Commission Meeting (*solicited PC and public input on proposal*)

History & Importance of Proposal

- RMA Buffers are direct recommendations from approved watershed management plans;
- Based on sound science and research;
- Benefits include water quality protection, preservation of contiguous forests/wildlife habitat and reduction of impacts from invasive species.
- Benefits include flood prevention/mitigation;
- Powhatan and other creeks and streams in the County are on the Virginia DEQ 303d “impaired stream” list.

History & Importance of Proposal

- Proposal is consistent with Action Item # 18 from the Environmental Section of the 2003 County Comprehensive Plan (page 67):

“Fully implement the watershed protection and restoration goals and priorities identified in the Powhatan Creek Watershed Management Plan adopted by the Board of Supervisors in 2002 and any other watershed management plans adopted by the Board of Supervisors.”

Background – Watershed Planning

Powhatan Creek Watershed Plan

- Six tools for watershed protection
- Aquatic buffers one of those tools
 - Provide physical separation
 - Maintain aquatic and terrestrial **transition zones**
 - Reduce the impact of invasive species
 - Serve as the “right-of-way” for stream networks
 - Help to **reduce** overall watershed **imperviousness**
 - **Protect private property from flooding**
 - Preserve contiguous forests

Background – Scientific Support

Site Factors – Slope

- Has the **greatest influence** over water residency times and sediment removal
- Determines the rate and nature of water flow
 - Steeper slopes increase runoff velocities and volume of stormwater runoff
- Expanded buffers are useful in compensating for the effects of steep slopes

Background – Scientific Support

Site Factors – Stream Order

- Forest buffers have the greatest potential for **enhancing water quality** when adjacent to intermittent and 1st order streams
 - Buffers can be smaller in size
 - Less contributing area per unit volume of water
- Higher order streams (creek mainstems) need wider buffers because of larger volume of water flowing into and through them

Background – Scientific Support

Site Factors – Soils

- Soil texture
- Depth to water table
- Organic matter content.
 - All affect infiltration rates
 - All affect capacity to remove nutrients
 - **Highly variable**
 - Site-specific information required

Background – Scientific Support

Site Factors that **enhance** pollutant removal effectiveness

- **Slopes** less than 5%
- Contributing flow length less than 150 feet
- Seeps, high water table
- Permeable, but not highly sandy soils
- **High organic matter** or mulch layer
- Surface runoff velocities less than 1.5 feet/second
- Forest
- **Sheet flow** of surface flow

Background – Scientific Support

Site Factors that **decrease** pollutant removal effectiveness

- **Slopes** greater than 5%
- Contributing flow length greater than 300 feet
- Compacted soils
- **Low organic matter**
- Surface runoff velocities greater than 5 feet/second
- Tall bunch grasses
- **Concentrated storm flows**

Background – Scientific Support

Flood issues:

- The balance between streams and their watersheds has been changed by the following:
 - **Increased runoff** from development
 - Drainage network efficiency
 - Channel instability upstream from increased velocities
 - Sediment deposition downstream
 - **Reduced storage** for flood waters

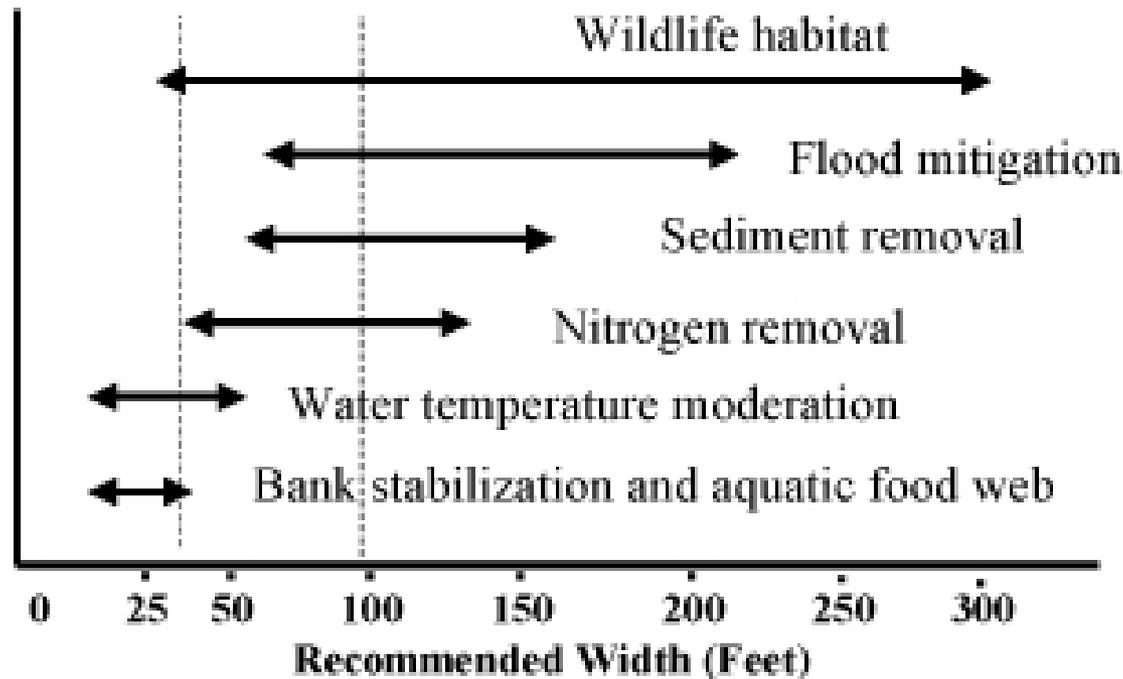
Background – Scientific Support

Flood reduction **benefits**:

- Forested buffers
 - **Slow velocities** and reduce energy of runoff
 - Increase sediment deposition
 - Dispersal of storm flow
 - Storm flow **retained** higher in watershed
 - Increased storm flow infiltration

- **Reduced downstream flooding**

FIGURE 1. Minimum Recommended Buffer Widths for Different Functions



From: Riparian Forest Buffer Widths. The Chesapeake Bay Watershed Forestry Program. USDA Forest Service. 2003.

Proposal

Add Section 23-9 (b) (11)

General Performance Standards

For any **development or redevelopment**, the following Resource Management Areas (RMA's) shall be protected as follows:

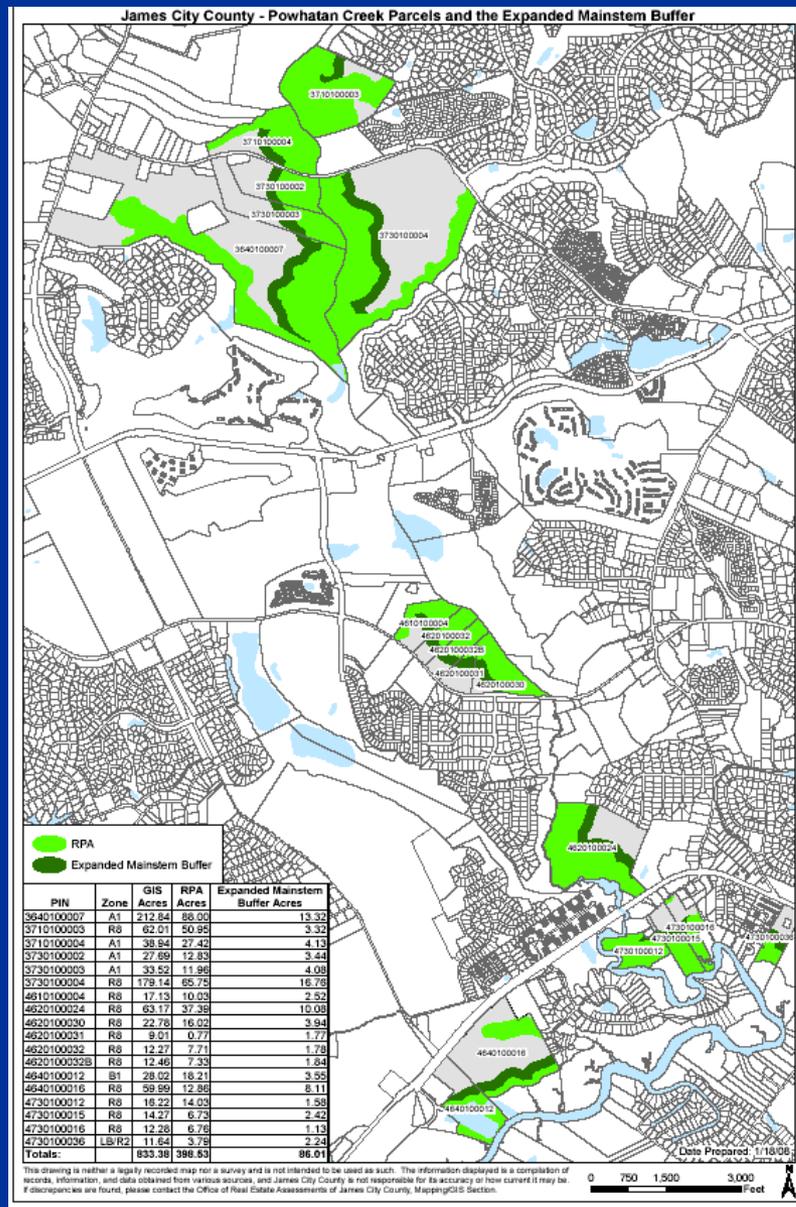
- Intermittent streams shall have a 50 foot buffer.
- Non-RPA wetlands shall have a 50 foot buffer.
 - Those wetlands that are **not** part of the Resource Protection Area .
 - Wetlands are the jurisdiction of the US Corps of Engineers and not determined by James City County.

Proposal

- In approved watershed management plan areas (Yarmouth and Powhatan), the creek mainstem shall have two separate buffers outside of the RPA.

- Base Zone of the mainstem buffer
 - Variable width, 50 feet to 100 feet, depending upon slope.
 - Forested

- Outer Zone of the mainstem buffer
 - 25 feet width
 - Forest or grass



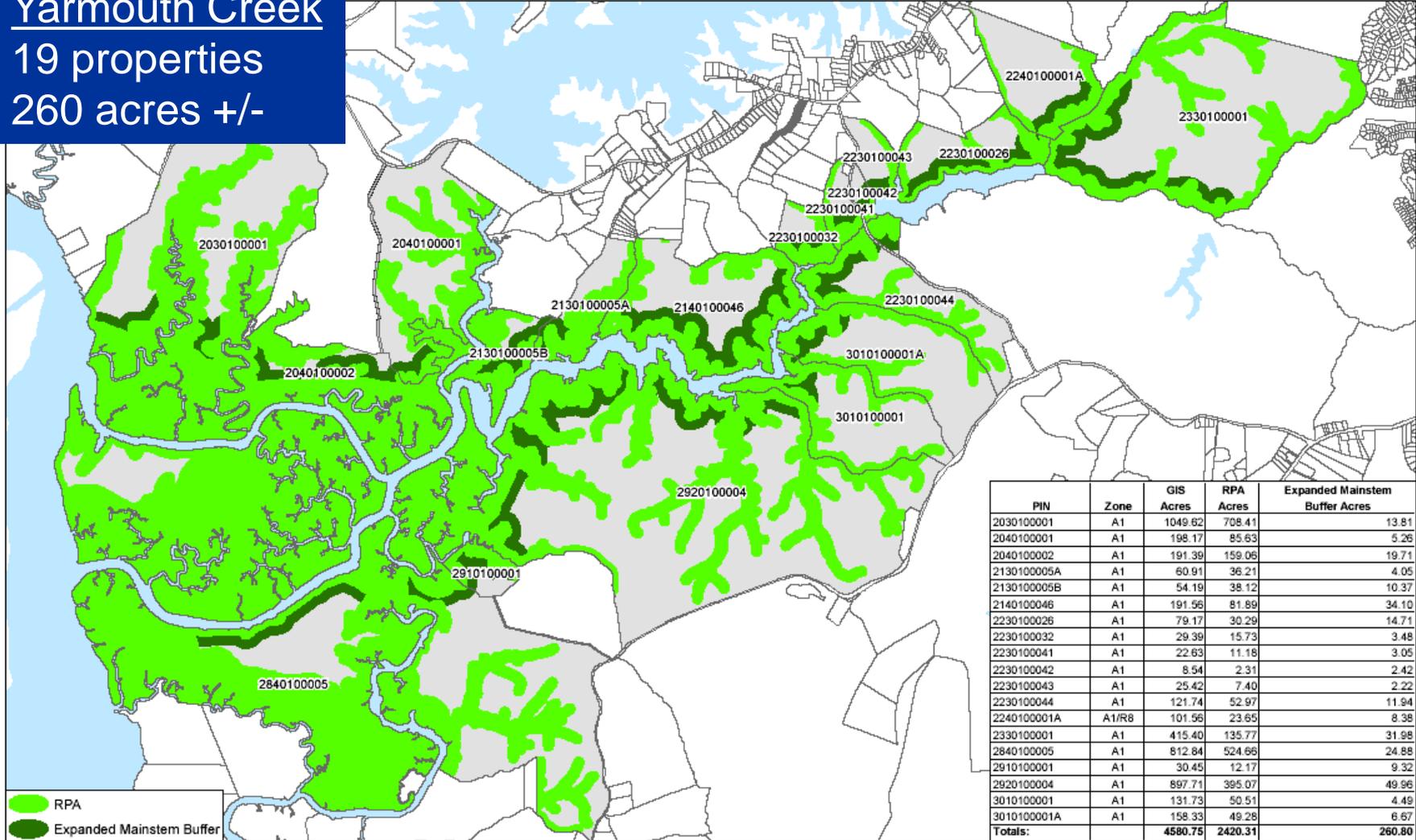
Powhatan Creek

18 properties

86 acres +/-

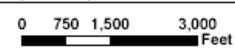
Yarmouth Creek
 19 properties
 260 acres +/-

James City County - Yarmouth Creek Parcels and the Expanded Mainstem Buffer



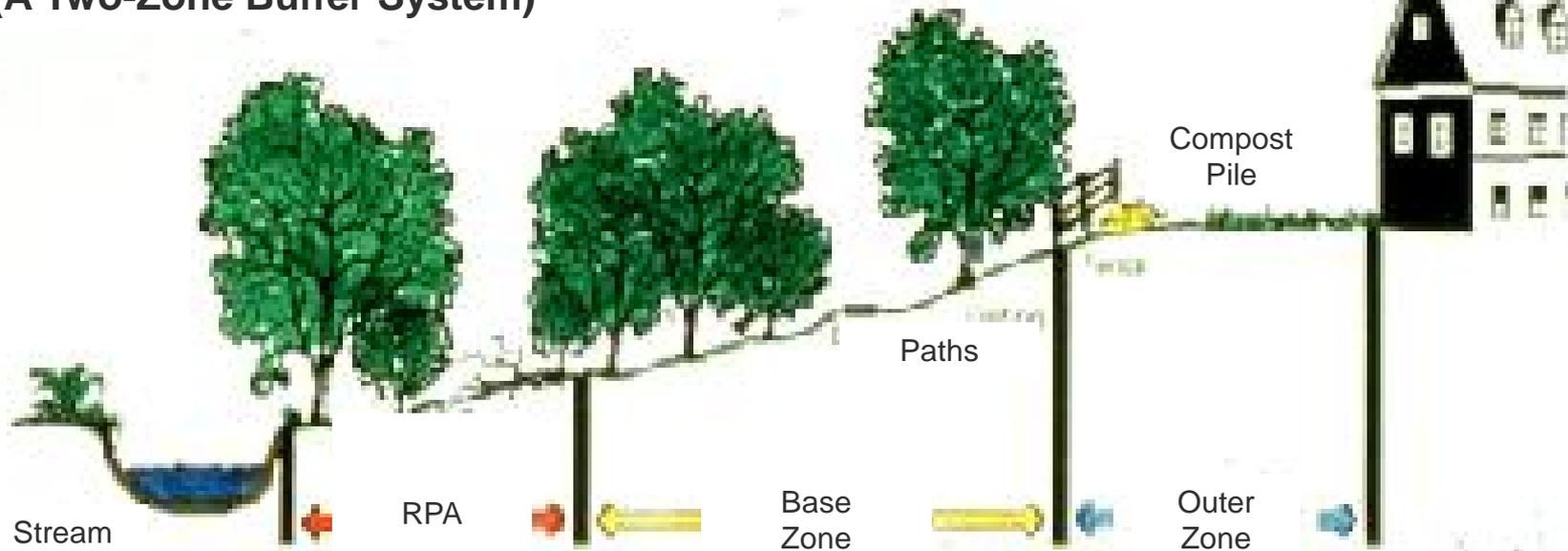
This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. The information displayed is a compilation of records, information, and data obtained from various sources, and James City County is not responsible for its accuracy or how current it may be. If discrepancies are found, please contact the Real Estate Assessment Division of James City County, Mapping/GIS Section.

Date Prepared: 1/18/08



Proposed Creek Main Stem Buffers (A Two-Zone Buffer System)

Rev. 2/14/08



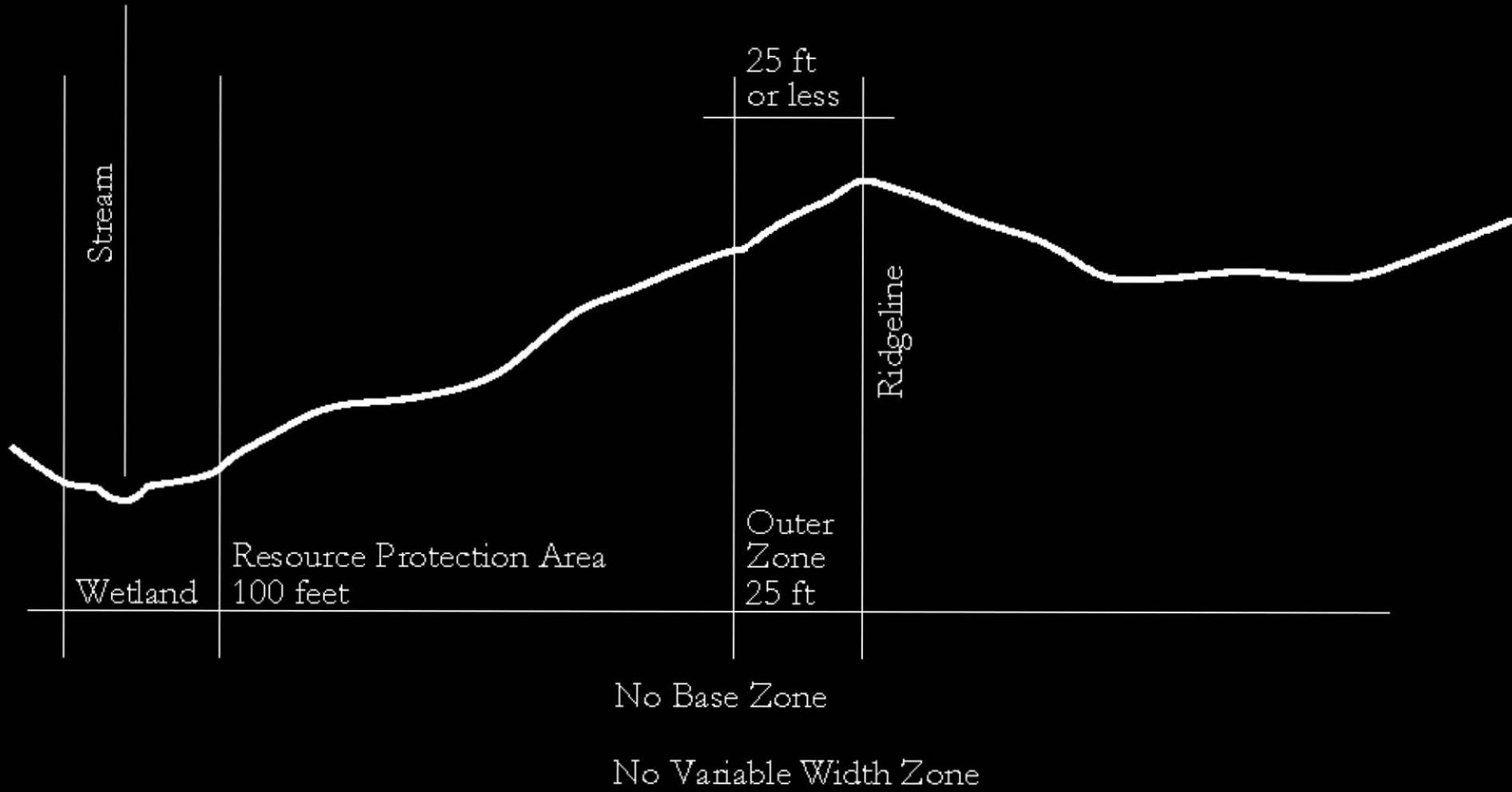
Characteristics	Resource Protection Area	Base Zone	Outer Zone
Function	Per Chesapeake Bay Preservation Ordinance requirements	Provide distance between upland development and streamside zone	Prevent encroachment and filter backyard runoff
Width	100 ft. buffer	50 feet to 100 feet depending on slope	25 feet
Vegetative Target	Undisturbed mature forests	Managed forest, some clearing allowable	Forest encouraged, usually lawns or turf grass
Allowable Uses	Very Restricted by ordinance	Restricted; passive recreational uses such as paths and BMPs	Limited; no septic systems or impervious cover

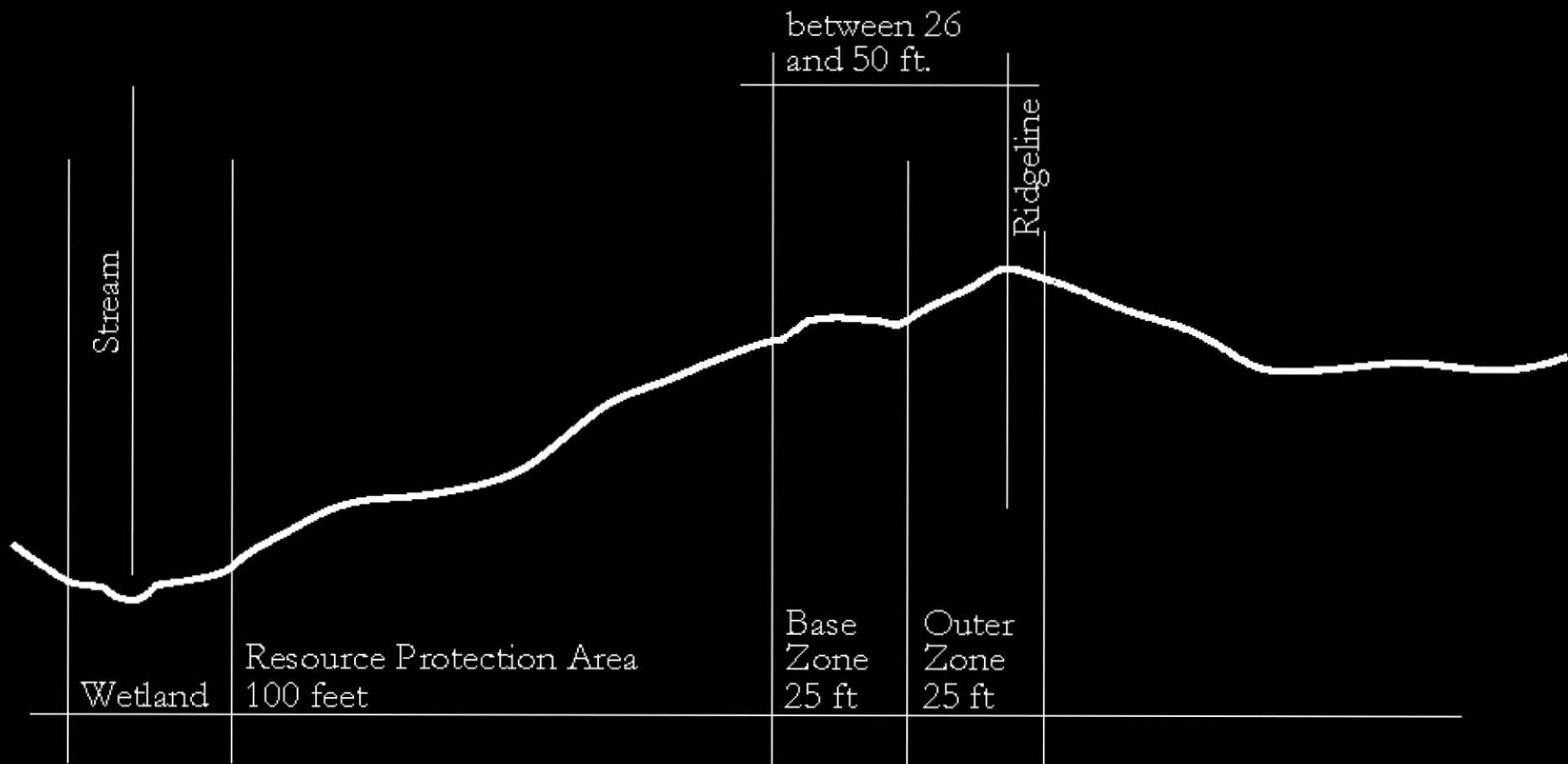
Proposal

Slope within the 50-foot base zone	Additional buffer to be added to the base zone
0% to 15%	None
15% to 25%	Add 25 feet
Greater than 25%	Add 50 feet

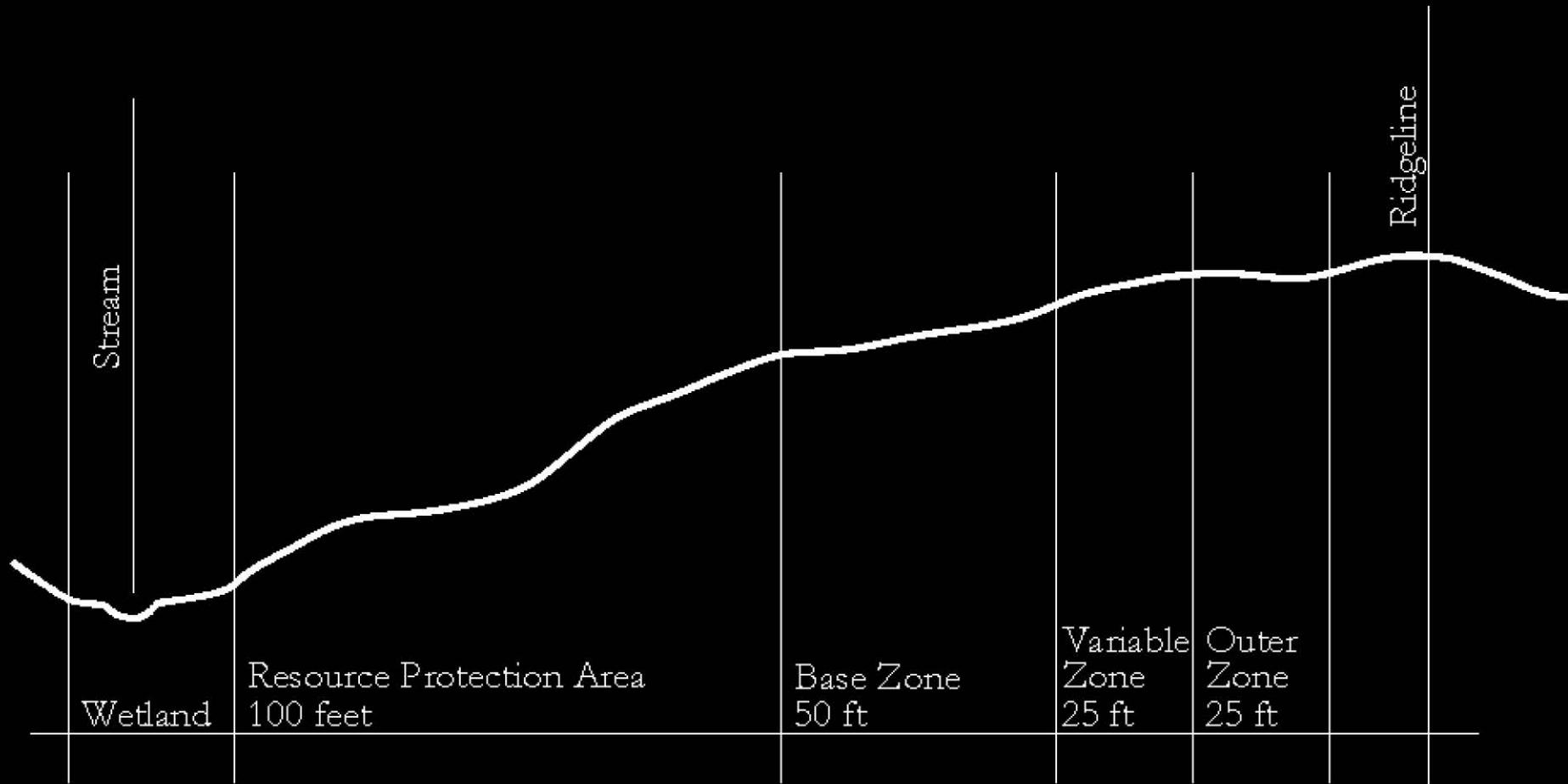
Proposal

- When a topographic divide exists in the proposed mainstem buffer area, the following conditions apply:
 - The outer zone extends 25 feet from the RPA when the topographic divide when it is closer than 25 feet. The base zone is non-existent.
 - The base zone shall be 25 feet when the topographic divide is between 25 feet and 50 feet.
 - In no case shall the RPA buffer be reduced or compromised by the base or outer zone.

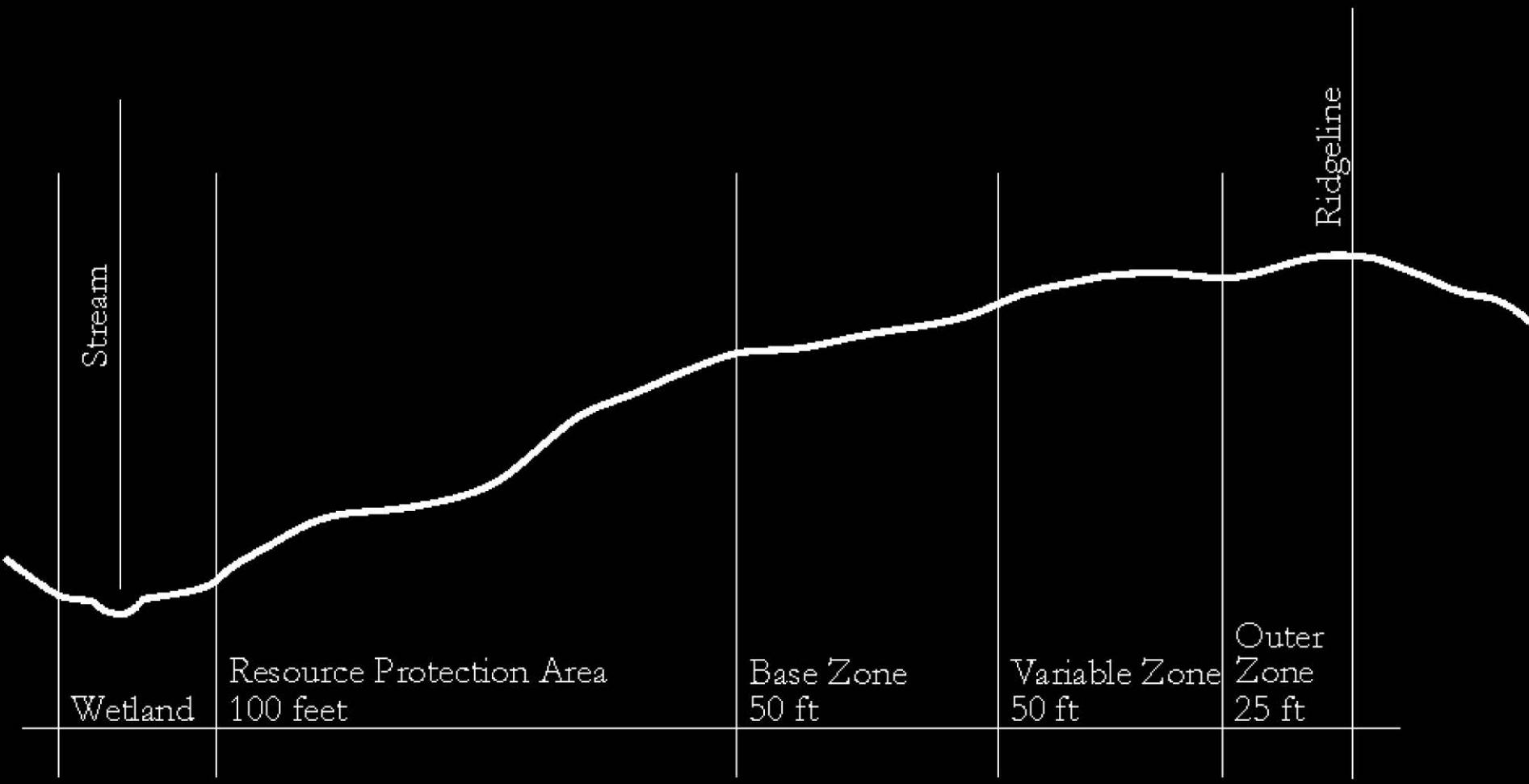




No Variable Width Zone



Variable Zone based upon slopes within Base Zone



Variable Zone based upon slopes within Base Zone

Proposal

- Exceptions for the Base Zone
 - stormwater ponds
 - passive recreation facilities (boardwalks, trails, and pathways)
 - public utilities, railroads, public roads
 - Must meet same conditions as RPA crossings
 - Removal of dead, dying and diseased plant material
 - Clearing for sight lines

Proposal

- Exceptions for the Outer Zone
 - Septic tanks
 - Primary and reserve septic fields
 - Impervious cover associated with the principle structure
 - Does not include decks, patios, gazebos

Proposal

- For lots recorded prior to the adoption date, the mainstem buffer shall not impact the ability to develop as a matter of right under the County zoning or subdivision ordinance; provided, however that such buffers are protected to the maximum extent possible as defined by the following criteria:
 - Reduction of the buffers shall be the minimum necessary to achieve a reasonable building area for a principle structure and necessary utilities; and
 - Where practicable, a vegetated area that will maximize water quality protection, mitigate the effects of the reduced buffer, and is equal to the area of reduction shall be established elsewhere on the lot.

Proposal

- These RMA buffers shall not apply to the following:
 - Lots or parcels created pursuant to and in accordance with the family subdivision section of the County Code.
 - Existing or proposed single family residences and/or manufactured homes on a permanent foundation, on a lot or parcel recorded prior to the adoption date.
 - Structures used and associated with bona fide agricultural activities.

Exemptions

- Public utilities (gas, fiber optic, railroads, telephone)
 - Construction, installation, operation and maintenance
 - Public roads must be optimized to prevent or minimize encroachments.
- County or Regional Service Authorities
 - Construction, installation and maintenance

Exemptions

- Forestry operations
- Agricultural operations, including agricultural structures
 - Both exempt from Chesapeake Bay Preservation Ordinance by state law

Grandfathering Resolution

- Approved final Site Plans and Subdivision Plans
- Approved preliminary Site plans and Subdivision Plans
- Plans in current review process
- Approved Rezoning and Special Use Permits
 - Must comply unless cannot be legally developed to proffered density, use or square footage
- Concept Plans
 - Not grandfathered

Policy Committee / Planning Committee suggestions

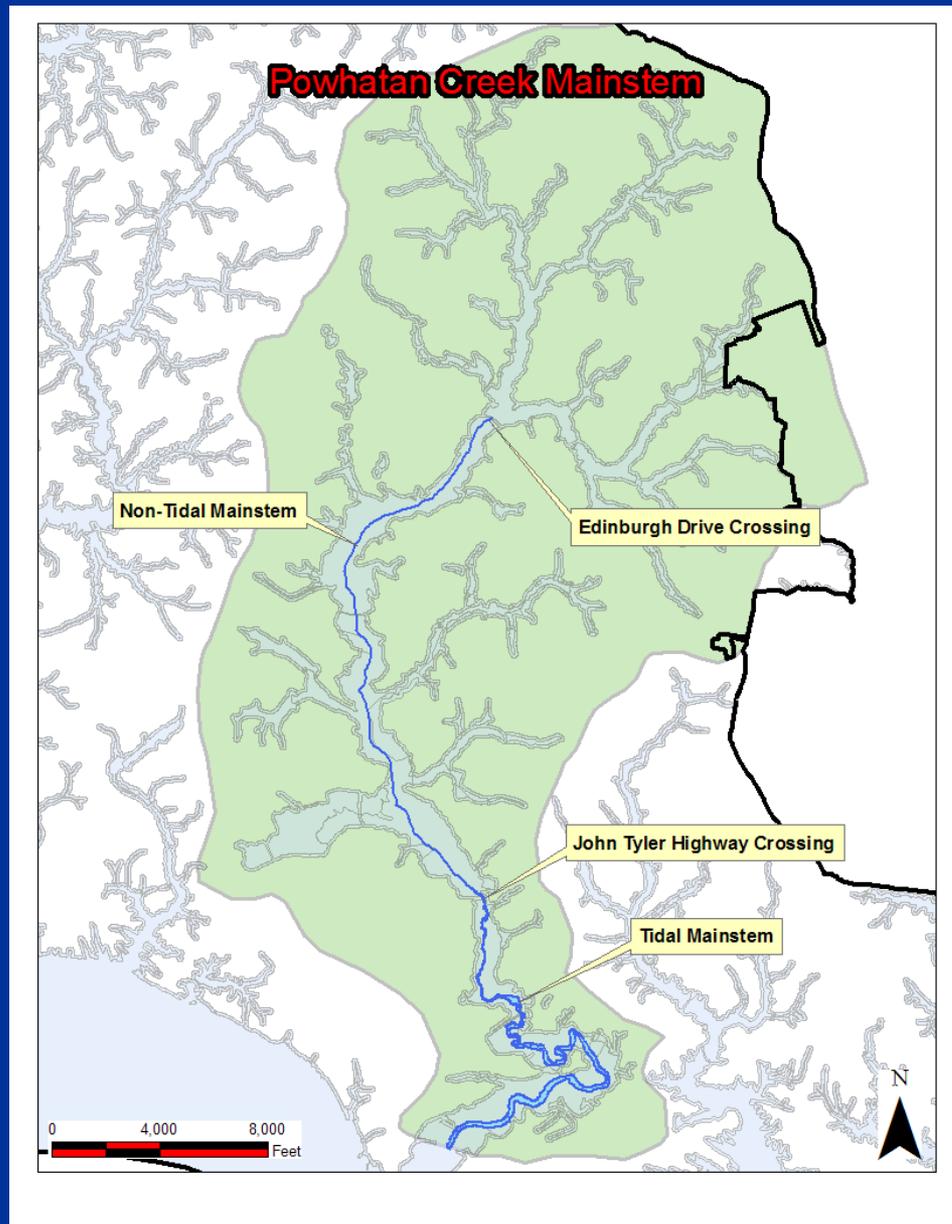
- Stormwater credits for RMA buffers
- Report back to BOS one year after approval
 - Assuming passage by BOS
- Change Outer Zone impervious cover to be more flexible
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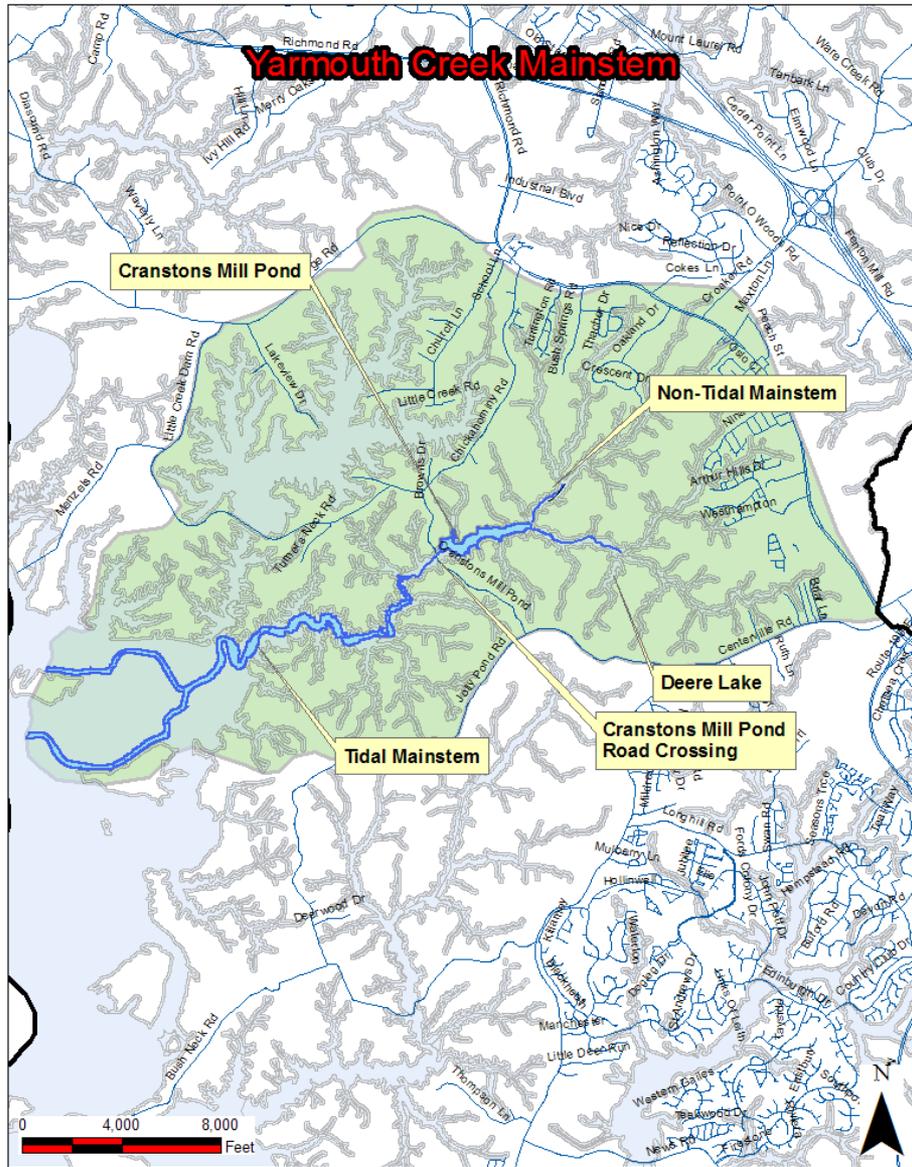
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