



# Resource Protection Area: Onsite Buffer Area Delineation

Guidance on the Chesapeake Bay Preservation  
Area Designation and Management Regulations  
*September 16, 2002, Revised June 15, 2009, February 2022*

## **Purpose:**

This document provides guidance on requirements of the Chesapeake Bay Preservation Act with regard to the onsite delineation of the buffer component of the Resource Protection Area (RPA). The guidance has been developed to establish the procedure for physically measuring the buffer area component of the RPA on a development site.

The Chesapeake Bay Preservation Area Designation and Management Regulations (Regulations) establish the RPA as the “shoreward” component of the Chesapeake Bay Preservation Area (CBPA). RPAs are composed of tidal wetlands, non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow, tidal shores, such other lands considered necessary to protect the quality of state waters and a 100 foot buffer adjacent to and landward of these features. For guidance on how to determine the onsite limits of RPA nontidal wetlands see *Resource Protection Areas: Nontidal Wetlands*.

## **Regulations:**

- Section 9 VAC 25-830-80(B)(5) requires a buffer area of not less than 100 feet in width as the landward component of RPAs.
- Section 9 VAC 25-830-60(A) requires local governments to adopt a map delineating CBPAs.
- Section 9 VAC 25-830-110 requires site-specific boundaries of RPAs to be established as part of their plan of development review process.
- Part IV Land Use and Development (Performance Criteria) applies to “...any use, development or redevelopment of land in Chesapeake Bay Preservation Areas...”

## **Discussion:**

As the landward component of the RPA, the buffer area is extremely important to the protection of the remaining RPA components and water quality. Many local governments have developed maps that show the extent of a RPA on a given lot or parcel, as based on the best available mapping information. However, a property owner must still measure the actual extent of all RPA features on a site, including the buffer component.

Buffer area delineation should be treated in much the same way as floodplain delineations or other zoning setbacks. Floodplains are typically revised when natural or human changes have occurred (erosion or accretion) or when more detailed studies are conducted. Zoning setbacks are

determined on the basis of the local ordinance in effect at the time of the development. Therefore, when a property owner wishes to change the use of a property, expand an existing use, or redevelop, the proposal must go through the plan of development process and the extent of the buffer area will be refined. Although redevelopment is permitted to occur in the RPA, redevelopment is not exempt from the requirement of a plan of development review.

## Conclusions

Based on these factors, the Department of Environmental Quality (DEQ) provides the following guidance:

- Chesapeake Bay Preservation Area designation maps are planning tools for the purpose of indicating general locations of CBPAs.
- The site specific RPA buffer delineation occurs first then a proposed use or development occurs. Finally, the local plan of development review process or water quality impact assessment is submitted for review. Once the onsite delineation of the RPA buffer area is established, the RPA buffer area does not change to reflect any shoreline accretion or erosion, unless the use of the property changes or additions or alterations requiring governmental review are sought. At that time, as with other ordinance requirements, the RPA buffer area must be re-measured to meet the newest standards. The Regulations specifically refer to limitations and conditions placed on uses and development, which commence, in the case of development, with local approval of zoning, subdivision plans, or site plan.
- There is no requirement to delineate the site-specific RPA buffer area prior to site development. No additional mapping or site delineation is required until governmental approval is required. At that time, delineation of the existing features occurs through the completion of the plan of development process or water quality impact assessment.
- Local governments, through existing authority, may place time limitations on the approval of zoning, subdivision, site plans and building permits. If no action occurs and development permits lapse, updated delineation of the RPA buffer area (as well as other permits and applications) may be required by the local government.
- Encroachments into RPA buffer areas for agricultural and forestry uses are not transferable to any other development that may occur when the use is converted.
- When silvicultural or agricultural uses are converted to other development, the buffer area must be reestablished, including management measures that provide woody vegetation to ensure that the buffer functions are met.

## Technical Guidance:

The following is guidance on how to physically measure the buffer area on a variety of site conditions.

### 1. Determine the landward edge of the RPA feature.

*NOTE: In the situation where the RPA feature is on an adjacent property, one will need to be sure to work with that property owner to gain permission to access that property to perform accurate delineation of the RPA feature(s).*

**Wetland** – Perform wetland determination and delineation to establish the landward extent of RPA wetland. Check with the local government office that coordinates the plan of development review process. In many cases, a local government representative may be able to help with the field delineation. In other cases, an environmental consultant must be contracted in order to adequately perform the delineation.

**Tidal shore** – Determine the landward extent of the mean high water level. In many cases, this determination can be made based upon observable evidence of the normal extent of mean high tide, the edge of ordinary high water or edge of defined streambed.

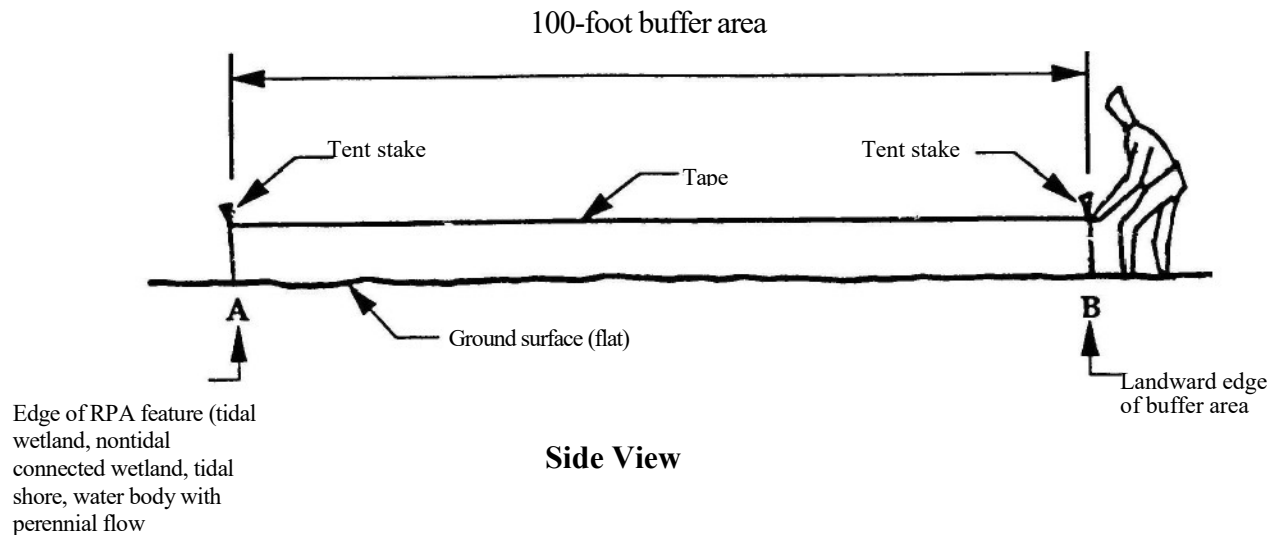
**Water body with perennial flow** – Determine if the stream or other water body has perennial flow as required under § 9 VAC 25-830-110 of the Regulations. From field investigations and through a methodology approved by the local government, determine the reach of the perennial flow of the stream or water body. Once the reach of the perennial flow is determined, the buffer should be measured from the edge of ordinary high water or edge of defined streambed.

### 2. Measure 100 feet horizontally from the edge of the most landward RPA feature or, in the case of water bodies with perennial flow, from the edge of ordinary high water or edge of defined streambed.

*NOTE: To ensure that the landward edge of the buffer area runs parallel to the edge of the RPA feature, this procedure will have to be performed in at least two locations across the site. If the edge of the RPA feature runs straight across the property with no curves or deviations, then a measurement taken at each property line will be sufficient. However, if the edge of the RPA feature is curved or deviates in and/or out, then measurements will need to be taken at each point of deviation along the entire length of the property to ensure an accurate line for the landward edge of the RPA buffer area.*

**Flat slopes** – Use 25 to 100-foot metal or fiberglass tape to measure a horizontal distance of 100 feet. In cases where a tape less than 100 feet long is used, several intermediate measurements must be made in order to measure the full 100-foot RPA buffer area. The measurements can be undertaken by a single individual by using stakes to hold the tape measure ends at the edge of the RPA feature (A) and again at the 100-foot line (B). For intermediate measurements, use a stake at the appropriate increment (25', 50', etc.). See Figure 1 on the following page.

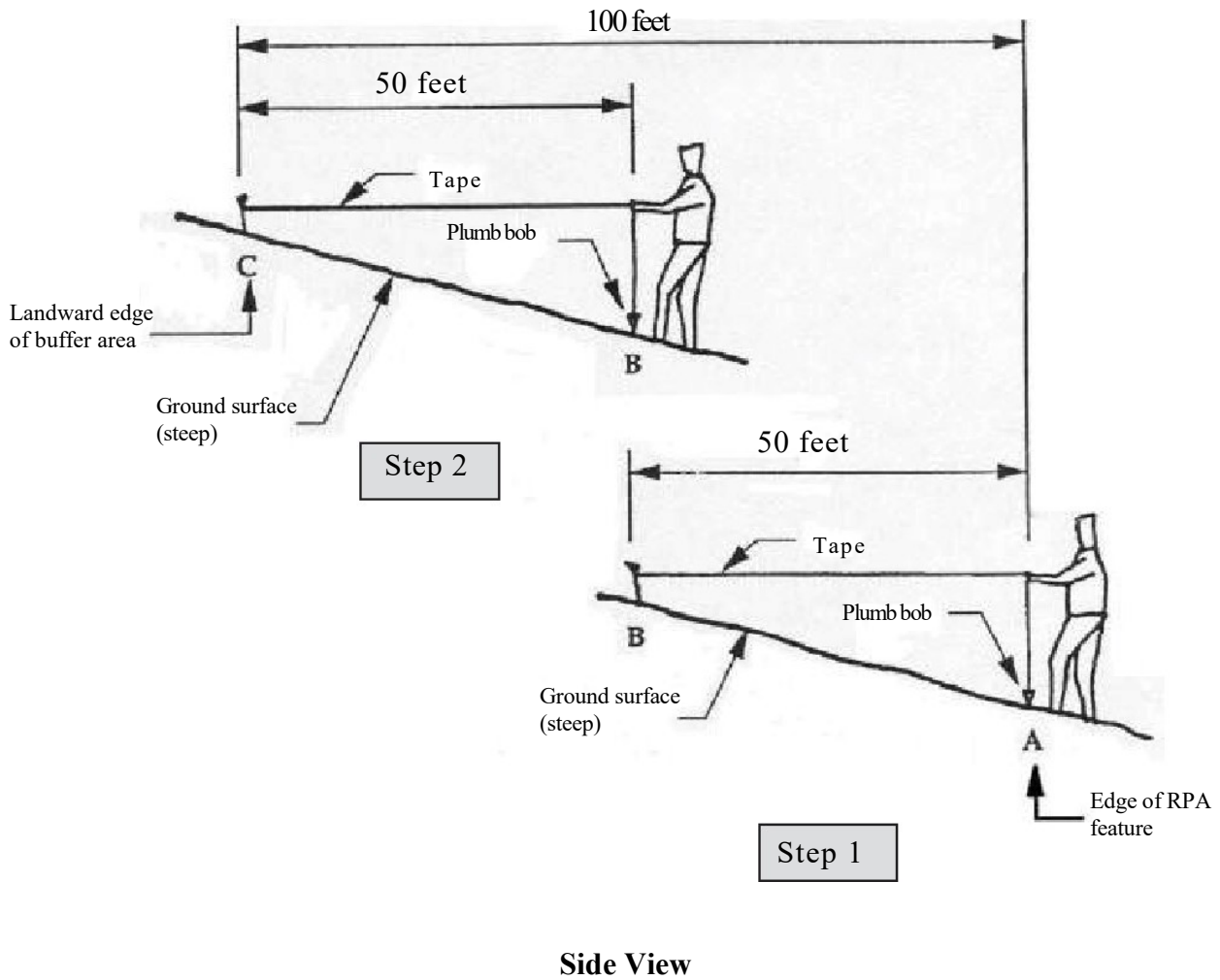
## Figure 1 - Measuring along a flat slope



**Steep slopes** – In almost all cases, the land will slope uphill from the edge of the RPA feature. Although it is possible to measure horizontally uphill, it is difficult to do as a single individual.

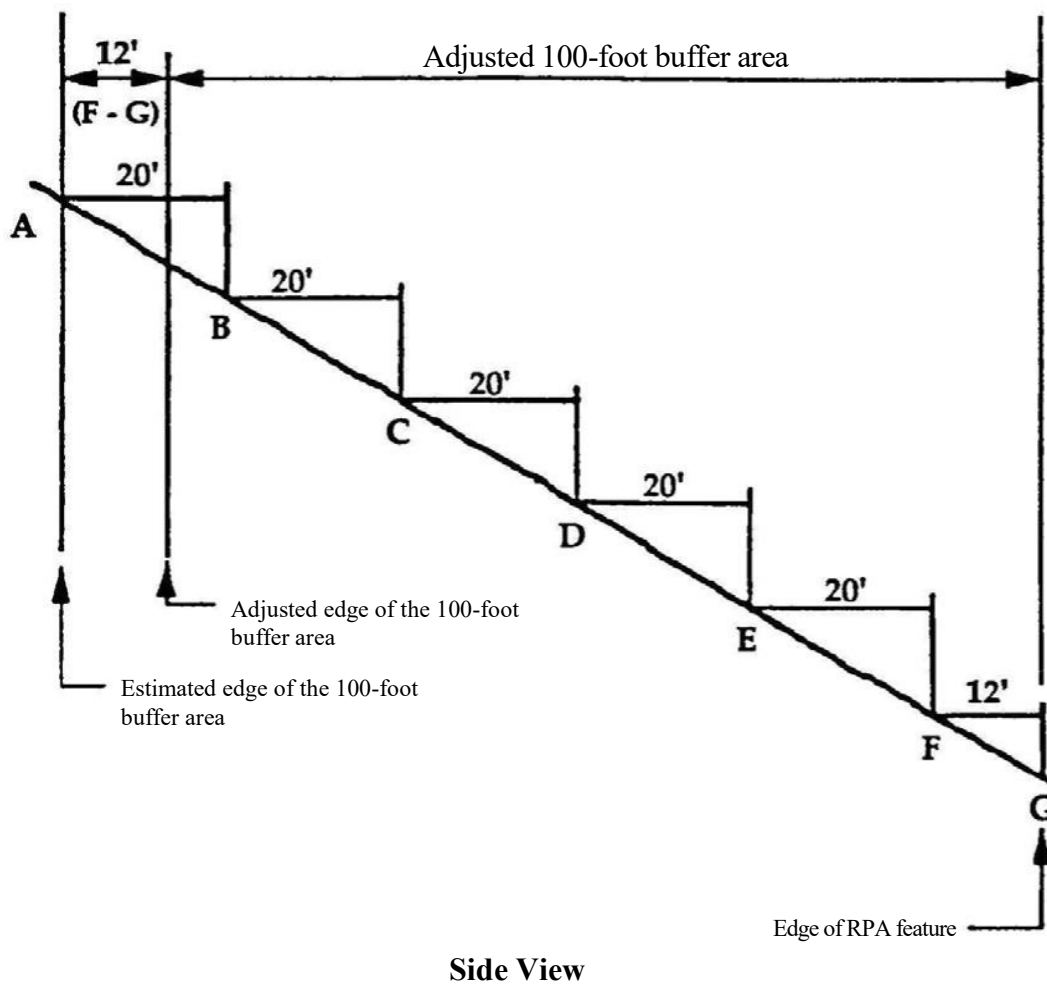
*Two people* – Have one person stand at the bottom of the slope (A) and hold a 25-100-foot metal or fiberglass tape at waist level. This downhill person should use a plumb bob, carpenter’s level or similar device to insure that the end of the tape is directly over (or plumb with) the point where the buffer should start. That point should be marked with a tent peg or similar device. The first measurement point must be at the edge of the RPA feature. The other person should walk up the slope to a point where the tape can be held in a horizontal or level position near the ground. The uphill person will mark this spot with a stake (B). In surveying terms, this is called “breaking chain.” The tape is then moved forward to the uphill stake (B) and the process is repeated until 100-feet has been marked off (C). In some cases, smaller increments will need to be measured to effectively adjust to the change in grade or slope; the steeper the slope, the smaller the increment. See Figure 2 on the following page.

**Figure 2- Measuring along steep slope (Two people)**



*One person* – First, from the edge of the RPA feature, estimate a horizontal distance of 100 feet up the slope. It is easier to determine the landward edge of the buffer area if this estimated distance is greater than 100-feet is first used, since the final adjustment to the buffer width can be made by measuring downhill. Begin by measuring downhill from the estimated landward edge of the buffer area (A) by staking down the uphill end of the tape and proceeding downhill to a point where you can comfortably hold the tape in a horizontal or level position. Mark this point on the ground in the same manner as described for a two-person measurement. In this manner, horizontally measure 100-feet (A-F) and mark 100-feet with a tent peg or similar device. Next, determine the horizontal distance from the end of the measured 100-feet (F) to the edge of the RPA feature (G). The distance between F-G will need to be adjusted at edge of the estimated buffer area. This adjustment will be made in the same manner as the previous measurements down the slope from the edge of the estimated buffer area. See Figure 3 below.

**Figure 3 - Measuring along steep slope (One person)**



**Extreme slopes or cliffs** – For areas with extreme slopes or cliffs, a certified land surveyor may be required for an accurate measurement of the 100-foot buffer area. Check with the local government office that coordinates the plan of development review process for assistance. In most cases, a local government staff person may be able to provide additional information for measuring the buffer area in these extreme situations.

**Wooded areas** – Again, a metal or fiberglass tape from 25-100’ can be used. However, the presence of trees or other objects on site will mean that you will need to make adjustments to the horizontal measurements. Begin by making a horizontal measurement in a straight line until you reach an obstruction. Mark this spot with a tent peg or similar device. Move sideways from this point at an approximate right angle until another measurement sight line is found. Repeat until 100-feet are measured. See Figure 4 below.

**Figure 4 - Measuring in wooded areas**

