

# **BUFFER PROTECTION AND MANAGEMENT ORDINANCE**

Baltimore County, MD

Environmental Protection and Resource Management

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**Sec. 14-341. Design standards for forest buffers and building setbacks.***(a) General requirements.*

- (1) A forest buffer for a stream system shall consist of a forested strip of land extending along both sides of a stream and its adjacent wetlands, floodplain, and slopes. The forest buffer width shall be adjusted to include contiguous, sensitive areas, such as steep slopes or erodible soils, where development or disturbance may adversely affect water quality, streams, wetlands, or other waterbodies. This adjustment shall be accomplished by evaluating the potential of a site for impacts that result from runoff, soil erosion, and sediment transport.
- (2) For those sites where forest vegetation does not exist, it is acceptable to allow the forest buffer to succeed naturally to a wooded state. However, if channel erosion, stream pollution, or habitat degradation exists at that site or has been caused downstream from that site, the director may require planting of the forest buffer and any additional water quality protection measures.
- (3) The department may post the forest buffer.

*(b) Forest buffer standards for streams, wetlands, and floodplains.*

- (1) For a first or second order stream, the forest buffer shall be measured from the centerline. For all higher order streams, the forest buffer shall be measured from the stream bank of the active channel (bank-full flow).
- (2) For a use I or I-P stream, the forest buffer shall be the greater of the following:
  - a. Seventy-five (75) feet,
  - b. Twenty-five (25) feet from the outer wetland boundary, or
  - c. Twenty-five (25) feet from the onehundred-year floodplain reservation or easement boundary.
- (3) For a use III, III-P, IV or TV-P stream (natural and recreational trout waters), the forest buffer shall be the greater of the following:
  - a. One hundred (100) feet,
  - b. Twenty-five (25) feet from the outer wetland boundary, or
  - c. Twenty-five (25) feet from the onehundred-year floodplain reservation or easement boundary

*(c) Adjusted forest buffer standards and requirements for streams and wetlands with adjacent steep slopes and erodible soils.*

- (1) A steep slope and erodible soils evaluation shall be conducted in accordance with the evaluation procedures and criteria specified herein or a comparable method approved by the director for sites containing or adjacent to streams, wetlands, or other waterbodies where:
  - a. Slopes exceed ten (10) percent within five hundred (500) feet of the streams, wetlands, or waterbodies;
  - b. Soil erodibility K values exceed .24 within five hundred (500) feet of the streams, wetlands, or waterbodies; or
  - c. The vegetative cover within one hundred (100) feet of the streams, wetlands, or waterbodies is: bare soil; fallow land; crops; active pasture in poor or fair condition; orchard-tree farm in poor or fair condition; brush-weeds in poor condition; or woods in poor condition.
- (2) An evaluation report shall be submitted for review to the department. This report shall include, as a minimum, the following:
  - a. A plan, at a scale not smaller than 1" = 100', that shows:

1. Existing topography with contour intervals no greater than five (5) feet. County photogrammetric maps are an acceptable source for preparing existing topography.
2. Mapped soils as shown in the county soil survey,

3. Field delineated, marked, and surveyed streams and wetlands,
  4. Existing vegetation,
  5. Existing subdrainage areas of the site, and
  6. Slopes in each subdrainage area segmented into sections of slopes less than or equal to ten (10) percent; eleven (11) to nineteen (19) percent; and greater than or equal to twenty (20) percent;
- b. All slope analysis data forms;
- c. A summary of findings including information pertinent to the evaluation of the site; and
- d. A mitigation plan that describes the proposed additional protective measures for those areas where development is allowed with restrictions.
- (3) The site shall be evaluated by assessing each segment of each subdrainage area using the evaluation criteria in Table 1. Each segment shall be given a score for slope, slope length, soil erodibility, vegetative cover, and sediment delivery. A total score shall be assigned for each segment. A segment of a subdrainage area with a total score of thirty-Five (35) or greater shall be designated as part of the forest buffer and no development shall be approved in that segment. A segment with a total score of twenty-five (25) or thirty (30) shall require the application of additional protective measures; however, development shall not be prohibited and that area shall not be part of the forest buffer. A segment with a score of twenty (20) or less shall be developed with standard protective measures and that area shall not be part of the forest buffer.

Table 1

*Evaluation Criteria for Steep Slopes and Erodible Soils*

<i>Factors</i>	<i>Scores</i>		
	<i>High (10)</i>	<i>Medium (5)</i>	<i>Low (0)</i>
Slope (S)	$S \geq 20\%$	$10\% < S < 20\%$	$S \leq 10\%$
Slope length (SL)	$SL \geq 200'$	$50' < SL < 200'$	$SL \leq 50'$
Soil erodibility (K)	$K \geq 0.32$	$0.24 < K < 0.32$	$K < 0.24$
Vegetative cover	Bare soil, fallow land, crops, active pasture in poor condition, orchard-tree farm in poor condition	Active pasture in fair condition, brush-weeds in poor condition, orchard-tree farm in fair condition, woods in poor condition	Active pasture in good condition, undisturbed meadow, brush-weeds in fair condition, orchard-tree farm in good condition, woods in fair condition
Sediment delivery (distance from downslope limit of disturbance to outer edge of wetlands or top of streambank)	Adjacent to water-courses or wetlands (< 100' buffer)	Adjacent to water-courses or wetlands (100'-300' buffer)	Not adjacent to water-courses or wetlands (>300' buffer)

(d) *Standards for building setbacks.*

- (1) At a minimum, the primary or principal structure on a parcel or lot shall be set back from the outer edge of the forest

buffer as follows:

- a. Residential dwellings, thirty-five (35) feet;
  - b. Commercial structures, twenty-five (25) feet;
  - c. Industrial structures, twenty-five (25) feet.
- (2) The setback can include either private or public land or both. Appurtenant or accessory structures including roads and driveways, utilities, recreational facilities, patios, etc., are permitted within the setback area.  
(Bill No. 224, 1990, § 1(38-33))

**Sec. 14-342. Management requirements for forest buffers.**

- (a) The forest buffer, including wetlands and floodplains, shall be managed to enhance and maximize the unique value of these resources. Management includes specific limitations on alteration of the natural conditions of these resources. The following practices and activities are restricted within the forest buffer, except as provided for in forest harvesting operations which are implementing a forest management plan *approved by the department, the state department of natural resources, the county forest conservancy district board, or the county soil conservation district, as provided for in surface mining operations which are operating in compliance with a state surface mining permit or as provided for in agricultural operations in accordance with a soil conservation and water quality plan approved by the county soil conservation district:*
  - (1) The existing vegetation within the forest buffer shall not be disturbed except as provided in (b) below. This includes, but is not limited to, disturbance by tree removal, shrub removal, clearing, mowing, burning, spraying, and grazing.
  - (2) Soil disturbance shall not take place within the forest buffer by grading, stripping of topsoil, plowing, cultivating, or other practices.
  - (3) Filling or dumping shall not occur within the forest buffer.
  - (4) Except as permitted by the department, the forest buffer shall not be drained by ditching, underdrains, or other drainage systems.
  - (5) Pesticides shall not be stored, used, or applied within the forest buffer, except for the spot spraying of noxious weeds consistent with the recommendations of the University of Maryland Cooperative Extension Service.
  - (6) Animals shall not be housed, grazed, or otherwise maintained within the forest buffer.
  - (7) Motorized vehicles shall not be stored or operated within the forest buffer, except for maintenance and emergency use approved by the department.
  - (8) Materials shall not be stored within the forest buffer.
- (b) The following structures, practices, and activities are permitted in the forest buffer:
  - (1) Roads, bridges, trails, storm drainage, stormwater management facilities, and utilities approved by the department are permitted within the forest buffer provided that an alternatives analysis has clearly demonstrated that no other feasible alternative exists and that minimal disturbance will take place. This alternatives analysis shall be submitted to the department in accordance with section 14-334 of these regulations. These structures shall be located, de-

signed, constructed, and maintained to provide maximum erosion protection, to have the least adverse effects on wildlife, aquatic life, and their habitats, and to maintain hydrologic processes and water quality. Following any disturbance, the impacted area shall be restored.

- (2) Stream restoration projects, facilities and activities approved by the department are permitted within the forest buffer.
- (3) Scientific studies approved by the department, including water quality monitoring and stream gauging, are permitted within the forest buffer.
- (4) Horticulture practices may be used to maintain the health of individual trees in the forest buffer.
- (5) Individual trees in the forest buffer may be removed which are in danger of falling, causing damage to dwellings or other structures, or causing the blockage of streams.

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- (6) Other timber cutting techniques approved by the department may be undertaken within the forest buffer under the advice and guidance of the state departments of agriculture and natural resources, if necessary to preserve the forest from extensive pest infestation, disease infestation, or threat from fire.

(Bill No. 224, 1990, § 1(38-39))

**Sec. 14-343. Conflict with other regulations.**

- (a) Where the standards and management requirements for forest buffers are in conflict with other laws, regulations, and policies regarding streams, steep slopes, erodible soils, wetlands, floodplains, forest harvesting, surface mining, land disturbance activities, development in the Chesapeake Bay Critical Area, or other environmental protection measures, the more restrictive shall apply.
- (b) In addition to compliance with the regulations herein, all proposed activities, projects, and developments within a one-hundred-year riverine floodplain or one-hundred-year tidal flood area shall also comply with the regulations and requirements of the departments of public works and permits and licenses.

(Bill No. 224, 1990, § 1(38-40))

**Sec. 14-344. Public and private improvements of development.**

- (a) In addition to the provisions of article V of title 26 and in accordance with the provisions of section 14-337 of the regulations herein:
  - (1) The applicant shall provide improvements to the forest buffer and stream system in order to abate and correct:
    - a. Water pollution,
    - b. Erosion and sedimentation of stream channels, and
    - c. Degradation of aquatic and riparian habitat; and
  - (2) The county may participate in the cost of any such improvement.
- (b) For any forest buffer or forest buffer easement:
  - (1) Access easements shall be dedicated by the applicant to the county, of which the number, locations, and design

standards shall be determined by the department; and

- (2) Permanent boundary markers, in the form of monuments, shall be installed by the applicant upon request of the department.

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**Sec. Enforcement**

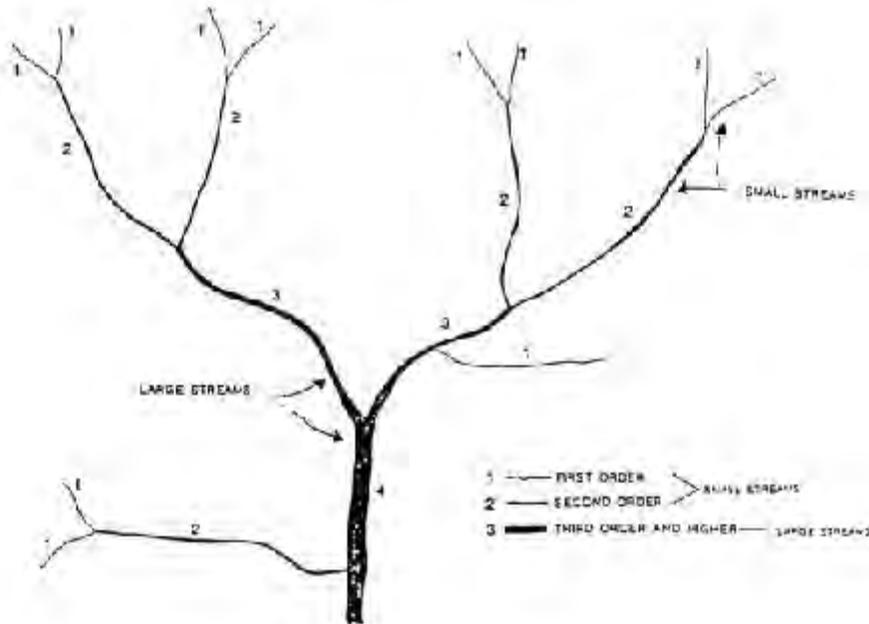
(a) director of the department authorized to enforce regulations according to these sections

(b) inspection of this that

person has violated any provision of these regulations, order, or permit condition promulgated or issued under these regulations, he shall with reasonable promptness issue a correction notice to the person, on such form as prescribed and approved by the director. Each such notice shall be in writing and shall describe with particularity the nature of the violation, including a reference to the provision of these regulations, order, or permit condition alleged to have been violated. In addition, the notice shall fix a reasonable time for the abatement and correction of the violation.

- (c) If, after the time fixed for abatement and correction of the violation has expired pursuant to (b) above, an inspection by the director or his designee determines that the violation or violations continue, the director shall issue a citation by certified mail to the person who is in violation on such form as prescribed and approved by the director. Each citation shall be in writing and shall describe with particularity the nature of the violation, including a reference to the provision of

FIGURE 1  
STREAM ORDER HIERARCHY



No. 224, § 1(38-

**14-345. cement dures.**

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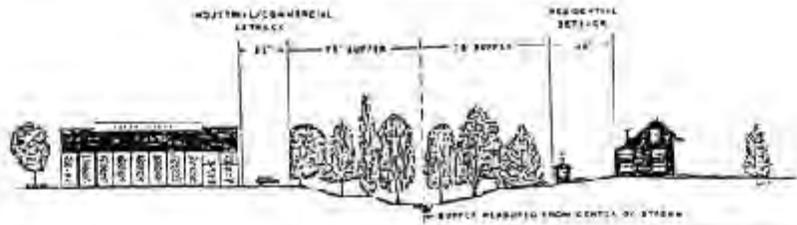
FIGURE I  
STREAM ORDER HIERARCHY

FIGURE 2  
STREAM BUFFER

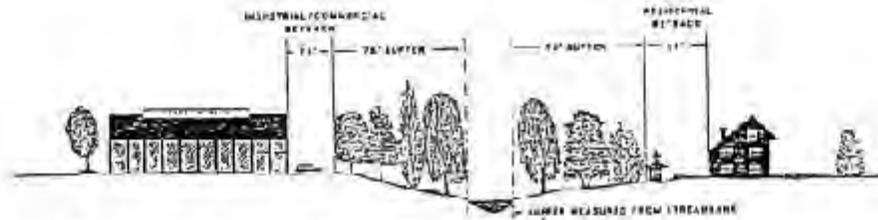
SMALL STREAMS (FIRST OR SECOND ORDER)  
BUFFER IS MEASURED FROM CENTER OF STREAM

## FIGURE 2 STREAM BUFFER

CLASS I STREAMS (FIRST OR SECOND ORDER)  
BUFFER IS MEASURED FROM CENTER OF STREAM



LARGER STREAMS (THIRD ORDER AND HIGHER)  
BUFFER IS MEASURED FROM STREAMBANK



NOTE: FOR TROUT STREAMS (CLASS III & IV), STREAM BUFFER IS INCREASED FROM 75' TO 100'

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BUFFER IS MEASURED FROM STREAMBANK

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### WETLAND BUFFER

FOR A SMALL, CLASS I STREAM

BUFFER CONSISTS OF EXTENT OF WETLAND PLUS 25'

OR 75' (WHICHEVER IS GREATER)

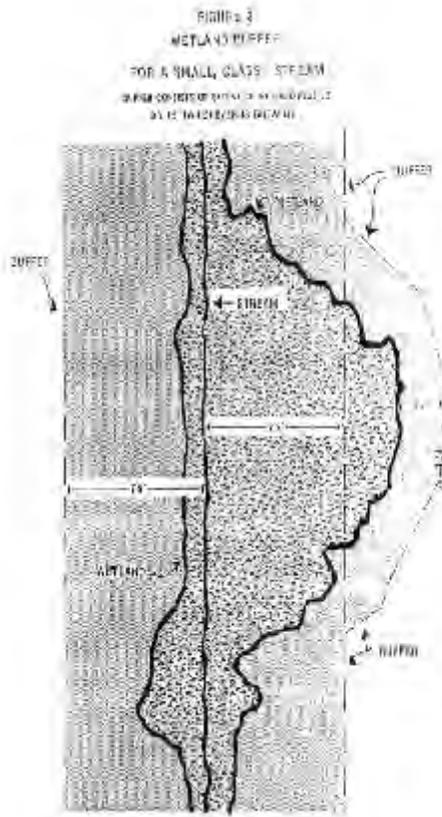


FIGURE 4  
FLOODPLAIN BUFFER  
FOR A LARGE, CLASS I STREAM

BUFFER CONSISTS OF EXTENT OF FLOODPLAIN PLUS 25'  
OR 75' (WHICHEVER IS GREATER)

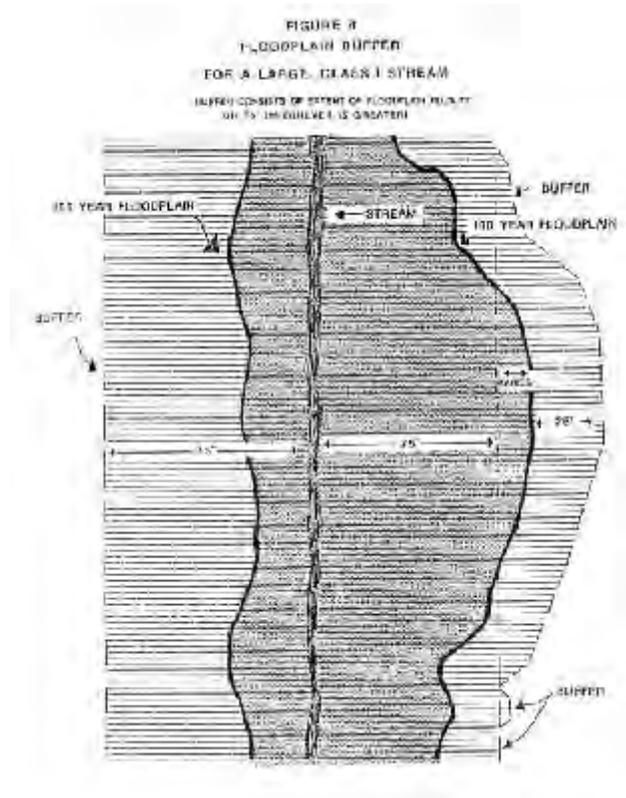


FIGURE 5  
BUFFER EXPANSION FOR STEEP SLOPES

FIGURE B  
BUFFER EXPANSION FOR STEEP SLOPES



APPROXIMATE SLOPE %	CLASS BUFFER WIDTH	OLDEST SETBACK WIDTH
10	40	100
15	50	100
20	60	100
25	75	100
30	100	100
35	125	100
40	150	100
45	175	100
50	200	100
55	225	100
60	250	100
65	275	100
70	300	100
75	325	100
80	350	100
85	375	100
90	400	100
95	425	100
100	450	100

SMALL STREAMS 17-40" OR STREAMS OF SMALL DEPTH

FOR BUFFER WIDTHS FROM 100' TO 130'

- NOTE: (1) FOR LARGER STREAMS (60" OR DEEPER AND HIGHER), THE BUFFER IS MEASURED FROM THE STREAMBANK.  
 (2) FOR SLOPES GREATER THAN 25%, THE DISTANCE OF THE DEPARTMENT SHALL BE BASED ON BUFFER WIDTH ON A GRADE-OF-25% BASIS.

EXAMPLE A

SITE CONDITIONS

SMALL SECOND ORDER STREAM  
 CLASS III TROUT STREAM  
 WETLANDS EXTEND BEYOND 100'

SUFFER/SETBACK REQUIREMENTS

MEASURE FROM CENTER OF STREAM  
 100' BUFFER  
 WETLANDS BOUNDARY PLUS 23'  
 23% SLOPE  
 PROPOSED COMMERCIAL  
 35' SETBACK

PROPOSED RESIDENTIAL

EXPANSION  
 TO 130'  
 25'  
 SETBACK

EXANIPIE B