

- 6) The project protects and conserves significant natural resources from degradation due to urbanization.
- e) The applicant shall comply with all relevant provisions of the Flood Damage Prevention Ordinance including obtaining a no-rise certificate, if needed.

Section 17-3 Stream Buffer Protection Standards. The primary objective of stream buffer protection standards is to maintain land adjacent to streams in an undisturbed vegetated state in order to enhance and maintain water quality, protect stream channel wetlands, minimize stormwater runoff, reduce sedimentation and erosion, conserve plant and wildlife habitat and protect wildlife movement corridors. The standards contained in this section will further this objective (1) by regulating water temperature through shading of the stream bed, (2) by limiting sedimentation from streambank erosion and stormwater flow, and (3) by supporting aquatic life through the provision of organic debris such as leaves and twigs.

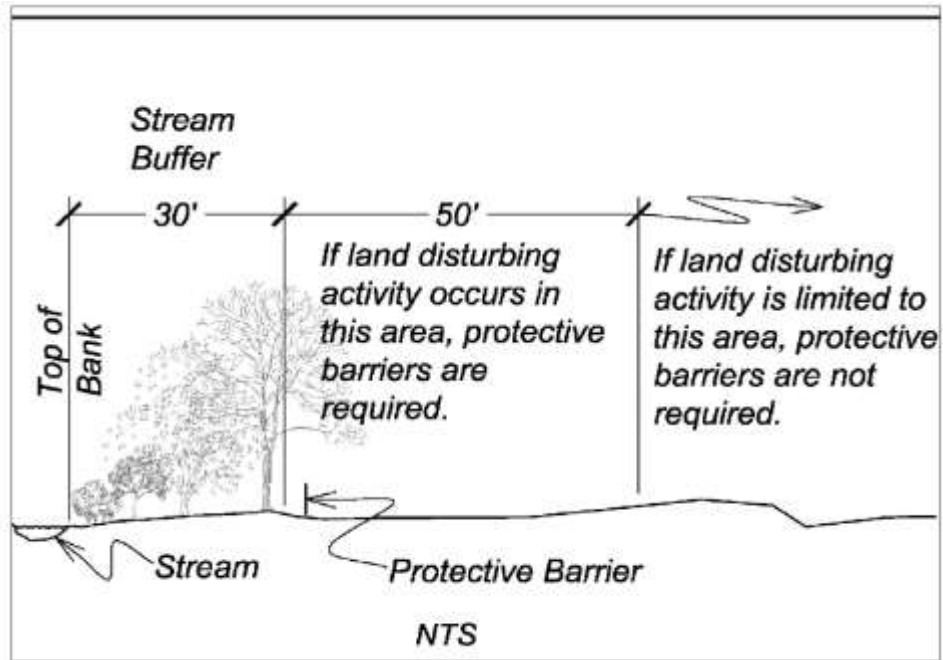
17-3-1 Applicability. Except as modified in this section, stream buffer protection standards shall apply to all watercourses depicted as a solid blue line on the most recent USGS seven-and-one-half minute quadrangle topographic maps covering the City of Hendersonville and its area of extraterritorial jurisdiction. Stream buffers shall be clearly indicated on all development plans, including concept plans, preliminary plans and final plans, and on all preliminary and final plats.

17-3-2 Stream Buffer Size. Stream buffers shall apply on each side of the stream and shall measure 30 feet horizontally from the top of the stream bank in a direction perpendicular to the stream flow.

17-3-3 Prohibition Against Development Within the Stream Buffer. To avoid a loss of effectiveness in protecting streams, the stream buffer shall remain in natural undisturbed forest vegetation and no development or land-disturbing activities shall be undertaken therein, except as provided in Section 17-3-5. Furthermore, there shall be a 20-foot transitional area immediately landward of the stream buffer which may be graded, landscaped and/or used for pedestrian or vehicular purposes so long as no impervious materials are utilized. Certain uses of land, as specified in Section 17-3-5, below, may be permitted within the stream buffer so long as they meet the requirements of that Section and are designed and constructed to minimize the amount of intrusion into the stream buffer and to minimize clearing, grading, erosion and water quality degradation. Nothing herein is intended to preclude the removal of downed vegetation from the stream bed in order to improve stream flow dynamics. If it is necessary to remove downed or dead vegetation, it should be cut and the root ball left in place to help maintain stability of the shoreline. Nothing herein is intended to [or shall] preclude any activity specifically authorized pursuant to Section 401 and/or Section 404 of the Clean Water Act.

17-3-4 Stream Buffer Protection Measures. To prevent adverse impacts to required stream buffer areas and to assure the stream buffer remains undisturbed and protected during and after land disturbing activities and development, adequate protections shall be in place prior to and after land disturbing activities and development commences.

- a) When land disturbing activity or development is to take place within 50 feet of the outside edge of the stream buffer, temporary stream buffer protective barriers shall be in place prior to the land disturbing activity or development work commencing.



b) Prior to commencing any land disturbing activity or development on a site, the Planning Director or the Director's designee shall inspect and approve the installation of stream buffer protective barriers.

c) Stream buffer protective barriers shall consist of:

- 1) A fence which is at least three feet high and constructed in a post and rail configuration, using two-by-four posts and one-by-four rails;
 - 2) A fence with two-by-four posts placed no farther than ten feet apart covered with a four-foot orange polyethylene laminar safety fencing; or
 - 3) Certain erosion and sedimentation control devices such as silt fencing may also serve as the stream buffer protective barrier.
- d) All contractors shall be made aware of the stream buffer designated for protection. Unless otherwise provided by ordinance, no disturbance shall occur within the stream buffer, including the following:
- 1) Clear-cutting of trees and other vegetation;
 - 2) Selective cutting of trees and/or the clearing of other vegetation;
 - 3) Removal or disturbance of existing vegetation;
 - 4) Grading;
 - 5) Filling;
 - 6) Storage, parking or operating motorized vehicles;
 - 7) Storage of debris or materials, including topsoil;

- 8) Use, storage or application of herbicides and/or pesticides;
 - 9) Draining the stream buffer area by ditching, underdrains or other systems.
- e) Stream buffer protective barriers shall be maintained throughout the developer's activities.
- f) For planned developments and commercial uses, permanent boundary markers, in the form of signage approved by the Planning Department, shall be installed once the land disturbing activity or development is complete. Clearly visible stream buffer boundary markers shall be placed along the outside edge of the stream buffer and spaced at a maximum every 100 feet.
- g) Prior to issuing a certificate of occupancy for Planned Developments, documentation shall be in place to inform property owners of the stream buffer presence and location along with management and maintenance requirements. Documentation shall be in a form that will run with the property such as inclusion in covenants, conditions and restriction documents or deed reference.

17-3-5 Exceptions. Subject to prior written authorization by the Planning Director, the following activities may be undertaken within the stream buffer provided they meet all the standards specified herein as well as other applicable provisions of the Zoning Ordinance:

- a) Crossings by streets, driveways, culverts, railroads, recreational features, intakes, docks, utilities, bridges or other facilities shall be allowed provided that they are designed to minimize the amount of intrusion into the stream buffer. Streets and driveways may run generally within and parallel to the stream buffer only where no other access to the property is feasible and when their design minimizes the amount of intrusion into the stream buffer. Crossings with a width of 40 feet or more are permitted only when it has been demonstrated that there is no practical alternative.
- b) Stream buffers may be used for passive recreational activities, such as unpaved or paved trails or greenways, provided that service facilities for such activities, including but not limited to parking, picnicking and sanitary facilities, are located outside of the stream buffer. Where practical, such activities shall be kept at least 15 feet from the stream bank.
- c) Clearing and revegetating the stream buffer pursuant to a plan approved by the Planning Director when it has been demonstrated that such clearing and revegetation will improve stream buffer's pollutant removal efficiency.
- d) Stormwater control structures and temporary erosion control structures shall be considered utilities for the purposes of this section and may be allowed in stream buffers, provided that:
 - 1) The property owner or applicant demonstrates to the satisfaction of the Planning Director that such facilities cannot be practicably located outside of the stream buffer, and that any proposed stormwater control structure is sited and designed to minimize disturbance of the stream and stream buffer.
 - 2) Alternate methods of stormwater and erosion control shall be considered prior to approval of such structures in the stream buffers.
 - 3) A vegetated buffer of a width approved by the Planning Director shall be required around the stormwater control structures.
 - 4) Any land disturbed for these structures shall be revegetated with appropriate native species in accordance with a revegetation plan approved by the Planning Director.

- e) Sanitary sewer lines, on an alignment generally parallel to the stream, may be allowed in stream buffers, provided that:
- 1) The property owner or applicant demonstrates in writing to the satisfaction of the Director of Water & Sewer that the sanitary sewer lines cannot be practicably located outside of the stream buffer;
 - 2) Design and construction specifications minimize damage to the stream and the possibility of line leakage;
 - 3) The sewer line is located at least 15 feet from the top of the stream bank; and
 - 4) The sanitary sewer plan and a plan for revegetating the stream buffer disturbance shall be approved by the Director of Water & Sewer.
- f) Streams may be piped, thereby exempting the piped section of the stream from stream buffer requirements, provided such piping complies with the permitting/certification requirements of the Clean Water Act and any other applicable state and federal regulations. Piping undertaken for the purpose of accommodating public roads, railroads, greenways, recreational facilities and private roads and drives should be designed so that the right-of-way or roadway-and-shoulder width is no more than is necessary considering the design capacity of the facility and so that the proposed stream piping is not substantially in conflict with the other objectives of this Section. Where stream piping is approved, a vegetated buffer area or other device shall be provided at any intake or discharge structure. All buffers and physical improvements related to the stream piping shall be located entirely on the site or, pursuant to easement, on lands adjacent to the site.
- g) Selective removal of invasive exotic species in accordance with a plan approved by the Planning Director.
- h) View corridors are allowed so long as the soil is undisturbed and the natural forest floor, ground cover and understory vegetation are left intact. Pruning associated with the creation and maintenance of a view corridor is exempt. Thinning of the overstory and mid-canopy trees is permissible with the written authorization of the Planning Director.

Site plan approval by the Planning Director shall be required for any of the stream buffer intrusions described above. When any of the activities described above involves land clearing, the cleared area shall be revegetated pursuant to an approved plan. However, where a site plan is not required by any other provision of the Zoning Ordinance, the Director of Public Works is authorized to approve plans for stream piping and erosion control structures in stream buffers.

17-3-6 Minimum Lot Size Requirements. Land within the stream buffer can serve to meet minimum lot size and setback requirements if there is sufficient buildable area remaining on the lot.

17-3-7 Diffuse Flow Requirement. Diffuse flow of runoff shall be maintained in the stream buffer dispersing concentrated flow and reestablishing vegetation.

- a) Concentrated runoff from new ditches or manmade conveyances shall be converted to diffuse flow before the runoff enters the 20-foot setback area defined in Section 17-3-3, above.
- b) Periodic corrective action to restore diffuse flow shall be taken if necessary to impede the formation of erosion gullies.