

Article Six (6) Section 6.23.7 – Stream Buffers:
Proposed new regulations becoming Section 50-130 of the UDO

<p>SECTION 50-130</p> <p>This is Section 6.23.7 of the existing zoning ordinance.</p> <p><i>Staff is proposing several amendments – all identified in red text.</i></p> <p><i>The majority of the amendments is to clarify what we do and do not allow within identified stream buffers.</i></p> <p><i>Currently we do not allow any development, with the exception of driveways/roads or utility crossings within a stream buffer. This has created problems, most notably in several parks where it would be advantageous to have a nature trail running along a stream.</i></p> <p><i>Staff is attempting to broaden what is allowed, which will also make out existing regulations more consistent with State standards.</i></p>	<p>STREAM BUFFERS:</p> <p>The following regulations shall apply to the protection of the area surrounding the banks of identified streams. Certain uses and activities within the stream buffer are classified as being either allowable or allowable with Mitigation per the requirements of this section,</p> <p>Uses and activities not listed within this section are categorically prohibited from development within an identified stream buffer as defined within Article Five (5) Definitions of the Orange County UDO.</p> <p>1. Development within a required stream buffer – Allowable:</p> <p>Uses designated as Allowable are permitted within the required stream buffer as long as the proposed user meets the following conditions prior to land disturbing activity:</p> <ul style="list-style-type: none"> a. Provide the Planning Department with notification of the location and nature of the use; and b. Provide a written statement that the use shall be designed, constructed, and maintained to minimize soil disturbance and to provide the maximum water quality protection practicable. <p>In cases where structures are proposed, site plan approval shall be required prior to the commencement of earth disturbing activity. While such uses are not required to engage in specific mitigation activities, they are required to adhere to all applicable State mitigation standards.</p> <p>2. Development within a required stream buffer – Allowable with Mitigation:</p> <p>Uses designated as Allowable with Mitigation may proceed within the required stream buffer provided that:</p> <ul style="list-style-type: none"> a. All required permits have been issued authorizing land disturbing activity and, b. An appropriate mitigation strategy has been reviewed and approved. <p>3. Mitigation – In General:</p> <p>Mitigation shall be in accordance with established State regulations and shall be approved by the Director of Orange County Erosion Control or</p>
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their designee.

4. Table of Allowable and Allowable with Mitigation Uses/Activities:

Uses/Activities:	Allowable	Allowable with Mitigation
Functionally dependant structures that are water dependant such as docks, piers, public and private boat ramps, boat houses over the water, walkways, water recreational amenities, and other similar uses.		X
Archaeological activities/projects being conducted in accordance with all applicable County, State, and Federal regulations	X	
Dam/reservoir maintenance activities	X	
Drainage ditches, roadside ditches, and stormwater outfalls at the edge of the identified protected stream/riparian buffer as follows:		
1. Maintenance of existing outfalls provided that they are managed to minimize the sediment, nutrients and other pollution that convey to waterbodies	X	
2. New drainage outfalls provided that a stormwater management facility is installed to control nitrogen and attenuate flow before the conveyance discharges into the riparian buffer		X

Note: New drainage outfalls that **do not** provide control for nitrogen before discharging through the riparian buffer or the proposed excavation of the streambed in order to bring it to the same elevation as the invert of a ditch are strictly **prohibited**

Note: The allowance, and permitted maintenance, of outfalls **does not** include the piping or elimination of a stream for any purpose

Uses/Activities:	Allowable	Allowable with Mitigation:
1. Driveway crossings on single family residential lots that disturb less than, or equal to, twenty-five (25) linear feet or twenty-five hundred (2,500) square feet of riparian buffer	X	
2. Driveway crossings on single family residential lots that disturbs less than, or equal to, one hundred fifty (150) linear feet or one-third (1/3) of an acre of riparian buffer		X
Note: Any driveway or roadway, whether for a single-family residence or a subdivision road, that are parallel to the stream or water body shall be treated as Allowable with Mitigation regardless of the cumulative impact.		
Greenways and/or hiking trails six (6) feet with width composed of natural materials at least thirty (30) feet from the top of bank of a stream or water body.	X	
Greenways and/or hiking trails six (6) feet in width, with improved paths (i.e. wood decking, etc) at least thirty (30) feet from the top of bank of a stream or water body.		X
Historic preservation projects/activities being conducted in accordance with the provisions of all applicable County, State, and Federal regulations	X	
Natural Streams: Periodic maintenance of modified natural streams such as canals and a grassed travel way on one side of the surface water when alternative forms of maintenance access are not practical.	X	

Uses/Activities:	Allowable :	Allowable with Mitigation:
Public water and sewer lines, located in conjunction with the provisions and requirements of the Orange County Water and Sewer Policy, that are located within stream buffers only to the extent necessary and provided that they enter and exit the buffer area as nearly perpendicular as possible and in accordance with the following provisions:		
1. Public water and sewer lines that does not disturb over forty (40) linear feet of riparian buffer	X	
2. Public water and sewer lines that disturbs over forty (40) linear feet of riparian buffer. Under no circumstances may a utility line require the disturbance of over one hundred fifty (150) linear feet of riparian buffer		X
Note: Individual or community wastewater disposal systems are not permitted within stream buffers.		
Streets, Roads, bridge approach slabs, and right-of-ways: Public and private streets, bridges, and other similar travel ways. Such uses may be located within stream buffers only to the extent necessary and provided that they enter and exit the buffer area as nearly perpendicular as possible and in accordance with the following provisions:		
1. Proposal would not disturb over forty (40) linear feet of riparian buffer.	X	

Uses/Activities:	Allowable :	Allowable with Mitigation:
2. Proposal would disturb over forty (40) linear feet of riparian buffer. Under no circumstances may a street or road require the disturbance of over one hundred fifty (150) linear feet of riparian buffer		X
Temporary roads intended to allow access to a property for development purposes.		X
Railroad crossings and right-of-ways crossing of streams and other surface waters as follows:		
1. Railroad crossings that impact less than, or equal to, forty (40) linear feet of riparian buffer	X	
2. Railroad crossings that impact more than forty (40) linear feet of riparian buffer. Under no circumstances may a railroad crossing, or railroad line, require the disturbance of over one hundred fifty (150) linear feet of riparian buffer		X
New stormwater management ponds provided that a riparian buffer that meets the requirements of the Orange County Stormwater Ordinance and Zoning Ordinance and is established adjacent to the pond.	X	

Uses/Activities:	Allowable :	Allowable with Mitigation:
New stormwater management ponds where a riparian buffer that meets the requirements of the Orange County Stormwater Ordinance and Zoning Ordinance and is NOT established adjacent to the pond		X
Stream restoration and/or stream bank stabilization	X	
<p>Utility lines: above ground and buried for local distribution of electricity, telephone and cable television service, accessory and appurtenant apparatus such as poles, guy wires, transformers and switching boxes. Such uses may be located within stream buffers only to the extent necessary and provided that they enter and exit the buffer area as nearly perpendicular as possible and subject to the following conditions:</p>		
<p>1. Proposal would not disturb over forty (40) linear feet of riparian buffer.</p>	X	
<p>2. Proposal would disturb over forty (40) linear feet of riparian buffer. Under no circumstances may the installation of a utility line, or any necessary accessory apparatus, require the disturbance of over one hundred fifty (150) linear feet of riparian buffer</p>		X

	<p>Vegetation Management including, but not limited to, the following:</p> <ol style="list-style-type: none"> 1. Emergency fire control measures provided that topography is restored once the emergency has been abated, 2. Planting vegetation to enhance the riparian buffer, 3. Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised and the pruning activity is conducted by hand, 4. Removal of individual trees which are in danger of causing damage to dwellings, other structures or human life provided that the activity is conducted by hand, and 5. Removal of poison ivy and other similar nuisance vegetation provided that the activity is conducted by hand. 	X		
	<p>Vegetation Management proposing the installation of new vegetation with a proposed stream buffer as part of an approved mitigation plan where the applicant is proposing to use a one (1) time application of fertilizer to allow for the re-establishment of vegetation.</p>		X	
	<p>Vegetation management/replanting in an effort to protect existing structures</p>		X	
	<p>Wetland restoration in accordance with all applicable County, State, and Federal regulations</p>	X		

<p>SECTION 50-130 (a)</p> <p><i>The remaining portions of Section 6.23.7 will be included within the UDO as written.</i></p> <p><i>This regulations is currently contained within Section 6.23.7 (c) of the existing zoning ordinance.</i></p> <p><i>Staff is recommending that the highlighted and struck through text within number 2 be deleted as it is inconsistent with State requirements.</i></p>	<p>Land Disturbance and Planting of Vegetation</p> <ol style="list-style-type: none"> 1) Area within a stream buffer which is subject to serious erosion may be disturbed for the purpose of planting and maintaining erosion-resistant vegetative cover. 2) Existing forested areas or any other healthy vegetation cannot be removed from a stream buffer, except where replaced with vegetation resulting in comparable stormwater runoff velocity and quantity one year after planting. 3) New vegetation shall be planted to capture non-source pollutants before they reach the perennial stream, as per applicable Orange County Standards.
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Deleted: An exception shall be allowed for golf courses where the line of play crosses a stream buffer. Only trees which obstruct the intended line of play may be cut, provided stumps and root mass are not removed and trees which are cut can be removed in a sensitive manner which minimizes additional disturbance to the stream buffer.¶

<p>SECTION 50-130 (b)</p> <p><i>Section 6.23.7 (d) of the existing zoning ordinance.</i></p>	<p>Calculating Width of Stream Buffer</p> <p>Those streams identified by FEMA as having floodplains shall have stream buffers calculated from the outside edges of the floodplain.</p> <ol style="list-style-type: none"> 1) <u>How to Calculate Slope</u> <ol style="list-style-type: none"> a. Draw 250' length perpendicular lines, at 200- foot horizontal intervals along the entire length of the outside edges of the stream, or the outer edge of the FEMA floodplain, whichever is greater. b. Determine the elevation at either the stream bank itself (1) or the outer edge of the FEMA floodplain, whichever is highest, and at the point 250' from the stream or FEMA floodplain, whichever is applicable, along the perpendicular line (2). c. Subtract (1) from (2). d. Divide c. by 250.
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- e. Multiply d. by 100.
- f. Perform this calculation for both sides of the stream or floodplain.

Hereafter, the number derived in e. will be referred to as “slope value.”

2) Method A – Stream Buffer Based on Slope and Groundcover

The width of the buffer shall be a minimum of fifty (50) feet from each edge of the floodplain. In addition to the fifty (50) foot buffer, an additional 15 feet shall be added to the 50-foot buffer (65 feet total) where the slope value is less than 7.5%, as measured 250 feet from the edge of the floodplain. For slope values 7.5% and greater, as measured 250 feet from the edge of the floodplain, an additional 30 feet shall be added to the 50-foot buffer (80 feet total). These calculations shall be made from each side of either the stream bank or floodplain, whichever is greater

3) Method B - Stream Buffer Based on Slope and Groundcover

STREAM BUFFER WIDTH (IN FEET) BASED ON SLOPE AND GROUNDCOVER ¹		
Slope Value	Type of Groundcover	
	Grass	Woods
2 to 4.9	100	50
5 to 9.9	150	100
10 to 14.9	200	100
15 or greater	250	150

¹In addition to the buffer zone resulting from the calculations below, a stream buffer shall include any portion of a floodplain as defined in the Orange County Flood Damage Prevention Ordinance, by special survey by a registered engineer or surveyor, or by alluvial soils as designated in the Orange County Soils Survey.

²The required stream buffer zone shall not be limited to one calculation, but shall be based on calculations made at points where topographical and ground cover conditions change based on an analysis of the site.

4. Minimum Buffer Width Required

DISTRICT	MINIMUM STREAM BUFFER WIDTH[†]
UNIV-CA	<p>The buffer width adjacent to streams shall be calculated for both Method A and Method B, and at any given point along the stream, the width of the buffer shall be the larger of the two.</p> <p>The same method shall be used to calculate the buffer around the reservoir itself. New structures shall be located at least 150' from the reservoir or outside of the stream buffer, whichever is greater.</p>
UNIV-PW	<p>The buffer width shall be calculated for both Method A and Method B, and at any given point along the stream, the width of the buffer</p>

		shall be the larger of the two.
	CANE-CA U-ENO-CA	The buffer width adjacent to streams shall be the width calculated using Method A. The same method shall be used to calculate the buffer around the reservoir itself. New structures shall be located at least 150' from the reservoir or outside of the stream buffer, whichever is greater.
	U-ENO-PW L-ENO-PW BACK-PW	The buffer width shall be as calculated using Method A, or 150', whichever is less, except where density exceeds 1 du/ac and impervious surface exceeds 12%. Where density exceeds 1 du/ac and impervious surface exceeds 12%, the buffer width shall be calculated as above, but shall not be less than 100'.
	CANE-PW LITTLE-PW HYCO-PW FLAT-PW HAW-PW JORDAN-PW	The buffer width shall be the width calculated using Method A, or 150', whichever is less.

<p>SECTION 50-130 (c)</p> <p><i>Section 6.23.8 of the existing zoning ordinance.</i></p>	WATER SUPPLY/SEWAGE DISPOSAL FACILITIES	
	DISTRICT	WATER SUPPLY/SEWAGE DISPOSAL
	UNIV-CA UNIV-PW	Water supply and sewage treatment systems shall be limited to individual wells and on-site septic tanks systems or individual on-site alternative disposal systems.
	All Watershed Overlay Districts	No new treatment system will be permitted where effluent disposal occurs on a separate lot from the source of wastewater generation; provided, however, off-site systems shall be permitted in all Watershed Overlay Districts except the University Lake Protected Watershed (UNIV-PW) and Critical Area (UNIV-CA) when located in a Flexible Development subdivision approved in accordance with Section IV-B-10 of the Orange County Subdivision Regulations.
	UNIV-CA	New septic tanks and their nitrification fields shall be located outside of any stream buffers, or 300 feet from a reservoir or perennial or intermittent stream as shown on the USGS Quadrangle maps, whichever is further.
	CANE-CA U-ENO-CA	New septic tanks, pump tanks and their appurtenances shall be located outside of any stream buffers and at least 100 feet from a perennial or intermittent stream as shown on the USGS Quadrangle maps, and at least 150 feet from a reservoir. New nitrification fields shall be located outside of any stream buffers and at least 100 feet from a perennial or intermittent stream as shown on the USGS Quadrangle maps, and at least 300 feet from a reservoir.

	CANE-PW CANE-CA U-ENO-CA (Amended 10/19/99)	Water supply and sewage treatment systems shall be limited to individual wells and septic tanks or individual on-site alternative disposal systems; provided however, off-site systems shall be permitted when located in a Flexible Development subdivision approved in accordance with Section IV-B-10 of the Orange County Subdivision Regulations.						
	UNIV-PW CANE-PW U-ENO-PW HYCO-PW LITTLE-PW BACK-PW HAW-PW JORDAN-PW L-ENO-PW FLAT-PW	New septic tanks and their nitrification fields shall be located outside of any stream buffers and at least 100 feet from a perennial or intermittent stream as shown on the USGS Quadrangle maps.						
SECTION 50-130 (d) <i>Section 6.23.9 of the existing zoning ordinance.</i>	CLUSTERING:							
	<table border="1"> <thead> <tr> <th>DISTRICT</th> <th>CLUSTERING REQUIREMENTS</th> </tr> </thead> <tbody> <tr> <td> UNIV-CA UNIV-PW </td> <td> Clustering of residential lots is permitted in accordance with Section IV-B-9 of the Orange County Subdivision Regulations, with the additional provision that each lot contains a minimum of one acre. </td> </tr> <tr> <td> All Other Overlay Districts </td> <td> Clustering of residential lots is permitted in accordance with Section IV-B-10 of the Orange County Subdivision Regulations. </td> </tr> </tbody> </table>	DISTRICT	CLUSTERING REQUIREMENTS	UNIV-CA UNIV-PW	Clustering of residential lots is permitted in accordance with Section IV-B-9 of the Orange County Subdivision Regulations, with the additional provision that each lot contains a minimum of one acre.	All Other Overlay Districts	Clustering of residential lots is permitted in accordance with Section IV-B-10 of the Orange County Subdivision Regulations.	
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SECTION 50-130 (e) <i>Section 6.23.10 of the existing zoning ordinance.</i>	APPLICABILITY 1. Existing Development: For the purpose of determining compliance with or applicability of this section of the Ordinance, existing development is defined as a residential or non-residential structure which: <ol style="list-style-type: none"> a. Was constructed prior to January 1, 1994 (October 19, 1999, with respect to the October 19, 1999 amendments related to the CANE-CA and CANE-PW districts and September 19, 2001 with respect to the Stream Buffer/Usable Lot amendments; and May 20, 2003 with respect to the Stream Classification Amendments), or b. Was constructed in accordance with a valid building permit issued prior to January 1, 1994 (October 19, 1999, with respect to the October 19, 1999 amendments related to the CANE-CA and CANE-PW districts and September 19, 2001 with respect to the Stream Buffer/Usable Lot amendments); 							

and May 20, 2003 with respect to the Stream Classification Amendments), or

- c. Was included as part of a Site Specific Development Plan approved by the Board of Commissioners prior to January 1, 1994 (October 19, 1999 with respect to the October 19, 1999 amendments related to the CANE-CA and CANE-PW districts and September 19, 2001 with respect to the Stream Buffer/Usable Lot amendments; and May 20, 2003 with respect to the Stream Classification Amendments), or
- d. Had otherwise established a vested right under North Carolina Zoning law prior to January 1, 1994 (October 19, 1999 with respect to the October 19, 1999 amendments related to the CANE-CA and CANE-PW districts and September 19, 2001 with respect to the Stream Buffer/Usable Lot amendments and May 20, 2003 with respect to the Stream Classification Amendments).

Existing development is hereby deemed to be conforming with respect to requirements of of this Ordinance. Periodic updates to FEMA maps may affect structures located within the floodplain of specific streams. The zoning ordinance text amendments dated September 19, 2001 and May 20, 2003 only affect the Stream Buffer section of the ordinance and are not meant to supersede any FEMA regulations or requirements.

2. Redevelopment: The rebuilding or replacement of residential or nonresidential structures which are defined as existing development according to Article 6.23.11a is allowed, provided that the rebuilding or replacement does not result in an increase in the amount of impervious surface, and does not encroach any farther into stream buffers or setbacks from reservoirs than the previous development. A structure which is rebuilt or replaced in accordance with these provisions is deemed conforming with respect to setbacks from streams and reservoirs required by Articles 6.23.7 and 6.23.8 of this Ordinance.

3. Existing Lots; An existing lot, for the purpose of determining compliance with this section, is defined as a lot which was created prior to January 1, 1994, or a lot within the Cane Creek watershed which was created prior to October 19, 1999, with respect to the October 19, 1999, amendments related to the CANE-CA and CANE-PW districts, and non-conforming lots of record.

Stream buffers as required herein, and setbacks for septic systems as required by herein may be reduced to the extent necessary to allow development of the lot, provided that all of the following criteria are met:

	<ul style="list-style-type: none"> a. The septic system is sized to serve no more than four bedrooms; and b. The septic tank, drainfield and repair area (where required) can be accommodated on 20,000 square feet of area or less; and c. The Orange County Planning Staff, in consultation with Orange County Environmental Health and/or the Orange County Engineer has determined that encroachment of the structure into the stream buffer and/or encroachment, of the septic system or repair area into the stream buffer or reservoir setback is necessary in order to provide adequate area for septic disposal and repair while maintaining required separations between wells, septic systems, structures and property lines; and d. The Orange County Planning Staff, in consultation with Orange County Environmental Health and/or the Orange County Engineer, has determined that the relative locations of the well, septic system and structure maximize the amount of watershed protection that can be achieved while allowing development of the lot. Generally, an exception to setbacks for repair area is preferable to an exception for the initial septic system, and encroachment of structures or gravity septic systems into the setback is preferable to the installation of a septic system pump. e. The amount of encroachment into the stream or reservoir buffer is the minimum amount which can be obtained while meeting the above criteria.
<p>SECTION 50-130 (f)</p> <p><i>Section 6.23.11 of the existing zoning ordinance.</i></p> <p><i>It should be noted that staff is going to have to work with the County Attorney's office to address concerns over the variance procedure contained herein.</i></p> <p><i>The State wants our local Board of Adjustment to vote on</i></p>	<p>ADMINISTRATION</p> <ul style="list-style-type: none"> 1. Appeals: Decisions of the Zoning Officer in the implementation of this Article may be appealed to the Orange County Board of Adjustment in accordance with this Ordinance. 2. Variances: Minor variances for dimensional requirements may be approved by the Board of Adjustment in accordance with this Ordinance. The Board of Adjustment may also approve variance requests to allow the use of off-site septic easements for lots created before January 1, 1994, and for non-conforming lots of record. <p>A Minor Variance is defined as a variance from the minimum statewide water supply watershed protection rules that results in a relaxation by a factor of up to ten (10) percent of any management requirement under the low density requirement.</p> <p>A Major Variance is defined as a variance from the statewide water supply watershed regulations that results in the relaxation by a factor of</p>

<p><i>the approval of a variance first. Staff does not support this decision and is seeking to question the State on their logic.</i></p>	<p>greater than ten (10) percent of any management requirement under the low density option or the relaxation of any management requirement that applies to a development project requiring construction of a BMP.</p> <p>A description of each project receiving a variance and the reason for granting the variance shall be submitted for each calendar year to the Division of Water Quality on or before January 1st of the following year.</p> <p>All other local governments having jurisdiction within the watershed area and the entity using the water supply for consumption shall be notified of the proposed exemption.</p>
<p>SECTION 50-130 (g)</p> <p><i>Section 6.24 and 6.24.1 of the existing zoning ordinance.</i></p>	<p>Additional Requirements for Lots Outside of Watershed Protection Areas</p> <p>In areas not identified on the Official Zoning Atlas as Watershed Protection Overlay Districts, a stream buffer a minimum of 50 feet in width shall be established along both sides of streams identified by any of the following means:</p> <ol style="list-style-type: none"> 1) Shown as solid blue lines or as broken blue lines on the USGS Quadrangle maps, 2) Shown as a water feature in the Orange County Soil Survey, or 3) A water feature identified by a field determination of County staff trained in surface water identification through the North Carolina Division of Water Quality (NCDWQ). <p>Stream buffers shall extend around the perimeter of all other water features if any portion of the stream buffer of a stream touches the water feature.</p> <p>Disputes pertaining to water feature decisions by County staff shall be filed directly to the NCDWQ.</p> <p>Stream buffers for Soil Survey streams shall only be calculated using Method A as explained herein.</p>