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Chapter 7: DEVELOPMENT AND DESIGN STANDARDS

7.1 GENERAL PROVISIONS

7.1.1 Purposes

The purposes of this chapter include:

(A) To encourage the proper use of the land by promoting an appropriate balance between the built environment and the preservation of open space and natural environmental resources;

(B) To protect private and public investment through preservation of open space, protection of natural resources including the existing tree canopy; providing buffers between incompatible uses and along roadways; and encouraging the planting of new vegetation as deemed appropriate;

(C) To promote water conservation/efficiency through preserving natural areas, encouraging good soil management, and encouraging the use of native and/or drought tolerant plant materials.

(D) To provide proper standards that ensure a high quality appearance for Cary and promote good design while also allowing individuality, creativity, and artistic expression; and

(E) To preserve and protect the identity and character of Cary, and to enhance the business economy.

7.1.2 Applicability

The requirements of this chapter shall apply to all uses for which site and/or subdivision plan approval is required pursuant to Section 3.9 of this Ordinance.

7.1.3 Pre-Application Conference

(A) A pre-application conference is required for most subdivisions and site plans submitted under Chapter 3 of this Ordinance, and thus is required for most development proposals regulated under this chapter. Pre-application conferences are not required for subdivisions or site plans that have already been approved and that request changes which amount to less than fifty (50) percent in non-residential square footage or less than fifty (50) percent increase in the number of lots/units.

(B) At the pre-application conference, the applicant and Planning Department staff shall discuss the requirements of this chapter in order to avoid relocation of major site elements after the plan is submitted for review and approval.

7.1.4 Community Appearance, Site Design Standards, and Other Documents

This chapter contains minimum legal requirements related to site design and layout, appearance, landscaping, and building design. This chapter shall be used in conjunction with other related documents including, but not limited to, those listed in Section 1.4. These documents express Town policy and contain standards, guidelines, examples, and details needed to make this
chapter easy to understand and apply in various situations. Some of these documents contain minimum requirements that may or may not be included within the text of this Ordinance, or may in some situations differ with this Ordinance; in such cases, the more restrictive of the two (2) requirements shall apply. The requirements of Chapter 7 may be eligible for Minor Modifications. (See Section 3.19 for applicability.)

7.1.5 Limitations on Site Disturbance

(A) Limits of Disturbance

This Section is provided for informational purposes as a general guideline about where land disturbing activities should or should not take place on a development site. On all development sites subject to this chapter, the following areas shall generally be considered to be off-limits to development or land-disturbing activities, unless otherwise specified in this Ordinance:

1. The Flood Hazard Area;

2. Required streetscape areas as measured from the ultimate right-of-way;

3. Undisturbed perimeter buffers, including the Thoroughfare Overlay;

4. Zones 1, 2, and 3 of all UTBs;

5. Wetlands under the jurisdiction of the Army Corps of Engineers unless otherwise permitted by this agency;

6. Conservation easements;

7. Preservation areas required by applicable conditional use zoning conditions;

8. Champion trees and required protection areas associated with such trees (e.g. root zone); and

9. Any other areas indicated for protection by the Planning Director.

(B) Limited Disturbance or Construction Outside Limits of Disturbance

In some cases, limited disturbance or land disturbing activities may occur within the areas to be protected provided all necessary approvals are obtained. Such activities include, but are not limited to the following:

1. Mitigation of development activities;

2. Restoration of previously disturbed or degraded areas;

3. Personal gardens not operated on a for-profit basis and maintained by individual homeowners;

4. Utility installations and emergency public safety activities;

5. Construction of a trail or pedestrian walkway that will provide public access;
(6) The enhancement of the habitat values and/or other natural resource values of an identified natural area;

(7) Landscaping according to an approved landscaping plan; and

(8) Construction of public transit amenities, as required by Section 7.10.6 of this Ordinance.


7.2 LANDSCAPING, BUFFERING, SCREENING, AND TREE PROTECTION

7.2.1 Purpose

The purpose of these provisions is to establish minimum requirements for the provision and maintenance of functionally adequate, attractive screening and buffering of structures, parking areas, driveways, and other facilities and land uses, while providing standards for the protection of existing and new trees and vegetation and their root zones. These requirements are intended to carry out the following objectives:

(A) To promote and increase design compatibility between different land uses, while ensuring attractive views from streets and adjacent properties;

(B) To assist in delineating separations of spaces, structures, uses, and activities on a site, or between adjacent sites;

(C) To shield adjacent properties from potentially adverse external impacts of development, and development from potential negative impacts of adjacent land uses and activities;

(D) To enhance the streetscape by separating the pedestrian from motor vehicles; abating glare and moderating temperatures of impervious areas; filtering air of fumes and dust; providing shade; attenuating noise; and reducing the visual impact of large expanses of pavement;

(E) To promote the preservation of open space; existing tree canopy and vegetation; and natural diversity and wildlife habitat, using supplemental plantings when necessary to meet the performance criteria of this section;

(F) To mitigate adverse grade changes between adjacent properties;

(G) To improve the quality of the built and natural environments through air quality enhancements; energy conservation; reductions in the amount and rate of stormwater runoff and erosion; stormwater runoff quality improvements; and increase in the capacity for groundwater recharge; and

(H) To enhance the appearance and value of both residential and non-residential properties.

PRINCIPLES OF INTERPRETATION

The Landscaping, Buffering, Screening, and Tree Protection section contains requirements for the following: perimeter buffers, streetscape and street front landscaping, tree and vegetation protection, vehicular use area landscaping, fences and walls, screening, and miscellaneous landscaping requirements.
7.2.2 General Provisions

(A) Landscaping Plans

(1) In order to implement the requirements of this section, landscaping plans are required as part of each site plan required under Section 3.9 of this Ordinance. In addition, subdivision plans which include buffers, streetscapes, or other landscape areas shall be required to provide a landscape plan. Plans shall be developed by individuals or professional firms having the competence and knowledge to satisfactorily develop plans required by this Section.

(2) Landscaping plans shall be designed to improve efficiency of irrigated areas (if applicable) through minimizing slopes, preserving topsoil, and retaining stormwater drainage on-site.

(3) Landscaping plans shall meet the standards of this Section 7.2, and shall be consistent with the standards contained in the Community Appearance and Design Guideline Manuals, which contain standards, guidelines, examples, and details needed to make this section easy to understand and apply in various situations, including examples of required plans, recommended plant species for various applications, and illustrated examples of what Cary considers to be good site design.

(B) Violations

Violations of this section are subject to fines, replacement of damaged vegetation, stop-work orders, or any combination of the penalties listed in Section 7.2.13 or Chapter 11.

7.2.3 Requirements for Perimeter Buffers and Landscape Areas

(A) Applicability

(1) All uses subject to the requirements of this chapter shall provide an undisturbed buffer to separate that use from adjacent land uses in accordance with Table 7.2-1. The buffer shall have the width, amount of vegetation, and other features to properly mitigate negative effects of continuous land uses. Whenever new landscape material must be used, such material shall consist of drought-tolerant plantings to reduce the need for irrigation systems and promote restoration of a natural forest.

(2) Within the area inside the outer perimeter of the Town Center District, including all subdistricts and conditional use districts, and individual Mixed Use Overlay Districts, the requirements of this section shall apply only to boundaries between properties located within the district and properties located outside the districts.

(3) If an undisturbed buffer does not exist on the site, or has been disturbed as allowed in this section, then a re-vegetated natural buffer may be installed. The intent of the re-vegetated buffer is to restore the natural area (i.e., sufficient upper-story trees to achieve a closed canopy in the future and, preferably, no installation of turf grasses).
(4) The developer of a site/subdivision development shall install the required landscaping within all streetscapes and buffers when: (1) construction activity is discontinued for more than one hundred eighty (180) days; and/or (2) the area graded exceeds the initial phase of development. In such instances, all required streetscapes and buffers shall be installed following the completion of the installation of site stabilization measures for all areas graded.

(B) Type and Width of Required Buffer

(1) **Buffers Based on Land Use Class**

Table 7.2-1 specifies the type of undisturbed buffer or landscaped buffer that must be in place. The buffer type is indicated by letter and the total buffer width in feet is indicated by number. Depending on the land use classification of the proposed use and the use of the adjacent property, Table 7.2-1 requires an undisturbed buffer or landscaped area (if permitted) of a particular type and a particular minimum width. Subsection 7.2.3(C) below identifies the land uses that fall within each land use class shown in Table 7.2-1. This information is also listed by use type in Table 5.1-1 of this Ordinance. Subsection 7.2.3(D) below identifies the performance standards for each buffer type (i.e., A, B, or C).

(2) **Buffer Adjacent to American Tobacco Trail**

A fifty (50) foot wide Type A buffer shall be provided adjacent to the American Tobacco Trail as required by Section 4.4.3(H)(4) of this Ordinance.
### TABLE 7.2-1: REQUIRED UNDISTURBED PERIMETER BUFFER/LANDSCAPED AREAS BY CLASS

<table>
<thead>
<tr>
<th>Proposed Use Class</th>
<th>IF DEVELOPED Adjacent Use Class</th>
<th>IF VACANT Adjacent Property Zoning District</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td>Residential Zones (See [D][2] below for exceptions) CT TC OI PDD GC ORD</td>
</tr>
<tr>
<td></td>
<td>0 25 30 40 50 60 70</td>
<td>20 20 20 20 20 20 20</td>
</tr>
<tr>
<td>1</td>
<td>20 30 40 50 60 70</td>
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</tr>
<tr>
<td>7</td>
<td>20 30 40 50 60 70</td>
<td>20 20 20 20 20 20 20</td>
</tr>
</tbody>
</table>

1. No buffer is required between shared public uses (e.g., a park adjacent to a school, library, or other shared public facility).

2. * Required landscaping areas to be provided between two Class 2 uses are not subject to the ownership restrictions applied to other buffers, and may be located within the platted portion of a lot.

3. Once a detached dwelling has been constructed and occupied, in instances where the landscaping area (planted to a Type B standard) between two (2) type 2 uses is located within the individual building lot, the landowner(s) may remove or supplement vegetation on the lot.
### (C) Land Use Classes

The seven land use classes appearing in Table 7.2-1 include the following uses and structures (refer to Table 5.1-1 for definition of use categories):

<table>
<thead>
<tr>
<th>Class</th>
<th>Uses Included</th>
</tr>
</thead>
</table>
| Class 1 | Uses permitted under the *Agricultural Uses* category, including produce stands.  
Cemetery.  
Uses permitted under the *Park and Open Space* use category, except athletic fields, amphitheaters, and neighborhood recreation centers.  
Open space: No buffer is required for any use adjacent to permanent and/or zoned open space unless it is needed to meet the buffer width and type requirements in Table 7.2-2 (e.g., open space that is part of a multifamily site and/or subdivision plan). If this open space is not wide enough, or contains insufficient vegetation to meet the buffer type requirements, then the development is required to add additional buffer area and/or vegetation so as to meet the requirements. Buffer width and type are based on the land use on the opposite side of the open space. Setbacks from open space shall be the same as those for buffers since the open space is being used to meet buffer requirements. |
| Class 2 | Single-family detached dwellings in residentially zoned districts on lots that are eight thousand (8,000) square feet in area or larger and like uses.  
Single-family detached dwellings on lots eight thousand (8,000) square feet in area or larger that are located on non-residentially zoned property shall be classified as vacant non-residential for determining the required buffer.  
In addition, "underdeveloped" properties (larger size properties greater than ten (10) acres that have the potential for higher density development based on the future growth framework development category designated for the property in the Shape chapter of the Cary Community Plan) that may presently be zoned and/or used for residential uses shall be placed in a class consistent with future growth framework development category. |
| Class 3 | Single-family detached dwellings in residentially zoned districts on lots of less than eight thousand (8,000) square feet and like uses (including detached patio dwellings). |
| Class 4 | Uses permitted under the *Animal Service* use category, except outdoor kennels.  
Uses permitted under the *Assembly* use category.  
Day Care Centers  
Athletic fields (public and private).  
Golf course.  
Golf driving range.  
Uses permitted under the *Government Services* use category, except public utility facilities.  
Bed & Breakfast.  
Uses permitted under the *Household Living* use category, except detached dwellings (including detached patio dwellings) and duplex dwellings.  
Libraries. |
### TABLE 7.2-2: LAND USE CLASSES

<table>
<thead>
<tr>
<th>Class</th>
<th>Uses Included</th>
</tr>
</thead>
</table>
| Class 4 | Museums.  
Public safety stations.  
Neighborhood recreation centers, indoor and outdoor (public and private).  
Nursing homes.  
Uses permitted under the *Office* use category with a gross floor area on the property of fifty thousand (50,000) square feet or less when located adjacent to residential uses or zoning.  
Parking lots as a principal use containing less than fifty (50) parking spaces.  
Uses permitted under the *Religious Assembly* use category.  
Uses permitted under the *School* use category, including pre-schools when adjacent to residential uses.  
Uses permitted under the *Telecommunications Facilities* use category up to seventy-five (75) feet in height from the finished grade elevation to the top of the tower (not including antennae). |
| Class 5 | Amphitheaters, outdoor (public) seating not more than two hundred fifty (250) persons.  
Pre-schools and day care centers when located adjacent to non-residential uses.  
Duplex dwelling.  
Farm markets.  
Uses permitted under the *Financial Institutions* use category.  
Uses permitted under the *Group Living* use category, except nursing homes.  
Hospitals.  
Uses permitted under the *Recreation/Entertainment, Indoor* use category, except neighborhood recreation centers.  
Uses permitted under the *Office* use category with a gross floor area on the property of more than fifty thousand (50,000) square feet when located adjacent to residential uses or zoning.  
Parking lots as a principal use containing greater than fifty (50) parking spaces.  
Uses permitted under the *Public Accommodation* use category, except guest houses that are not located adjacent to a residential district and that have no more than one hundred fifty (150) rooms.  
Uses permitted under the *Telecommunications Facilities* use category up to one hundred fifty (150) feet in height from the finished grade elevation to the top of the tower (not including antennae).  
Railroad rights-of-way, including lines and/or tracks.  
Utility substation, minor. |
### TABLE 7.2-2: LAND USE CLASSES

<table>
<thead>
<tr>
<th>Class</th>
<th>Uses Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 6</td>
<td><strong>Amphitheaters, outdoor (commercial/private).</strong>&lt;br&gt;Amphitheaters, outdoor (public) seating more than 250 persons.&lt;br&gt;Dog kennels, outdoor.&lt;br&gt;Uses permitted under the <em>Food and Beverage Service</em> use category.&lt;br&gt;Uses permitted under the <em>Public Accommodation</em> use category, except guest houses that have 150 rooms or more and that are not located adjacent to a residential district.&lt;br&gt;Uses permitted under the <em>Office</em> use category when located adjacent to a non-residential use or zoning district.&lt;br&gt;Recreation, general outdoor (commercial/private).&lt;br&gt;Uses permitted under the <em>Retail Sales and Service</em> use category, except farm markets and funeral homes.&lt;br&gt;Uses permitted under the <em>Telecommunications Facilities</em> use category up to 225 feet in height from the finished grade elevation to the top of the tower (not including antennae).&lt;br&gt;Uses permitted under the <em>Vehicles and Equipment</em> use category.&lt;br&gt;Uses permitted under the <em>Warehouse and Freight Movement</em> use category, except outdoor storage and railroad stations and yards.&lt;br&gt;Commuter rail transit station.</td>
</tr>
<tr>
<td>Class 7</td>
<td>Uses permitted under the <em>Aviation</em> use category.&lt;br&gt;Uses permitted under the <em>Industrial Service</em> use category.&lt;br&gt;Uses permitted under the <em>Manufacturing and Production</em> use category.&lt;br&gt;Motor vehicle raceways.&lt;br&gt;Uses permitted under the <em>Non-Governmental Utilities</em> use category, except minor utility substations and rail transit stations.&lt;br&gt;Outdoor storage.&lt;br&gt;Uses permitted under the <em>Public Accommodation</em> use category, except guest houses, that are located adjacent to a residential district.&lt;br&gt;Public utility facilities.&lt;br&gt;Railroad stations and yards.&lt;br&gt;Uses permitted under the <em>Telecommunications Facilities</em> use category above 225 feet in height from the finished grade elevation to the top of the tower (not including antennae).&lt;br&gt;Uses permitted under the <em>Waste-Related Uses</em> category.</td>
</tr>
</tbody>
</table>
(D) Types of Buffers and Landscaped Areas

(1) The three (3) types of landscaped buffers that appear in Table 7.2-1 are as follows. Detailed illustrations and supplemental information on buffer configurations are available in the Community Appearance Manual.

(a) Type A

1. This buffer is intended to provide the greatest degree of screening feasible and minimize visual contact between uses, creating a strong impression of total separation from the ground to a height of at least eighteen (18) feet. Vegetative material within this buffer shall meet the following criteria:

a) Upper-story trees shall be planted at a density of four (4) trees for every one hundred (100) linear feet of buffer, with a maximum spacing of thirty (30) feet between trees. Upper-story trees shall attain a height at maturity of no less than sixty (60) feet.

b) Evergreen understory trees shall be planted at a density of fourteen (14) trees for every one hundred (100) linear feet of buffer, with a maximum spacing of ten (10) feet between trees. Understory evergreen trees shall attain a height at maturity of no less than eighteen (18) feet.

c) Type A buffers that are wider than thirty (30) feet shall also incorporate shrubs planted at a density of ten (10) shrubs per one hundred (100) linear feet of buffer. Shrubs shall attain a height at maturity of no less than three (3) feet.

d) Type A buffers may include a wall, fence, landscaped earthen berm, planted vegetation, existing vegetation, or any appropriate combination of these elements.

2. The Planning Director may modify the planting criteria for a Type A buffer pursuant to this section, where shown on any development plan requiring or identifying a Type A or opaque buffer or landscape area, including such plans approved prior to the effective date of this ordinance, and/or pursuant to Section 4.3.5(D)(3) where such buffer is required as a zoning condition, if the Planning Director determines in accordance with established horticultural guidelines that achieving the desired degree of buffer opacity while maintaining existing healthy vegetation within the buffer may not be feasible due to a combination of the factors listed below, provided that the intended performance standard is achieved to the extent practicable:

a) type and conditions of significant vegetation remaining within the landscape area or buffer,

b) availability of sunlight;

c) dimension of required planting area;

d) separation between plants;
e) impact of installation of new plant material on root zones of any existing material;

f) topography;

g) proximity of man-made features such as utilities, buildings, sidewalks and retaining walls; and

h) other unique site factors or conditions affecting plant growth and long-term health of the buffer, streetscape or landscape area.

(b) Type B

This buffer is intended to function as a semi-opaque screen from the ground to at least a height of six (6) feet. Vegetative material within this buffer shall meet the following criteria:

1. Mid- or upper-story trees shall be planted at a density of four (4) trees for every one hundred (100) linear feet of buffer, with a maximum spacing of thirty (30) feet between trees. Mid- or upper-story trees shall attain a height at maturity of no less than forty (40) feet.

2. Shrubs shall be planted at a density of sixteen (16) shrubs for every one hundred (100) linear feet of buffer, with a maximum spacing of eight (8) feet between shrubs. At least seventy-five (75) percent of the shrubs shall be an evergreen species locally adapted to the area.

3. Type B buffers may include a wall, fence, landscaped earthen berm, planted vegetation, existing vegetation, or any appropriate combination of the elements.

(c) Type C

This buffer area is intended to function as an intermittent visual obstruction from the ground to a height of at least twenty (20) feet, and create the impression of spatial separation without eliminating visual contact between uses. Vegetative material within this buffer shall meet the following criteria:

1. Upper-story trees shall be planted at a density of three (3) trees for every one hundred (100) linear feet of buffer, with a maximum spacing of forty (40) feet between trees. Upper-story trees shall attain a height at maturity of no less than sixty (60) feet.

2. Understory or ornamental trees shall be planted at a density of five (5) trees for every one hundred (100) linear feet of buffer, with a maximum spacing of twenty-five (25) feet between trees. Understory or ornamental trees shall attain a height at maturity of no less than fifteen (15) feet.

3. Type C buffers may include a wall, fence, earth berm, planted vegetation, existing vegetation, or any appropriate combination of these elements.
(2) Buffer plantings shall conform to the following standards:

(a) The new plantings comprising the buffer shall be evenly distributed throughout the buffer. In instances where planting in a row or rows is necessary to achieve the desired performance objective, trees shall be planted in staggered rows whenever practicable. In cases where the entire buffer width may not be needed to achieve the desired performance objective of the buffer type, the remainder of the required buffer area should have a minimum spacing of trees as required by the associated buffer type.

(b) Buffer performance requirements must be achieved in the quickest time possible (preferably no more than five (5) years).

(c) When detailed information regarding existing vegetation is not available at the time of site or subdivision plan approval, then a Town Zoning Compliance Officer shall determine when existing vegetation may be utilized in-lieu of new plantings prior to the approval of a Certificate of Occupancy.

(d) Depending on actual field conditions, additional trees and shrubs may be required in addition to the existing vegetation to meet these buffer requirements.

(e) In instances where planting requirement calculations produce a fraction, the plants shall be rounded up to the next whole number (e.g. five and one-tenth (5.1) required shrubs shall equal six (6) provided shrubs).

(E) Determination of Buffer Width and Responsibility for Installation

Buffer widths and installation responsibility shall be in accordance with the following:

(a) Where a developing parcel is adjacent to a vacant parcel, then the developing parcel may provide one-half of the buffer required adjacent to the vacant land as indicated in Table 7.2-1.

(b) Where a developing parcel is adjacent to an existing land use, then the developing parcel shall provide the full buffer required adjacent to the existing land use as indicated in Table 7.2-1.

(c) The developing parcel next to an existing land use shall provide the full buffer required unless the existing use already has a buffer that may be credited towards the required width, or the buffer for an existing non-residential use was reduced or not required with its site and/or subdivision plan approval.

(d) Credit for existing buffers is not given when the existing use is residential and its existing buffer is on the same lot as the residential use; see subsection 7.2.3(J), Ownership of Buffers.

(F) Location of Buffers

(1) The perimeter buffers and/or perimeter landscaped areas required by this Section shall be located along the outer perimeter of the parcel and shall extend to the parcel boundary line or right-of-way line; however, the buffers may be located along shared access easements between parcels in non-residential developments. Within shopping centers or other non-residential centers/developments, the perimeter buffer area
between outparcels (non-residential uses) may be provided, totally or in part, elsewhere on the site. For example, a twenty (20)-foot buffer between like uses may be shifted elsewhere on the site (preferably within the site's interior) as long as the total area is provided for. The intent of this subsection is to provide for more flexibility in site design and to potentially save large natural areas that may exist elsewhere on the site.

[Text continues on p. LDO 7-23.]
Perimeter buffers or landscaped areas shall not include any portion of an existing or proposed public or private street, easement, or right-of-way. Additional buffer area shall be required when easements and other similar features intrude in the buffer.

**Existing Vegetation, Fences, Walls, and Berms**

1. Existing significant vegetation within the required buffer shall be preserved and credited toward standards for the type of buffer required, unless the existing vegetation is seriously diseased, damaged and treatment would not be practical, or vegetation has or will give rise to a nuisance situation. Wherever practical, vegetation removal will be limited to just those portions of the vegetation area necessary to correct any problems, while the remainder of the vegetation area without problems shall be left intact.

2. Existing berms, walls, or fences within the buffer, but not including chain link fencing, may be used in part to fulfill the requirements for the six (6)-foot tall screen where required, provided that these elements are in a condition of good repair. Where fences or walls are used, they shall be screened pursuant to the requirements of Sec. 7.2.7(C). Other existing site features within the required buffer area which do not otherwise function to meet the standards for the required buffer shall be screened from the view of other properties or removed, as determined during review and approval of the site plan.
§ 7.2.3  CARY LAND DEVELOPMENT ORDINANCE

(3) If existing significant vegetation and other site features do not fully meet the standards for the type of buffer required, then additional vegetation and/or site features (including fences) shall be planted or installed within the required buffer area to meet the performance criteria outlined in this section.

(H) Development within Required Buffers

No grading, development, land-disturbing activities, or removal of vegetation shall occur within buffers or associated tree protection areas with exception of the following, unless otherwise explicitly permitted in this Ordinance. Where disturbance within the buffer is allowed, damage to existing vegetation shall be minimized to the extent practicable and supplemental planting shall be provided as necessary to meet the performance standard of the applicable buffer type.

(1) Sidewalks, street-side trails and public transit amenities;

(2) Utilities, including but not limited to water and sewer lines, stormwater drainage channels or piping, and similar features, provided that no reasonable alternative location exists; and

   (a) they are located perpendicular to the buffer or at an angle of at least seventy-five (75) degrees; or

   (b) they are located at an angle less than seventy-five (75) degrees, and the area contained in the disturbed area is replaced with an equal amount of buffer area meeting the applicable buffer standard, in proximity to the disturbed area.

(3) Stormwater impoundment areas or other BMPs provided that no reasonable alternative location exists.
DEVELOPMENT AND DESIGN STANDARDS § 7.2.3

(I) Zoning Change

A revised plan will be required if changes of use or change in zoning classification occur for an existing use or parcel and such change results in a higher land use classification per criteria listed in subsection 7.2.3(C) above. The proposed use or parcel shall be brought into compliance with the perimeter buffer/landscaped area requirements of this section or as close as existing site conditions permit, as determined by the Planning Director. Compliance with this Section shall require the submittal and approval of a revised plan showing that the development is being brought into compliance to the extent practicable.

(J) Ownership of Buffers

No required buffer in a residential subdivision shall be included within any single family lot, or be wholly owned (in fee simple absolute) by the owner of an individual residential building lot zoned for residential uses. The buffers shall be owned by a homeowner's association or be owned outright by a third party or shall be otherwise divided so that the buffer is not removed, modified, or damaged.

(1) Any required buffer (including those required as a zoning condition) for a residential development shall not be credited toward meeting the lot size requirements. The preferred method is that the residential buffer be a separate lot and owned by a separate entity (e.g., a homeowners association).

(2) Where control and/or ownership of the buffer is through a property owner's association, any modifications, removal, or damage to the buffer by an adjacent homeowner shall be prohibited.
(3) The property owner’s association or owner shall be responsible for any violation related to the buffers in accordance with Section 7.2.13, Maintenance Responsibility, Replacement of Damaged Vegetation, and Associated Fines.

(4) Buffers may be included within residential lots only when all of the following conditions are met:

(a) The subdivision is less than ten (10) acres in size and has no homeowners association; and

(b) There is no reason for the formulation of a homeowner’s association (e.g. covenant, other common areas or engineered stormwater control structures); and

(c) The buffer is placed within a permanent conservation easement or other legal instrument dedicated to the Town (required documents must be provided prior to recording the plat for the impacted area).

(K) Use of Off-Site Landscape Easements

Off-site permanent landscape easements may be used to meet required buffer areas, provided that the size or shape of the parcel significantly restricts the ability to reasonably use the property and meet the buffer requirements. These easements must be recorded prior to or in conjunction with the approval of the site and/or subdivision plan. The easement must not be under the same ownership as the developing site.

(L) Distance of Buildings and Structures from Required Buffers

Building, structures, parking lots and vehicular use areas shall be set back from required buffers or streetscapes as specified in Section 6.3.2(C) of this Ordinance.

7.2.4 Streetscape Landscaping

(A) Preservation of Existing Vegetation Along Roadways

All uses that require site and/or subdivision plan approval shall preserve existing healthy vegetation (as described below) within the streetscape along all existing and proposed streets and thoroughfares.

(1) Residential Development

Natural and dense vegetation along streets is critical to maintain, especially along major collectors and thoroughfares, to mitigate the impact of these roadways. For this
reason, existing healthy vegetation shall be supplemented, if necessary, to achieve a
Type A (opaque) standard.

(2) **Non-Residential Development**

(a) Selective thinning of trees less than six (6) inches DBH may occur to improve the
viability of trees within the streetscape. An evaluation of the existing vegetation
and recommendation for thinning shall be prepared by a certified arborist or by
a certified forester and submitted in support of any request involving the removal
of trees two (2) inches in DBH or larger. Viable ornamental trees two (2) inches
in caliper or larger must be saved.

(b) An applicant may request an exception to remove a portion of existing trees and
undergrowth less than two (2) inches DBH to improve the viability of the
remaining trees or to allow for greater visibility of the site, unless this vegetation
is needed to meet the minimum planting requirements for a streetscape. Viable
ornamental trees two (2) inches in caliper or larger must be saved.

(c) All proposals for thinning streetscapes shall be accompanied by a report from a
registered landscape architect, certified arborist, or other such specialist justifying
the request and containing a more detailed tree survey showing all plant material
two (2) inches in caliper or larger that is located within the area of streetscape to
be thinned. The Planning Director may require that a portion of existing saplings
be left intact to help ensure that the streetscape can function as a natural tree
stand.

(d) Non-Residential sites containing existing forest vegetation within an area
designated as the streetscape that is subsequently removed due to
construction-related activity shall be revegetated to partially re-establish a native
forest condition meeting the following criteria:

1. Existing vegetation or planted upper-story deciduous and evergreen trees
   shall attain a height at maturity of no less than sixty (60) feet.

2. At least fifty (50) percent of the required upper-story trees, and at least fifty
   (50) percent of the required shrubs shall be an evergreen species locally
   adapted to the area.

3. The re-established forest shall contain rows of upper-story trees with each
   row spaced at least fifteen (15) feet apart. Within each row of upper-story
   trees the trees shall be spaced no wider than twenty (20) feet between tree
   trunks. The new forest shall also contain native ornamental trees spaced
   no wider than twenty (20) feet, and one shrub six (6) feet high randomly
   placed for every ten (10) feet of streetscape length.

4. A re-forested streetscape may include a wall, fence, or landscaped
   earthen berm, but must also include all required plant material required by
   this section.

(B) **Installation of Planted Vegetation Along Roadways**

The Director may allow the installation and maintenance of a planted streetscape in lieu of
preservation of the existing vegetation along any streets which are adjacent to the site upon
sound justification related to topography, drainage, site configuration, quality and quantity of
existing healthy vegetation, the road construction requirements, or other similar issue. If a
planted streetscape is permitted, then the following requirements shall apply:
§ 7.2.4 CARY LAND DEVELOPMENT ORDINANCE

(1) Any required vegetation shall be installed to reforest the streetscape in an amount comparable to what existed naturally (given time for maturity at a later date).

(2) Existing healthy vegetation may be removed after review and approval by the Planning Director for the following purposes:

(a) to achieve required automobile sight distance triangles at intersections, driveways, or ingress/egress points;

(b) to provide drive access to the site;

(c) to locate sidewalks, street-side trails and public transit amenities;

(d) to locate residential and non-residential monument signs, provided that no trees greater than six (6) inches dbh are removed for such purpose unless there is no alternative sign location of lesser impact to vegetation outside of the sight distance triangle that would provide adequate visibility for the sign;

(e) to locate stormwater impoundment areas or other BMPs provided that no reasonable alternative location exists.

(3) The applicant may appeal the Director's decision by electing to have the site and/or subdivision plan forwarded to Town Council for consideration.

Streetscape Width Based on Use and Roadway Type
(C) Required Width of Streetscapes for all Types of Development

(1) The width of the streetscape for non-residential uses shall be a minimum of thirty (30) feet along thoroughfares and collectors designated on the Cary Comprehensive Transportation Plan or otherwise designated by the Town, as measured from the ultimate right-of-way line, except as provided.

(2) For residential developments along thoroughfares, the width of the streetscape shall be a minimum of fifty (50) feet, except as provided; along collectors, a minimum of thirty (30) feet shall be provided, except as provided.

(3) To protect the historic character of the Carpenter community, an historic character preservation streetscape is hereby established. New development (residential and non-residential) located along the following streets shall provide a fifty (50) foot historic character preservation streetscape outside the right-of-way and/or any public access easements:

(a) Both sides of Morrisville Carpenter Road from its intersection with Good Hope Church Road to its intersection with Louis Stephens Drive;

(b) Both sides of existing Good Hope Church Road from its intersection with Morrisville Carpenter Road to a point one thousand one hundred (1,100) feet north;

(c) Both sides of Saunders Grove Lane;

(d) The west side of Louis Stephens Drive from its intersection with Morrisville Carpenter Road to a point nine hundred (900) feet north; and

(e) The west side of Louis Stephens Drive from its intersection with Morrisville Carpenter Road to a point five hundred (500) feet south.

(4) If existing healthy vegetation is located within the streetscape, a ten (10) foot building/five (5) foot vehicular use area setback from the streetscape is required.

(5) According to Section 7.2.10, Allowable Modifications and Reductions, the Planning Director may allow averaging of the width of a residential streetscape to no less than thirty (30) feet only if the remaining streetscape effectively mitigates the impact of the adjacent roadway (i.e., through the use of walls or berms with a substantially more intensive landscape plan). Only the Town Council may permit other reductions in buffer or streetscape widths.

(6) Non-residential developments located on local or private streets shall provide a fifteen (15) foot streetscape. In situations where property across the street is zoned or used for residential purposes, the streetscape shall be installed in accordance with the Type A standards.

(7) The Town Council may reduce the prescribed width of streetscape to as little as ten (10) feet at the time of site plan or subdivision plan approval. On redeveloped sites or existing non-conforming sites, the staff may reduce the streetscape to no less than the streetscape shown on a previously approved plan for the site to promote redevelopment and reuse of existing sites where it is impractical to meet current requirements (see Section 7.2.10, Allowable Modifications and Reductions). The applicant shall submit a statement justifying the reduction based on the below criteria:
(a) The relationship of existing topography to the finished street grades.

(b) The type, amount, and location of existing vegetation within thirty (30) feet of the right-of-way line.

(8) All streetscapes are to be made up of existing trees and supplemented if necessary, unless approved by the Planning Director (see subsection 7.2.4(A)).

(D) Plantings in Streetscape

(1) General Provisions

(a) The property owner or developer shall preserve existing healthy trees.

(b) The calculation of road frontage to meet the spacing requirements for trees shall not include driveway widths measured at the right-of-way line.

(c) In instances where planting requirement calculations produce a fraction, the plants shall be rounded up to the next whole number (e.g. five and one-tenth (5.1) required shrubs shall equal six (6) provided shrubs).
(2) **Upper-story Trees**

(a) The property owner or developer shall install three (3) upper-story trees at least two (2) inches in caliper for each one hundred (100) linear feet of streetscape. The maximum spacing between upper-story trees shall be forty (40) feet.

(b) If existing trees that meet the intent of the upper-story tree requirement are preserved, then the requirement shall be reduced proportionally.

(c) Upper-story trees shall be planted at appropriate distances from public rights-of-way, sidewalks, and other utilities as required by the Land Development Ordinance and the Community Appearance Manual.

(d) Within historic character preservation streetscapes, upper-story trees shall be native species, at least fifty percent (50%) of which shall be evergreen. Trees shall be planted at a density of four (4) trees per one hundred (100) linear feet of streetscape, installed in an irregular manner to mimic a natural forest stand.

(3) **Understory/Organamental Trees**

(a) Where the required streetscape is thirty (30) feet or less in width, the property owner or developer shall install or preserve five (5) deciduous understory or ornamental trees at least two (2) inches in caliper for each one hundred (100) linear feet of streetscape. The maximum spacing between understory/ornamental trees shall be twenty (20) feet except as noted in Section 7.2.4(D)(3)(c).

(b) Where the required buffer width is greater than thirty (30) feet and less than fifty (50) feet, one (1) additional understory/ornamental tree shall be provided every one hundred (100) linear feet for every four (4) additional feet of buffer width (or portion thereof) beyond thirty (30) feet.

(c) Where the required buffer is fifty (50) feet or greater in width, the property owner or developer shall install or preserve ten (10) deciduous understory/ornamental trees at least two (2) inches in caliper for each one hundred (100) linear feet of streetscape.

(d) Sites with streetscapes that meet all LDO requirements and have a minimum width of at least thirty (30) feet, may cluster understory or ornamental trees in accordance with the following requirements:

   (i) Up to twenty percent (20%) of the required understory or ornamental trees (or a minimum of two (2) along a specific frontage) may be relocated elsewhere in the streetscape along the same frontage;

   (ii) Gaps that are created between understory or ornamental trees may not exceed eighty (80) feet in length; and there shall be a minimum of two hundred (200) linear feet between gaps.

   (iii) When understory or ornamental trees are removed from existing streetscapes, at least an equal number of replacement trees shall be provided and the total diameter of all replacement trees shall be a minimum of fifty percent (50%) of the total tree diameter removed.
§ 7.2.4 CARY LAND DEVELOPMENT ORDINANCE

(e) Within historic character preservation streetscapes, understory trees shall be native evergreen species and shall be planted behind the required upper-story trees as viewed from the right-of-way or public access easement. Trees shall be planted at a density of fourteen (14) trees per one hundred (100) linear feet of streetscape, in a single row parallel to the right-of-way or public access easement. The intent is for these plantings to mimic a traditional fenceline planting.

(4) Power Line Encroachment

Where overhead power lines encroach into the streetscape or buffer, each required upperstory tree may be replaced with two (2) understory trees. The selected tree type may reach a maximum height of twenty to twenty-five (20-25) feet at maturity.

(E) Tree Placement

Trees shall be installed on the thoroughfare side of any berm or screen planting, and no less than five (5) feet from a sidewalk or trail, or from back of curb where no sidewalk exists or is planned within the thoroughfare right-of-way. Trees should be installed in a staggered fashion, or in clusters or groupings of upper-story and/or understory trees in combination with associated plantings. Trees may be planted in a linear arrangement parallel to the street, depending upon the area (e.g., downtown areas, neotraditional developments, etc.). In order to prevent conflicts and allow for appropriate maintenance, canopy trees shall be placed at least ten (10) feet from electrical transformers and twenty (20) feet from light poles.

Tree Placement
(F) **Pervious Area for New Trees**

A minimum of three hundred (300) square feet of pervious ground area per upper-story tree shall be provided. Where possible, smaller individual planting areas should be combined to allow for larger planting areas that contribute to healthier trees. Any planting area bounded by an impervious surface should be at least ten (10) feet wide. No upper-story tree should be planted closer than five (5) feet to a sidewalk, paved areas, or other impervious surface.

(G) **Stabilizing Steep Slopes**

All slopes two to one (2:1) and steeper shall be stabilized with permanent slope retention devices or suitable combination of plantings and retention devices. Slopes greater than three to one (3:1) shall not be stabilized with turf grass (e.g., grasses that need to be mowed), but with other permanent ground cover such as Weeping Love Grass (Eragrostis Curvala), Low Junipers, etc. No permanent overhead spray-type irrigation is allowed on slopes greater than two to one (2:1).

(H) **Planting Criteria for Steep Slopes Adjacent to Rights-of-Way**

Where the right-of-way is bounded by slopes steeper than three to one (3:1) or is otherwise not suitable for the planting of upper-story trees, the following standards shall apply:

1. If natural areas are permitted to be removed and/or graded, the streetscape slope shall be somewhat level (no greater than four to one [4:1]) planting strip for upper-story trees at least ten (10) feet wide, located parallel to both sides of the thoroughfare. The planting strip shall be positively drained throughout. Upper-story trees required by this section may only be located closer than five (5) feet to the curb or sidewalk on certain streets, such as those found in neo-traditional developments, or when trees which do not exceed twenty-five (25) feet in height at maturity are used, but in no case shall they be closer than two and one-half (2 1/2) feet. Plantings may be located in the right-of-way only with the prior approval of the authority or agency that controls the right-of-way (e.g., Town of Cary, Department of Transportation, or other agency).

2. Existing significant vegetation within thirty (30) feet of and extending to the right-of-way may be used to satisfy the requirements of this section, provided that:

   a. The existing vegetation meets the requirements of this section.

   b. The vertical grade change is less than four (4) feet above or below the existing or proposed permanent features of the thoroughfare.

(I) **Ownership of Streetscapes**

The ownership of streetscapes shall follow the same requirements as stated in Section 7.2.3(J) Ownership of Buffers.

(Ord. No. 2009-LDO-01, 2-12-09; Ord. No. 2010-LDO-05, 12-16-10)
7.2.5 Tree Protection, Tree Surveys, and Replacement Trees

(A) Tree Protection and Tree Surveys

(1) **Intent and Purpose**

It is the intent of the Town Council to preserve trees and other vegetation through buffer (including urban transition buffer), streetscape, and floodplain regulations, and through champion tree preservation requirements, to the extent practical and reasonable. Preserving trees and vegetation on a site should not prevent the reasonable development of a site, given its zoning classification. This section 7.2.5 is designed to recognize unique site conditions and to allow flexibility in meeting the requirements.

The Town Council finds that preserving trees and healthy vegetation on a site during development:

(a) Maintains and enhances the visual character and aesthetic qualities and appearance of the community and preserves community values;

(b) Conserves and enhances the value of buildings and land

(c) Conserves the natural resources and environmental quality of the Town and its environs;

(d) Screens and softens the impact of construction and buildings and balances the scale of buildings;

(e) Preserves wildlife habitat, controls surface water runoff, and moderates temperatures; and

(f) Conserves water due to increased absorption ability and reduced heat effects.

(2) **Requirement to Protect Champion Trees**

No champion tree may be disturbed or removed except as specifically allowed by this Ordinance. Preserved champion trees and their associated tree protection areas must be shown on site or subdivision plans and reuse/redevelopment plans as located in a buffer, streetscape, private open space, or other designated permanent tree protection area. In addition, champion trees permitted to be included on a residential lot must be shown on plans for the purpose of designating tree protection fencing during the development and prior to the certificate of occupancy for buildings/structures.

(3) **Tree Survey Requirements**

A tree survey aids in the protection of trees by locating trees on a site before site and/or subdivision plans are fully designed so modifications can be made to the plans to protect trees. A tree survey prepared by a licensed surveyor, engineer, or landscape architect is required with the submission of all site and/or subdivision plans. Surveys shall have been reviewed and signed by a certified arborist to confirm tree species, especially understory champion trees. A tree survey is required for site/subdivision plans, reuse/redevelopment plans, and minor alterations that propose to disturb areas that contain or are within the critical root zone of champion trees or specimen and significant trees within required buffers, streetscapes, and floodplains.
The survey shall, at a minimum, provide the following information:

(a) The number, caliper size, and location of either:

   (i) All champion and upperstory specimen trees within all areas to be disturbed, all champion trees within one hundred (100) feet of all areas to be disturbed, and all upperstory specimen trees within fifty (50) feet of all areas to be disturbed; or

   (ii) All champion trees located throughout the site/subdivision plan boundaries, all upperstory specimen trees located within any buffer or streetscape, and all upperstory specimen trees located within fifty (50) feet of any buffer or streetscape; and

(b) All significant trees within the interior ten (10) feet of all buffers, streetscapes, and floodplains; and,

(c) A general description of the forest or forest stands on site located outside of buffers, streetscapes, and floodplains, including information on the type of trees and general size ranges.

(4) Incentives and Design Flexibility

Section 7.2.10 provides incentives and design flexibility for preserving existing healthy trees and forest stands and for protecting the critical root zone of specimen trees located outside of buffers, streetscapes, and floodplains. For example, the Planning Director may permit the exchange of trees otherwise required to be preserved for the preservation of trees within certain non-residential buffers and may grant parking reductions if trees or forest stands that are not otherwise required to be preserved or are located outside of buffers, streetscapes, and floodplains, are preserved.

(5) Definitions

For purposes of Sections 7.2.5 and 7.2.10 of this Ordinance, the following definitions apply:

(a) Adversely impacted means that twenty-five percent (25%) or more of the critical root zone of a champion tree will be, or, within the three (3) years prior to the date of application, was disturbed.

(b) Disturbed means any use of land that results in a change in the natural cover or topography. This may include the grading, digging, cutting, scraping, compaction, or excavation of soil, placement of fill materials, paving, construction, substantial removal of vegetation, or any activity which bares soil or rock or involves the diversion or piping of any natural or man-made watercourse. Routine maintenance of landscape areas is not included as “land disturbance.”

(c) Grouping means that the critical root zone of two (2) or more champion trees or champion tree(s) and specimen tree(s) overlap.

(d) Open Space means all buffers, streetscapes, or floodplains; open space required through rezoning conditions; permanent tree protection areas; designated community gathering spaces; bonus open space for conservation residential subdivisions; and other non-regulated permanent open space.
(e) **Large Champion Tree** means any upperstory hardwood champion tree forty (40) caliper inches and larger or any understory champion tree fifteen (15) caliper inches and larger.

(f) **Small Champion Tree** means any upperstory champion tree less than forty (40) caliper inches or any understory champion tree less than fifteen (15) caliper inches.

(g) **Prominent Location** means areas: along any thoroughfare or collector roadway; along a public/private street interior to the site; surrounded by buildings/homes on at least two (2) sides; or immediately adjacent to or within twenty (20) feet of a public greenway easement or public greenway property boundary.

(h) **Tree protection area** means areas that are required by this ordinance to be encircled and enclosed within a tree protection fence.

(i) **Tree protection fencing** means the fencing required by Section 7.2.5(B)(2) of this Ordinance.

(B) **Tree Protection During Construction**

(1) **Owner’s Responsibility**

During development of the property, the owner, developer, and/or builder shall be responsible for the erection of tree protection fencing to protect existing and/or installed vegetation from damage during development and prior to certificate of occupancy for buildings/structures. Any disturbance within the boundaries of such tree protection areas that is not authorized by the terms of this Ordinance shall result in fines as identified in Section 11.5.2(B)(2)(b), in addition to any other fines and replanting requirements for the removal or damage of vegetation within tree protection areas.

(2) **Tree Protection Fencing**

(a) **Where Required**

All existing trees and vegetation that are to be preserved shall be completely encircled and enclosed within a fence that meets the requirements of this Ordinance before grading begins. Additionally, tree protection fencing shall be required around champion trees and shall extend in a circular manner a distance of at least one and one-quarter (1.25) feet from the tree for each inch of caliper (excluding existing and undisturbed non-pervious area on redevelopment/reuse sites). The distance may be reduced if allowed under Section 7.2.10 of this Ordinance. Tree protection fencing of areas adjacent to existing and proposed roadways is also required. Tree protection fencing is required on all Town transportation projects that are adjacent to streetscapes or buffers. Existing site conditions shall be taken into consideration in determining the exact location of any tree protection fencing and staff may authorize field adjustments to the amount of tree protection fencing needed.

(b) **Type of Tree Protection Fencing**

All tree protection fencing required by this section shall be four (4) feet orange polyethylene laminar fencing a minimum four (4) feet high and of durable construction. Passive forms of tree protection may be utilized to delineate tree
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save areas that are remote from areas of land disturbance at the discretion of the Planning Director.

(c) **Signage**

Signs shall be installed on the tree protection fence visible on all sides of the fenced-in area (minimum one (1) on each side and/or every three hundred (300) linear feet). The size of each sign must be a minimum of two (2) feet by two (2) feet and shall contain the following language in English and Spanish: "TREE PROTECTION ZONE, KEEP OUT."

(d) **When Required**

The tree protection fencing shall be clearly shown on the site and/or subdivision plan. No construction, grading, equipment or material storage, or any other activity shall be allowed within the tree protection area. Tree protection fencing shall be maintained until the final site inspection prior to the Certificate of Occupancy is scheduled (including any required perimeter buffer for single-family home construction). The tree protection fencing shall be removed prior to final site inspection for the Certificate of Occupancy.

(3) **Disturbance**

Disturbance within the area required to be designated as a tree protection area, shall occur only if approved by staff on the site and/or subdivision plan. If such a disturbance is permitted for reasons such as location of minor utility lines, the following preventive measures shall be employed:

(a) **Clearing Activities**

The disturbance of land, including disturbance caused by the removal of trees adjacent to tree protection areas can cause inadvertent damage to the trees in the tree protection area. If trees are being removed adjacent to tree protection areas, a minimum one and one-half (1 1/2)-foot trenches must be cut along the limits of land disturbance, so as to cut, rather than tear, roots. Trenching shall be required for the protection of specimen and/or champion tree critical root zones immediately adjacent to or within the land disturbance area (see Community Appearance Manual for further guidance).

(b) **Soil Compaction**

Where compaction might occur due to traffic or the transportation of materials through the tree protection area, the tree protection area must first be mulched with a minimum four (4)-inch layer of processed pine bark or wood chips or a six (6)-inch layer of pine straw (see Community Appearance Manual). Equipment or materials storage shall not be allowed within tree protection areas.

(C) **Protection of Champion Trees**

(1) **Intent/Purpose**

One purpose of this subsection is to protect healthy champion trees during the development process. This shall be accomplished through the review and implementation of site and/or subdivision plans, reuse/redevelopment plans, and plans
for minor alterations. Trees, including champion trees located on existing single family lots, that are otherwise not subject to regulation under Chapter 7 of this Ordinance, are not subject to these requirements. Flexibility in site design is provided for in Section 7.2.10 which permits area used to preserve champion trees that is not otherwise required to be preserved to be offset by deducting area from other required landscape/buffer areas. No champion tree may be removed during development, unless the approval criteria of Section 7.2.5(D) are met and the removed champion tree is replaced pursuant to Section 7.2.5(E). In support of any application which requests removal of a champion tree, the applicant must submit a report from a certified arborist that addresses the criteria of Sections 7.2.5(C) (2) and (D).

(2) **Priority Order For Preserving Champion Trees**

When applicants are designing site and/or subdivision plans, champion trees and their critical root zone shall be preserved in the following priority order (which order shall be reviewed when the decision-making authority is making a determination as to whether a plan is in compliance with Section 7.2.5):

(a) Tier 1 Champion Tree (excludes pine trees):

(i) Any champion tree grouping located in a prominent location;

(ii) Any single large champion tree located in a prominent location;

(iii) Any single small champion tree located in a prominent location;

(iv) Any champion tree grouping located in a non-prominent location; and

(v) Any single large champion tree located in a non-prominent location.

(b) Tier 2 Champion Tree:

(i) Any single small champion tree, excluding pine, located adjacent to other open space areas;

(ii) Any single small champion tree, excluding pine, located in a non-prominent location;

(iii) Any single champion tree, excluding pine, that is forked (see champion tree definition), located anywhere on site; and

(iv) Any single champion pine tree located anywhere on site.

(D) **Administrative Approval of Removal of Champion Trees**

(1) The Planning Director shall administratively approve the removal of any champion tree if the criteria of either (a), (b), (c) or (d) below are met.

(a) After exhausting the allowable modifications/reductions in Section 7.2.10, the tree is adversely impacted by one (1) of the following:

(i) Required road connections;
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(ii) Required sanitary sewer or storm drain lines;

(iii) Public infrastructure improvements made or to be made by others;

(iv) Required stormwater treatment devices located in geographically and topographically appropriate areas; or

(v) Town design standards or requirements that limit the reasonable location of new structures and expansions to buildings and/or other features such as parking and private streets on the site (e.g. requirements for the buildings to front on streets, access points, and similar).

(b) All the following criteria have been met:

(i) All allowable modifications in Section 7.2.10 have been exhausted; and

(ii) The tree is included in the Tier 2 champion tree list;

(iii) The total site consists of at least thirty percent (30%) open space or at least fifteen percent (15%) open space if located in the Town Center Zoning District or on a reuse/redevelopment site.

(c) After exhausting the allowable modifications/reductions in Section 7.2.10, and due to the site's topography and/or in order to meet town design standards or requirements (e.g., roadway elevations, sidewalks, etc.), the finish site elevation will result in the champion tree critical root zone area being ten (10) feet or more above or below grade on more than one (1) complete side of the tree.

(d) Based upon a certified arborist's report, a large hardwood champion tree has a life expectancy of less than ten (10) years and one (1) or both of the following exist:

(i) Twenty-five (25) percent or more of the tree's canopy is dead/dying; and/or

(ii) Two (2) or more major limbs are dead/dying.

Replacement pursuant to Section 7.2.5 (E) shall be required if the champion tree meets this criteria and is removed.

(2) The Zoning Board of Adjustment shall review and take action on any other request to remove a champion tree as a Minor Modification pursuant to Section 3.19.

(E) Replacement of Champion Trees

(1) When a champion tree is removed during construction, or is dying or dies within one (1) year following completion of construction pursuant to a site and/or subdivision plan for a site that is not located in the Town Center District and is not a reuse/redevelopment site, the applicant or developer shall replace such champion tree as follows:

a. Trees of similar type must be planted at least thirty (30) feet from any other tree such that the total caliper inches of trees planted is no less than the caliper inches of the tree removed;
b. The size of such replacement trees at the time of installation shall be a minimum of two and one-half (2 ½) inches in caliper;

d. If sufficient area does not exist on the site to plant replacement trees, the applicant or owner must coordinate with Town staff to design and implement a plan to plant the required replacement trees on town properties, town-maintained properties, and/or other public property within the Town's jurisdiction. If the Town determines this is not feasible, fines shall be assessed in accordance with Section 11.5.2(B)(2)(d).

(2) When a champion tree is removed during construction, or is dying or dies within one (1) year following completion of construction pursuant to a site and/or subdivision plan on a site located within the Town Center District or on a reuse/redevelopment site, the applicant or developer shall comply with the requirements of section 7.2.5(E)(1), except that the total caliper inches of trees planted may be less than the diameter of the tree removed if it is not practical to replant the required number and size of trees spaced at least thirty (30) feet from any other tree on the same site or any adjacent property under common ownership. The maximum size of any replacement tree shall be three (3) caliper inches.

(3) In consultation with the Town staff, acceptable replacement trees shall be determined by a person qualified by training or experience to have expert knowledge of the subject. Alternatively, the valuation of trees removed may be established in accordance with standards established by the International Society of Arboriculture and replaced with trees of equal dollar value.

(4) Replacement trees shall be maintained through an establishment period of at least three (3) years, except that replacement trees planted in association with development of detached dwellings on an individual lot shall have an establishment period of only one (1) year. The property owner and developer shall execute a landscape agreement guaranteeing the survival and health of all replacement trees during the establishment period and guaranteeing to replace any replacement tree(s) that does not survive the establishment period in good health as determined by a certified arborist.

(F) Preservation and Removal of Trees on Town Property

(1) Preservation on Town Property

(a) The Town shall have the right to plant, maintain, and remove trees and vegetation on all Town property as may be necessary to ensure public safety or to preserve or enhance the symmetry and beauty of Town property. The Town also may remove any Town-owned tree, shrub, or part thereof that is in an unsafe condition, which by its nature is injurious to sanitary sewers, electrical power lines, gas lines, water lines, or other public improvements, or which is infected with any injurious fungus, insect, or other pest.

(b) This section does not prohibit the planting of upperstory trees or shrubs by adjacent property owners on Town property, provided that the selection and...
(2) **Injury or Obstruction to Trees on Town Property Prohibited**

No person shall, without prior written permission from the Town, place or maintain upon the ground in any public street right-of-way or Town property any stone, cement, or other impervious matter or any fill material in a manner that may obstruct the free access of air and water to the roots of any tree or shrub in any such street right-of-way or Town property. Any person who is erecting, repairing, altering, or removing any building or structure shall place a guard or protector around any tree or shrub on Town property so as to prevent injury to such tree or shrub.

(G) **Removal of Unsafe, Injurious, or Infected Trees on Private Property**

(1) The Town may cause to be removed from private property any tree, shrub, or part thereof which is or contributes to a public nuisance.

(2) The Town or its agent may enter upon private property to trim, treat, or remove any tree or shrub infected by any parasite, insect, or pest, when necessary to prevent the breeding or scattering of any parasite or pest and to prevent danger to persons, property, or trees and shrubs planted in public street rights-of-way or other Town property.
Prior to exercising the authority conferred by this section, the Town shall give the owner an opportunity to correct the condition by ordering the corrective action be taken. The order shall be sent by certified or registered mail to the owner of the property in question, and shall be acted upon by the owner or occupant within fourteen (14) days from the date he or she receives the order. If, after fourteen (14) days, the owner or occupant has not corrected the condition or undertaken action that would lead to a timely correction of the condition, then the Town may enter upon the property, perform the work necessary to correct the condition, and bill the owner or occupant for the actual costs incurred in addition to an administrative fee.

For trees located within open space, the determination of whether a tree or trees are unsafe, injurious, dead, or dying shall be made only by the Town or its recognized representative.

Waivers in Emergencies

During emergencies, such as windstorms, ice storms, fire, or other disasters, the Town Manager may waive the requirements of this section in order to avoid hampering private or public work to restore order in the Town. This section shall not be used, however, to otherwise circumvent the requirements of this Section 7.2.

Clear Cutting of Trees and Other Vegetation

The removal or clear cutting of trees and other existing vegetation on undeveloped or under-developed sites within the corporate limits or extra-territorial jurisdiction is prohibited except as otherwise permitted in this Ordinance.

Any clear cutting or vegetation removal on vacant, undeveloped, or underdeveloped sites must be done in accordance with an approved site and/or subdivision plan or in accordance with the Tree Clearing Certificate process in Section 3.22.

Trees and other existing vegetation shall be maintained within existing UTBs consistent with the requirements of this Ordinance and state law. Removal of existing trees and vegetation without approval from the Town and/or the State shall be a violation of this Ordinance, and shall be subject to the requirements and penalties of Sections 7.2.9(H), 7.2.13 and Chapter 11 of this Ordinance.

Parking Lot Landscaping

Landscaping Requirements in Parking Areas and Vehicular Use Areas

All vehicular use areas shall contain at least one (1) upper-story tree for every seven parking spaces required. If overhead utility lines are present and would impair the growth of an upper-story tree, two (2) understory trees fifteen (15) to twenty-five (25) feet in height at maturity may be used instead of one (1) upper-story tree. All vehicular use areas used for parking shall be screened from the view of adjacent properties and streets by evergreen plantings that will attain a height of three (3) feet within three (3) years of planting. The use of shrubs and ground covers is greatly encouraged in parking area islands and along the borders of parking areas.

Existing Vegetation

Existing healthy, well-formed upper-story trees may be counted toward the requirements of this section, provided that these trees are protected in accordance with Section 7.2.5.
Protection and Replacement, before and during development of the site and maintained thereafter in a healthy growing condition.

(C) Design Standards

The design of the vehicular use area with landscaped areas, and the selection of plant materials, shall conform to the following standards:

1. Install one (1) upper-story tree for every seven (7) parking spaces as required (see paragraph (A) above).

2. Trees shall be selected for their appropriateness based on site conditions from the Plant Materials List in the Community Appearance Manual.

3. All upper-story trees shall not be planted any closer than five (5) feet, to the edge of the parking area pavement or curb.

4. A parking lot consisting of fewer than ten (10) spaces may incorporate the required upper-story trees around its perimeter. These parking lot trees shall be located no farther than ten (10) feet from the back of curb.

5. Only upper-story trees shall be used for perimeter planting areas and interior parking area islands. For auto sales and rental lots understory trees may be used.

6. All trees shall be evenly distributed throughout the parking areas and parking perimeter at the required ratio.

7. No more than fourteen (14) continuous parking spaces shall be allowed without a minimum of one (1) landscape island containing an upper-story tree. In developments using double-sided parking bays, a parking lot island measuring no less than eighteen (18) feet square may be provided in a staggered pattern to provide no more than twenty-eight (28) contiguous spaces.

8. The size of parking area landscape islands and upper-story tree placement shall be as specified in the Community Appearance Manual.

9. All planting medians and/or islands containing a tree shall be at least ten (10) feet long by ten (10) feet wide from back of curb to back of curb, with a minimum of three hundred (300) square feet of space per upper-story tree. Linear planting strips between the lengths of parking isles are strongly encouraged rather than numerous small one (1) tree islands. If a linear strip is used, fifteen (15) shrubs per one hundred (100) linear feet must be planted in addition to the required trees.

10. A continuous linear island no less than ten (10) feet in width [fifteen (15) feet in width if sidewalk is included in island] shall be installed in off-street parking areas approximately every one hundred twenty-two (122) linear feet (one (1) linear median to every two (2) double-loaded parking bays) in one (1) direction for vehicular surface areas exceeding forty thousand (40,000) square feet. Other design options may be approved provided that the intent of "visually breaking up" large areas of parking is met. Credit may be given for saving existing trees located interior to the site. This requirement does not apply to vehicular display lots, to vehicular rental lots, or to other similar lots.
(11) The size of the planting area and size of plant material at maturity shall allow for a two and one-half (2½) foot bumper overhang from the face back of the curb. Barriers, such as curbs or wheel stops, must be provided between vehicular use areas and landscaped areas.

(12) All sidewalks shall be at least five (5) feet from the trunks of upper-story trees, unless otherwise approved by the Planning Director. For example, when the placement of the sidewalk would require the removal of an existing upper-story tree to meet this requirement or where there is not enough space on the site to accommodate both the tree and the sidewalk, this requirement may be modified.

(13) Parking lots shall be graded so that landscape islands do not impound water, unless surface impoundment is required as a method of on-site retention of stormwater. Landscape islands should be composed of well-prepared structured soil and thoroughly cultivated and amended so as to support healthy plant growth.

(14) Preservation of existing groups, stands, or groves of trees, as well as isolated islands with single trees, is strongly encouraged (see Section 7.2.10, Allowable Modifications and Reductions).

(15) Upper-story trees shall be at least two (2) inches in caliper when installed.

(16) Evergreen shrubs shall be at least two (2) feet in height and minimum three (3) gallon container size at the time of installation.

(17) The standards for all plants in vehicular use areas shall conform to the American Standard for Nursery Stock published by the American Association of Nurserymen for that type of tree or shrub at the time of installation. (The selection and planting of trees and shrubs shall conform to the standards set forth in this publication or the Town’s Community Appearance Manual, whichever is stricter).

(18) Adequate drainage, mulching, and irrigation shall be provided for landscape medians and islands. If automatic underground irrigation systems are permitted, moisture sensor regulators, soil moisture sensors, or drip irrigation shall be used.

(19) The property owner or developer shall provide for continuous maintenance of the landscaped areas after occupancy of the building. The property owner shall ensure that performance criteria within this Ordinance and/or included on the approved site and/or subdivision plan are met. Failure to correct deficiencies in a timely manner shall result in a citation for violation of this Ordinance in accordance with Chapter 11.

(D) Screening Vehicular Use Areas

Where there is a vehicular use area between the thoroughfare and a permanent non-residential building, an opaque screen shall be provided between the right-of-way and the vehicular use area. The screen may consist of plants, earthen berms, fences, walls, or any combination thereof, which meet the following requirements:

(1) The screen shall be continuous, occupying the full length of the vehicular use area, except for sidewalks and driveways that cut through the screen to connect the vehicular use area to streets and other properties. Shrubs shall be at least two (2) feet in height above finished grade, and healthy at the time of installation. Vehicular use area screening shrubs shall be maintained so as to permit the shrubs to form a continuous evergreen screen.
(2) Berms may be used or installed in lieu or in addition to plantings. If the berm does not meet the performance standards of this section, then plant materials shall be installed which meet these standards. The installation of additional plant materials is encouraged so as to enhance the visual and aesthetic qualities of the streetscape. Plantings should be placed based upon topography of the site, usually at the top of the slope.

(3) Berms must, at a minimum, be planted and maintained with a groundcover vegetation or grass that will permanently stabilize the soil.

(4) Shrubs, plantings, hedges, or walls shall provide an opaque screen or barrier for the first three (3) feet of height within three (3) years of planting.

(5) Vehicular use areas used for the purpose of loading/unloading, and accessways to those areas shall be screened from views of streets and adjacent development.

(E) Exceptions for Underground Parking and Above Ground Parking Structures

When parking is provided underground or within buildings, the above requirements shall not apply. However, if the parking is visible from a public right-of-way or adjacent property, then it shall be screened from views from streets and adjacent properties pursuant to subsection (D) above. Unless they are designed to look like, reflect the architectural style of, and blend in with the adjacent buildings, dense landscaping should visually separate all parking structures from the view of streets and adjacent property. If this is not possible, then the walls of the structure should be softened by the use of terracing, plantings, or other techniques.
7.2.6 VEHICULAR USE AREA PLANTING STANDARDS - Parking Lot Planting Requirements

ISLANDS - ALIGNED PLANTING
No more than 14 spaces may be in a row without a tree island.
192 Spaces, 12 Trees

ISLANDS - STAGGERED PLANTING
No more than 14 spaces may be in a row without a tree island.
200 Spaces, 16 Trees

LINEAR STRIP - ALIGNED PLANTING
Linear planting strips are required every 130 linear feet in lots exceeding 40,000 square feet.
192 Spaces, 12 Trees, and 15 Shrubs/100 linear feet

LINEAR STRIP - STAGGERED PLANTING
Linear planting strips are required every 130 linear feet in lots exceeding 40,000 square feet.
200 Spaces, 16 Trees, and 15 Shrubs/100 linear feet

(Ord. No. 2009-LDO-01, 2-12-09; Ord. No. 2010-LDO-01, 1-14-10)
7.2.7 Fences and Walls

Fences and walls are permitted as an accessory use in all zoning districts provided that they meet the following requirements:

(A) Fence and Wall Height Outside of Required Setbacks

Fences and walls located outside of the minimum front, rear and/or side yard setbacks, as shown in Section 6.1, *Tables of Density and Dimensional Standards*, may be erected to any height permitted for buildings in the respective zone district, also indicated in Section 6.1.

(B) Fence and Wall Height within Required Setbacks

Fences and walls located within a minimum roadway, rear and/or side yard setbacks, as shown in Section 6.1, *Tables of Density and Dimensional Standards*, shall not exceed eight (8) feet in height unless specifically approved as part of a buffer under Section 7.2.3, or approved by the Town Council as part of a site plan, preliminary subdivision plat or Special Use Permit, or approved by the Zoning Board of Adjustment as part of a variance. Columns and entry features shall not exceed twelve (12) feet in height unless specifically approved as an entry monument alternative to a principal ground sign under Section 9A.3.1(H). These features shall be located outside of required sight distance triangles.

(C) Landscaping and Screening of Fences and Walls

Fences and walls taller than forty-two (42) inches and located within thirty (30) feet of a thoroughfare or collector street right(s)-of-way shall meet the following landscape requirements:
(1) One (1) shrub shall be installed for each five (5) feet of property frontage along a thoroughfare or collector street. Shrubs shall be evergreen and shall be a minimum of twenty-four (24) inches tall at time of installation. Shrubs may be installed in a staggered, clustered, grouped or linear fashion, and all plantings shall be installed on the side of the fence that faces the right-of-way.

(2) Retaining walls that are forty-two (42) inches or more above an established grade are also required to meet the above screening requirements.

(3) A fence permit shall be obtained for fences adjacent to thoroughfare or collector street right(s)-of-way.

(D) Maintenance

The owner of the property (or other party responsible for maintenance as depicted on the approved site plan) on which the fence or wall is located is required to maintain the fence or wall in a safe and attractive condition. This shall mean the following:

(1) No fence or wall shall have more than twenty (20) percent of its surface area with disfigured, cracked, ripped or peeling paint or other material; and

(2) A fence or wall shall not stand with bent or broken supports, including loose or missing appendages; and

(3) Fences and walls shall be plumb (vertical) to the ground.

(4) Replacement of non-conforming fences shall comply with all the requirements of this section.

(E) Exposed Framing Toward Interior Yard

Fences and walls that are visible from a thoroughfare or collector street right-of-way shall be constructed such that exposed framing faces the interior yard and not the thoroughfare or collector street right-of-way.

(F) Fences and Walls within Buffers or Streetscapes

Fences and walls shall be installed so as to not disturb or damage existing, significant vegetation or installed plant material.

(G) Setback Requirement

To allow sufficient room for the landscaping to mature, fences and walls located within thirty (30) feet of a thoroughfare or collector street right-of-way shall be installed a minimum of five (5) feet (preferably ten (10) feet to allow room between plants and the sidewalk) from the property line. There shall be no setback for fences not located adjacent to a thoroughfare or collector street right-of-way.

PRINCIPLES OF INTERPRETATION

Where there is a separate property located between the right-of-way and the proposed fence or wall (such as common open space that is owned by a homeowners association or other entity), the setback may be measured from the right-of-way and not from the property line.
(H) Fences Prohibited

Fences that are electrically charged and those constructed of barbed or razor wire shall be prohibited. This prohibition shall not apply to fences used to enclose livestock on bona fide farms and those serving a public or quasi-public institution for public safety or security purposes.

(I) Sight Distance

No fence or wall shall be allowed to obstruct sight distance triangles.

(J) Rails Required for Retaining Walls and Steep Grade Changes

(1) All retaining walls over thirty (30) inches in height and steep grade changes at a one to one (1:1) ratio or greater shall include guards or other acceptable fencing/barricades measuring a minimum thirty-six (36) inches in height on a residential lot with a detached dwelling, townhouse, duplex, bed and breakfast, group home, or a family care home with four (4) or fewer residents. Guards or other acceptable fencing/barricades measuring forty-two (42) inches in height shall be required for all other uses. Guards shall be constructed with no opening greater than four (4) inches.

7.2.8 Screening

(A) Stormwater Devices

Stormwater Best Management Practices (BMPs) shall be designed, constructed, and maintained to contribute to the aesthetic values of development. Visible hardscape transitions or edges (walls) for stormwater devices should not be used outside of Mixed Use Overlay Districts. BMPs should be graded and landscaped to blend with the surrounding landscape to provide better transitions as demonstrated in the Site Design Standards Document. Culverts, outlet structures, level spreaders, and other devices associated with stormwater BMPs shall be landscaped to reduce their visual impacts. All proposed landscaping shall be shown on an approved development plan. The Planning Director may allow the use of hardscape transitions for developments outside of a Mixed Use Overlay District pursuant to Section 3.19.1.

Where used, visible hardscape transitions shall be subject to the following criteria:

(1) The exterior surface of the wall should consist of decorative material such as stone or brick. Where public visibility is limited, split-face block or other modular design may be used. Poured-in-place concrete walls shall not be used for stormwater device edges.

(2) The stormwater device shall be located and designed such that it is accessible to the public and intended to serve as an aesthetic amenity to the site. The device shall be incorporated into or located in immediate proximity to pedestrian plazas or other active areas of the site.

(3) The design of the wall shall be tiered in order to accommodate the plantings installed to soften the mass of the upper half of the wall height. Wall tiers shall not exceed approximately six (6) feet in height and three (3) feet in depth. Draping plant material planted at the top of the wall may be acceptable in circumstances in which the wall height is limited and a tiered structure is not appropriate.
(B) Mechanical and Utility Equipment

(1) Heating, ventilation, air conditioning, and other mechanical and utility equipment, including but not limited to hoses, pipes, vents, fans, compressors, pumps, and heating and cooling units, ground based electrical transformers, telephone, or cable junction boxes, which are located on, beside, or adjacent to any building or development, shall be fully screened from the view of streets and adjacent property.

(2) The screen shall exceed the height of the equipment, shall not interfere with the operation of the equipment, and shall use building materials and design which are compatible with those used for the exterior of the principal building.

(3) Where mechanical and utility equipment is located on the roof of a structure, all devices shall be fully screened from the view of streets or adjacent property after grading or other improvements are made outside or adjacent to the site.

(4) The Planning Director may require mufflers or other noise reducing technique on mechanical and utility equipment in developments adjacent to existing or future residential projects to mitigate noise impact (refer to Town Code for noise requirements).

(5) Utility equipment and facilities associated with on-site electric, cable, telephone, gas or other similar utility, including ground-based electrical transformers and power meters, shall be placed in service areas on the sides or rear of buildings, and shall be screened, to the extent possible, with evergreen plantings or other acceptable alternative approved by the Planning Director. (This requirement applies to both residential and non-residential developments). Areas around this equipment and facilities shall remain clear based on each utility company's guidelines.

(C) Trash Containment Areas

Developments must account for disposal of trash, including trash and recycling containment devices. Restaurants, large retail establishments and other similar businesses must indicate how they plan to address cardboard recycling prior to site and/or subdivision plan approval. All trash containment devices, including compactors, dumpsters, and recycling drop-off bins, shall be located and/or screened so as not to be visible from the view of internal travelways, adjacent streets and properties. The type of screening used shall be determined based on the proposed location of the trash containment area, existing site conditions, and the type and amount of existing and proposed vegetation on the site. All such areas shall meet the following standards:

(1) All trash containment areas shall be enclosed with solid gates to allow for access and security and contain windblown litter. In addition, the Planning Director may require self-closing gates for such enclosures. Gates must be maintained in good working order.

(2) The enclosure shall be at least eight (8) feet tall or two (2) feet taller than the highest point of the compactor or dumpster, whichever is greater.

(3) The enclosure shall be made of a material that is opaque at the time of installation and compatible with the design and materials of the principal building. The material shall be masonry or other material that matches the building material; however, wood and other similar material may be used for gates.
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(4) All compactors and dumpsters shall be placed on a concrete pad that is large enough to provide adequate support, allows for positive drainage, and, where applicable, conforms to the Wake County Health Department regulations governing compactor pads.

(5) The Planning Director may require some uses to install a pad and screening enclosure large enough to accommodate both a trash container as well as a recycling container for cardboard.

(6) The enclosure shall be kept free of litter, debris, and residue.

(7) The dumpster or compactor shall be accessible to the handicapped.

(8) All recycling drop-off containers and storage bins, with the exception of roll-out carts located in townhouse and multi-family developments and recycling containers located on school sites, shall be screened from view to at least fifty (50) percent of the height of the containers and bins in the station. The screen may be fencing or plantings. If plantings are used, the plants must reach the required height within three (3) years of planting. Roll-out carts associated with non-residential uses shall be a neutral or earth tone color, not be visible from a public street, and be located within the interior of the development. Drop-off containers and storage bins shall be located no closer than fifty (50) feet to a lot occupied by a dwelling.

(Ord. No. 2009-LDO-01, 2-12-09)

7.2.9 Miscellaneous Landscaping Requirements

(A) Required Landscaping on Single-Family Lots

(1) Minimum requirements shall be written out on the approved site and/or subdivision plan; however, no specific landscape plan is required for individual lots.

(2) Landscaping for individual lots shall be installed or secured for a future planting date prior to the Certificate of Occupancy permit.

(3) Existing vegetation on single-family lots shall be retained to the maximum extent possible.

(4) A ten (10) foot wide landscape area meeting the Type B buffer standard shall be provided on each lot where rear yards back up to each other or are visible from other rear yards.

(B) Required Foundation Plantings for Non-Residential Buildings

With the exception of building in the Town Center district, foundation plantings are required on all non-loading and non-service sides of non-residential buildings unless approved through a Statement of Architectural Compatibility (see Section 7.7.4).

(C) Standards for New Planting

(1) All trees shall be at least eight (8) feet high above ground level and a minimum of two (2) inches in caliper at the time of installation, and shall have an expected mature height based on the buffer type.
(2) All shrubs shall be healthy, at least twenty-four (24) inches in height above ground level and shall reach the height required for performance within five (5) years after installation.

(3) The standards for all trees and shrubs, including the minimum height, root ball size, number of branches, and width, shall conform with the American Standard for Nursery Stock published by the American Association of Nurserymen for that type of tree or shrub at the time of installation.

(4) The selection and planting of trees and shrubs shall conform to the standards set forth in the Community Appearance Manual. Trees intended for use in areas that are ten (10) feet wide or less and are adjacent to impervious surfaces shall be species that are suited to use in urban environments (i.e., reflected heat, limited pervious area, limited moisture) and are not shallow rooted, so as to avoid future damage to sidewalks and paved areas. The following trees meet this requirement: European Hornbeam (*Carpinus betulus*), Zelkova (*Zelkova serrata*), Chinese Elm (*Ulmus parviflora*), Ginko (*Ginkgo biloba*), Chinese pistache (*Pistacia chinensis*) and other similar trees. The following trees shall not be used in these areas: Red Maple (*Acer rubrum*), Sugar Maple (*Acer saccharum*), Ash (*Fraxinus* spp.), Sweetgum (*Liquidambar styraciflua*), Tulip Poplar (*Liriodendron tulipifera*), Pin Oak (*Quercus palustris*) and similar trees.

(D) Irrigation

(1) The use of irrigation systems and lawn turf is generally discouraged, but may be permitted if connected to a private well, other private water source, or public reclaimed water system.

(2) If automatic irrigation systems are permitted, moisture sensor regulators, soil moisture sensors, or drip irrigation shall be used.

(3) Irrigation systems may connect to the main water connection for the building unless otherwise restricted through other Town ordinances or policies.

(4) The above provisions shall also apply to all landscape areas required in parking and vehicular use areas per Section 7.2.6.

(E) Design Standards for Berms

All berms used in a perimeter buffer (or in a streetscape) shall meet the following design standards:

(1) The slope of all berms shall not exceed a two to one (2:1) ratio (horizontal to vertical), shall have a top width at least one-half (½) the berm height, and a maximum height of four (4) feet above the toe of the berm. The Planning Director shall approve all berms. Berms proposed to be greater than four (4) feet in height may be permitted by the Director if the four (4) foot maximum height is not practicable due to physical site constraints, such as topography, presence of stream buffers or other natural features, or lot dimensions; or due to presence of existing development or infrastructure.

(2) Proposed berms to be placed over an existing or proposed utility easement(s) shall be approved by the Development Review Committee.

(3) All berms, regardless of size, shall be stabilized with a ground cover or other suitable vegetation according to the Town’s Standard Specifications and Details.
(4) The Directors of Public Works, Transportation and Facilities, and Planning shall approve all berms proposed to be placed along street right(s)-of-way. Such berms shall be designed and constructed to provide adequate sight distances at intersections and along all other roads.

(5) Berms proposed to satisfy the buffer requirements specified in subsection 7.2.3 shall be vegetated as required by this section. Berms must be stabilized with ground cover to prevent erosion and sedimentation. Use of berms as a substitute for existing healthy vegetation is strongly discouraged. However, if berms are allowed to replace existing vegetation that already meets the standards contained in this section, then they must also meet the buffer standards and must be approved by the Planning Director.

(6) Berms shall in no case damage the roots of existing healthy vegetation designated to be preserved.

(F) Easements

Nothing shall be planted or installed within an underground or overhead utility easement or a drainage easement without the consent of the Town and the easement holder at the time of site plan approval.

(G) Designated Utility Corridors

In order to reduce the damage to root systems of existing vegetation within streetscapes, buffers or any other tree save areas, designation of planned utility connection corridors is required to be shown on all site and/or subdivision plans to coordinate the location of electrical, telephone, cable, and other similar utilities.

(H) Additional Requirement for Clear-Cut Sites or Sites with Removed Vegetation in Required Vegetation Protection Areas

Larger trees up to four (4) inches in caliper and/or up to double the amount of the required number of trees and shrubs may be required by the Planning Director if the site and/or the required vegetation protection areas specified in this Ordinance were clear cut within five (5) years prior to submittal of a site and/or subdivision plan.

(I) It is recommended that all common areas and similar areas used as general unspecified open space be stabilized using warm season grasses.

(J) Variety of Plant Species Required

No single species of tree shall constitute more than twenty-five (25) percent of the plant material of its type installed on a single development site. This restriction may be modified by the Planning Director on sites smaller in size than two (2) acres provided that an acceptable variety of plant material is proposed.

(K) Soil Amendments Required

Soil amendments shall be specified and used to improve the quality of soil used as planting media for trees. This requirement applies to all development, except for residential single-family lots. Common areas of subdivisions and townhouse developments are subject to the requirements of this section.
§ 7.2.10

(1) A registered Landscape Architect shall provide a recommended soil amendment schedule based on the existing soils found on-site and the type of plant material proposed. This schedule shall be included as part of the required landscape plan submitted as part of a site and/or subdivision plan.

(2) Prior to the issuance of a Certificate of Occupancy, a certified statement shall be provided to town staff Cary Site Inspector attesting to the fact that the soil amendment schedule was followed as specified in the approved site and/or subdivision plan. This statement shall be certified by a registered landscape architect, certified arborist, or other such specialist.

(L) Reforestation of Cut and Fill Slopes

Where portions of a site have been graded due to, but not limited to, topography, cut and fill slopes associated with road and/or parking lot construction; with transitional perimeter grading; or with the installation of major utilities, and other similar areas, the development plan shall contain a reforestation plan prepared by a landscape architect, a certified arborist, a registered forester, or another such professional specialist. The reforestation plan shall conform to the following standards:

(1) Loblolly Pine (Pinus taeda) seedlings shall be installed on a staggered grid with a spacing of ten (10) feet within a row and fifteen (15) feet between rows.

(2) Alternate tree species or planting arrangements may be approved by the Planning Director in response to site-specific characteristics that dictate such a change.

(3) The plantings required by this subsection shall not be subject to the requirements of subsections (J) and (K) above.

(M) Separation from Utility Appurtenances

In order to prevent conflicts and allow for appropriate maintenance, canopy trees shall be placed at least ten (10) feet from electrical transformers and twenty (20) feet from light poles.

7.2.10 Allowable Modifications and Reductions

(A) This Section 7.2.10 provides flexibility and presents alternative ways to meet the standards set forth in this Ordinance, while encouraging the preservation of existing healthy vegetation and innovation in site design.

(1) Existing healthy vegetation and the area of land used to maintain the vegetation may be counted toward meeting the performance criteria for buffers, streetscapes, and vehicular use areas set out in Sections 7.2.3, 7.2.4, and 7.2.6.

(2) Up to a twenty (20) percent reduction in the number of parking spaces required on the site shall be allowed to the extent that the reduction in the amount of required pavement will preserve existing healthy trees in an undisturbed, natural condition.

(3) Reduction of the buffer width may be approved, as provided below.

(a) The Zoning Board of Adjustment may reduce the width of required streetscapes and buffers to no less than ten (10) feet pursuant to this section. Buffer reductions between uses may be considered based on the use of innovative site/building design concepts. The Zoning Board of Adjustment may make exceptions to this minimum width for development within the Town Center.
§ 7.2.10 CARY LAND DEVELOPMENT ORDINANCE

District and for reuse/redevelopment sites. Reductions in the width of streetscapes and buffers should only be allowed when:

(1) At least one (1) of the following conditions exists:
   a. meeting the required width prevents reasonable use of the property based on the zoning; or
   b. additional open space beyond that already required is provided elsewhere on the site; and
   c. the modification advances the goals and purposes of the LDO.

The Planning Director may allow reuse/redevelopment sites to maintain their existing buffer and streetscape widths even if such width is less than current ordinance requirements so long as the proposed development plan does not reduce the existing buffer or streetscape width on the site. If existing pavement, curbs, and/or buildings are being removed from the required buffer and streetscape widths, the Planning Director may require plantings to reasonably meet the intent of the landscape requirements (i.e., parking lot screening, streetscape/buffer and parking lot trees).

(4) An average buffer/streetscape width that equals the width of the required buffer/streetscape may be approved, provided that all of the following requirements are met:
   a. The buffer/streetscape average equals the required width (for example, a required fifty (50) foot buffer could average a minimum of fifty (50) feet in width.)
   b. In no case shall a buffer/streetscape that is adjacent to single-family residential development be less than thirty (30) feet in width.
   c. All buffer/streetscape areas that are less than the required minimum width must include additional vegetation, walls/fencing, and/or other measures.

(5) Where spacing of required streetscape trees evenly across the frontage of the property or existing vegetation would interfere with the visibility of features or landscapes intended specifically for public or civic purposes such as art, monuments, memorials, and historic structures, the required number of trees may be staggered, clustered and otherwise arranged as deemed appropriate in order to promote optimal growth and health of the vegetation. In addition, existing vegetation may be removed from the streetscape for visibility of features provided that an area equal to the area of vegetation being removed is preserved elsewhere on the site (in addition to required buffers).

(6) The area used for preserving existing healthy non-champion trees within the site may be used as credit for required perimeter non-residential buffers and interior buffers, at a rate of one and one-half (1.5) times. For example, if the area taken up by the preserved vegetation is one thousand two hundred (1,200) square feet, then the applicant may deduct an area equal to one thousand eight hundred (1,800) square feet from other required landscape/buffer areas. However, the application of this subsection is subject to the limits provided under Section 7.2.10. In addition, the area removed from required perimeter buffers should not contain specimen tree stands. For purposes of this section, "area taken up by preserved vegetation" includes the area under the tree canopies.
(7) Interior buffer areas may be relocated provided that the square footage of area is relocated elsewhere on the site (preferably to save more existing vegetation).

(8) The required streetscape along thoroughfares and collectors may be reduced to ten (10) feet, and building setbacks from the streetscape to zero (0) when buildings are placed close to the street inside Mixed Use Overlay Districts.

(B) In addition to subsection (A) above, and in order to provide for flexibility in site design and landscape requirements to preserve champion trees, the Planning Director shall administratively approve the below modifications in the order listed and only to the extent necessary to preserve champion trees. Specifically, the area preserved in association with saving champion trees may be exchanged for area used to meet the other LDO requirements referenced below. Refer to Section 7.2.5(A) for definitions applicable to this subsection.

(1) The required number of parking spaces may be reduced by up to twenty-five (25) percent;

(2) Linear parking lot islands may be reduced and/or eliminated;

(3) The area encompassed by the critical root zone of preserved champion trees may be used to meet the community gathering space requirements;

(4) The area encompassed by the critical root zone of preserved champion trees and designated as common open space may be used to meet the bonus open space requirements within the conservation residential overlay district without being contiguous or meeting the area size requirements;

(5) Residential lot lines may be created at other than substantially right angles to other lot lines provided the lot meets all other dimensional requirements of this ordinance and permits a reasonable building envelope for a dwelling;

(6) Residential lot setbacks may be reduced up to fifty percent (50%) when the setback is adjacent to a champion tree critical root zone area.

(7) The connectivity index, primary circulation standards, and the cross-access requirements within Section 7.10.3 (A) and (C) may be modified provided the circulation pattern shall continue to provide for the safe, controlled, and orderly flow of pedestrians and vehicles;

(8) Champion trees and their critical root zones or a portion thereof may be included within residential lots provided such inclusion permits a reasonable building envelope for a dwelling and designated as tree protection areas on the development plan;

(9) Interior non-residential buffers and interior buffers within non-residential centers/subdivisions may be reduced to no less than ten (10) feet or the width required to meet the planting requirements of the buffer type, whichever is greater, provided specimen hardwood tree stands are not adversely impacted;

(10) Total perimeter buffers widths adjacent to non-residential uses or zoning districts may be reduced to no less than twenty (20) feet, provided specimen hardwood tree stands are not adversely impacted and there is sufficient room to plant the required buffer type;
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(11) Buffers and streetscape areas may be used for bio-retention, provided specimen hardwood tree stands are not adversely impacted and the buffer is adjacent to a non-residential use or zoning district.

(12) Critical root zone measurement and tree protection area may be reduced to one (1) foot from the champion tree for each inch of caliper.

For the purpose of the allowable modifications above, the "area encompassed by the critical root zone of preserved champion trees" also includes the area needed to preserve an existing structure on a site, the demolition of which would have adversely impacted the critical root zone of one (1) or more champion trees.

7.2.11 Time for Installation of Required Landscaping

(A) Time Limit

All landscaping, including mulching and seeding, shall be completed in accordance with the approved site and/or subdivision plan prior to issuance of a Certificate of Occupancy for the site, unless the Planning Director grants an exception to meeting this requirement due to extreme heat or cold conditions. The installation of these requirements shall comply with the required planting standards set forth in the Town's Community Appearance Manual and the soil erosion and sedimentation control provisions in Section 7.4. Installation of required landscaping (i.e., trees and shrubs) shall be strongly discouraged during the months of June 15th through September 15th. The use of alternative water source (other than public water) is encouraged to ensure plantings are healthy after first growing season. Projects which require installation of landscaping between June 15th and September 15th are required to have a landscape agreement in place prior to the issuance of a Certificate of Occupancy.
(B) Extensions and Exceptions

The Planning Director may grant exceptions and extensions to the above time limit in the following circumstances and under the following conditions:

(1) Exceptions may be granted due to unusual environmental conditions, such as drought, ice, over-saturated soil (deep mud), or inappropriate planting season for the plant species (plantings between June through August are strongly discouraged), provided that the developer or property owner provides the Town with a certification on a form approved by the Planning Department ensuring the installation of the remaining landscape materials. In such cases, the Planning Director may issue a conditional Certificate of Occupancy for a period of thirty (30) to one hundred eighty (180) days, depending on the Director’s recommendation for the next earliest planting season.

(2) Exceptions may be granted due to the substitution or unavailability of plant species or acceptable plant size as specified on the site plan, provided that the developer or property owner provides the Town with a certification on a form approved by the Planning Department to ensure that the unavailable plants will be installed on the property. In such cases, the Director may issue a temporary Certificate of Occupancy for a term of up to one hundred eighty (180) days or to the next planting season, whichever comes first. Only twenty (20) percent of the plant materials to be installed on the property may be delayed under this exception. All such substitutions shall be marked on the “as-built” landscaping plans submitted to the Planning Director, and must be signed, dated, and approved by that Director prior to installation.

(3) Exceptions may be granted due to circumstances beyond the developer’s or property owner’s control, such as incomplete construction or utility work to occur in a proposed landscaped area within thirty (30) days after expected site completion, provided that the developer or property owner submits a letter from the utility company stating the estimated installation date, and provides certification on a form approved by the Planning Department to ensure installation of the required landscaping. In such cases, the Inspections and Permits Department may issue a temporary conditional Certificate of Occupancy.

7.2.12 Implementation of Landscape Plan; Inspections

(A) Inspections Prior to Certificate of Occupancy

The Planning Department shall inspect the site prior to the issuance of a permanent Certificate of Occupancy for the development and the Inspections and Permits Department shall not issue the permanent Certificate of Occupancy if the landscaping required under this section is not living or healthy or is not installed in accordance with the standards set forth in this section and in accordance with the approved site plan.

(B) Inspections After First Year

The Planning Department shall inspect the site one (1) year after the issuance of a permanent Certificate of Occupancy in order to ensure compliance with the approved site and/or subdivision plan and to ensure that the landscaping is properly maintained. Failure to maintain required landscape areas (trees and shrubs) shall result in fines according to Chapter 11 of this Ordinance.
7.2.13 Maintenance Responsibility, Replacement of Damaged Vegetation, and Associated Fines

(A) General Maintenance Responsibility

The owners of the property shall be responsible for the installation, preservation, and maintenance of all planting and physical features (installed or vegetated natural areas) in all buffers, streetscapes, vehicular use areas, and other landscaped areas required under Sections 7.2.1 through 7.2.12 and Section 7.2.15, by zoning condition(s) or by an approved site and/or subdivision plan or final plat, including areas labeled on such plans or plats as undisturbed, (hereinafter, in this Section 7.2.13, referred to collectively as "required landscape areas"), as provided below:

(1) Required landscape areas shall be free of refuse and debris, shall be treated for pest/diseases in accordance with the approved site and/or subdivision plan, and shall be maintained so as to prevent mulch, straw, dirt, or other materials from washing onto streets and sidewalks.

(2) The owner shall take actions to protect vegetation in required landscape areas from unnecessary damage during all facility and site maintenance operations, including preventing parking or intrusion of equipment or vehicles and storage of any materials in root zones.

(3) Plants shall be maintained in a way that does not obstruct sight distances at roadway and drive intersections, obstruct traffic signs or devices, and/or interfere with the use of sidewalks or pedestrian trails (see Community Appearance Manual). Shrubs within existing vehicle use areas, streetscapes, and street fronts may be pruned, but must maintain a height of at least three (3) feet.

(4) Any dead, unhealthy, or missing vegetation, or vegetation disfigured by severe pruning, shall be replaced with locally adapted vegetation that conforms to the standards of this Ordinance and the approved site and/or subdivision plan.

(B) Removal, Damage and Pruning of Vegetation

(1) Removal, Disturbance, Damage and Severe Pruning Prohibited

Vegetation in required landscape areas may not be removed, disturbed, damaged, or severely pruned except as allowed in accordance with Section 7.2.13(B)(2). For purposes of this Section 7.2.13, "disturbance" shall be defined as any action that results in injury or harm to required trees, shrubbery, or other vegetation. Plants shall be considered severely pruned if pruned in such a manner that growth of their natural form is impaired.

(2) Exceptions

Vegetation within required landscape areas may be removed or modified with approval of a tree clearing certificate or with approval of the Planning Director as provided below:

(a) Upper-story and understory trees may be pruned in accordance with Section 7.2.4, Streetscape Landscaping to prevent damage to utilities or buildings, and to maintain sight distance requirements.
DEVELOPMENT AND DESIGN STANDARDS § 7.2.14

(b) Where vegetation poses an immediate or imminent threat to improved structures on private or public property, severe pruning and/or removal of the vegetation is allowed, provided the performance standard of the required landscape area is maintained consistent with this Ordinance.

(c) Where vegetation or a physical element functioning to meet the standards of this Ordinance is severely damaged due to an unusual weather occurrence or natural catastrophe, or other natural occurrence such as natural death or damage by wild or domestic animals, the owner may be required to replant if the required landscape area no longer achieves the required performance standards of this Ordinance. The owner may have one (1) growing season to replace or replant after reconstruction is complete. The Planning Director shall consider the type and location of the landscape buffer or required vegetation area as well as the propensity for natural revegetation in making a determination on the extent of replanting requirements.

(d) Trees may be removed after approval of a tree clearing certificate pursuant to Section 3.22 of this Ordinance.

(C) Replacement of Disturbed and Damaged Vegetation

Where existing required vegetation has been removed, disturbed, or damaged in violation of this Ordinance, the Planning Director shall require revegetation of the affected area consistent with the provisions of Section 11.5.2(B)(1).

(D) Fines

Fines for unauthorized removal or disturbance of, damage to, or severe pruning of vegetation shall be assessed pursuant to Section 11.5.2(B)(2).

7.2.14 Urban Transition Buffer Regulations

(A) The Purpose and Intent of Urban Transition Buffers

Urban Transition Buffers (UTBs or “buffers”) provide a transition from waterbodies and environmentally sensitive areas associated with waterbodies to areas which are less fragile and appropriate for more intense uses and development. Some of the benefits of UTBs are minimizing danger to lives and properties from flooding, preserving the water carrying capacity of the waterbodies, providing open spaces, limiting intense uses adjacent to waterbodies and environmentally sensitive areas associated with waterbodies, and maintaining the aesthetic qualities and appearance of the Town. As part of the Town’s Land Development Ordinance, UTBs implement many of the Town’s responsibilities under State and Federal law and regulations regarding stormwater management and watershed preservation and are designed to work in conjunction with erosion and sedimentation control regulations. The Town’s water utility system uses surface water to provide drinking water to its citizens and the preservation of this resource is important to the Town and its citizens. General UTBs are uniform and comprehensive zoning buffers which accomplish these important benefits and purposes as well as regulating and restricting the location of buildings, structures and land, providing yards and open spaces, all for the promotion of health, safety and the general welfare of the Town's citizens. Specialized UTBs exist to address concerns which are not present in the Town’s entire zoning jurisdiction.
(B) Establishing General Urban Transition Buffers

(1) This Section 7.2.14 shall apply to activities conducted within, or outside of with hydrologic impacts in violation of the diffuse flow requirements set out in Section 7.2.14(B)(3)(a)(3), upon:

(a) Cape Fear Basin/Jordan Watershed

1. A one hundred (100) foot wide buffer directly adjacent to all surface waters (intermittent streams, perennial streams, lakes, reservoirs and ponds) as approximately indicated on the most recent version of the 1:24,000 scale {seven and one-half (7.5) minute} quadrangle topographic maps prepared by the United States Geological Survey (USGS).

2. A fifty (50) foot wide buffer approximately adjacent to any surface waters (intermittent streams, perennial streams, lakes, reservoirs and ponds) shown on the most recent version of the Soil Survey of Wake or Chatham County, North Carolina prepared by the Natural Resources Conservation Service of the United States Department of Agriculture and not shown on a USGS quadrangle topographic map, or shown on a map approved by the Geographic Information Coordinating Council and by the NC Environmental Management Commission pursuant to 15A NCAC .0267.

(b) Neuse River Basin

1. A fifty foot (50') wide buffer beginning at the landward boundary of any Neuse River Riparian Buffer mandated by regulations adopted by the Environmental Management Commission of the State of North Carolina and established adjacent to surface waters (intermittent streams, perennial streams, lakes, reservoirs and ponds) as approximately indicated on the most recent version of the 1:24,000 scale {seven and one-half (7.5) minute} quadrangle topographic maps prepared by the United States Geological Survey (USGS).

(c) Wetlands adjacent to surface waters or within fifty (50) feet of surface waters shall be considered as part of the UTB but are regulated pursuant to Rules 15A NCAC 2B .0230 and .0231, Rules 15A NCAC 2H .0500, 15 NCAC 2H .1300, and Sections 401 and 404 of the Federal Water Pollution Control Act.

(2) General UTBs are applied to specific properties as follows:

(a) Where the specific origination point of a stream regulated under subsection (B)(1)(a) is in question upon request of the NC Division of Water Resources ("Division") or another party, the Town shall make an on-site determination. A Town representative who has the training required by 15A NCAC 02B .0267 shall establish that point using the methods described by 15A NCAC 02B .0267. Any disputes over said on-site determinations shall be referred to the Director of Water Resources c/o the 401 Oversight Express Permitting Unit, or its successor, in writing. The Director's determination is subject to review as provided in Articles 3 and 4 of G.S. Chapter 150B.

(b) When a landowner or other affected party including the Division believes that the maps referenced in subsection (B)(1)(a) have inaccurately depicted surface waters, he or she shall consult the Town. Upon request the Town representative
who has the training required by 15A NCAC 02B .0267 shall make an on-site
determination. Any disputes over said on-site determination shall be referred to
the Director of the Division of Water Resources c/o the 401 Oversight Express
Permitting Unit, or its successor, in writing. A determination of the Director as to
the accuracy or application of the maps is subject to review as provided in
Articles 3 and 4 of G.S. Chapter 150B. Surface waters that appear on maps shall
not be subject to these requirements if a site evaluation reveals any of the
following cases:

1. Man-made ponds and lakes that are not part of the natural drainage way
that is classified in accordance with 15A NCAC 2B .0100 including ponds
and lakes created for animal watering, irrigation or other agricultural uses.
(A pond or lake is part of a natural drainage way when it is fed by an
intermittent or perennial stream or when it has a direct discharge point to
an intermittent or perennial stream).

2. Ephemeral streams

3. The absence on the ground of a corresponding intermittent or perennial
stream, lake, reservoir or pond.

4. Ditches or other man-made water conveyances, other than modified
streams.

[Text continues on p. LDO 7-57.]
(3) General UTBs shall have zones as follows:

General UTBs may have as many as three (3) regulatory zones. The purpose of the different regulatory zones is to provide transition within General UTBs from the most fragile areas to less fragile areas and to provide some flexibility to the Town in administering of the UTBs. The regulatory zones shall be:

(a) Cape Fear River Basin/Jordan Watershed

1. UTBs established pursuant to Section 7.2.14(B)(1)(a)(1) shall have three (3) zones:
   
a. Zone One shall consist of a stable, vegetated area that is undisturbed except for uses provided in subsection (E) and Table 7.2-6. The locations of Zone One shall be as follows: For intermittent and perennial streams, Zone One shall begin at the top of bank and extend landward a distance of thirty (30) feet on all sides of the surface water, measured horizontally on a line perpendicular to a vertical line marking the top of the bank. For ponds, lakes and reservoirs located within a natural drainage way, Zone One shall begin at the normal water level and extend landward a distance of thirty (30) feet, measured horizontally on a line perpendicular to a vertical line marking the normal water level.

   b. Zone Two shall consist of a stable, vegetated area that is undisturbed except for uses provided in subsection (E) and Table 7.2-6. Zone Two shall begin at the outer edge of Zone One and extend landward twenty (20) feet as measured horizontally on a line perpendicular to the surface water. The combined width of Zones One and Two shall be fifty (50) feet on all sides of the surface water.

   c. Zone Three shall consist of a stable, vegetated area that is undisturbed except for uses provided for in subsection (E) and Table 7.2-6. Zone Three shall begin at the outer edge of Zone Two and extend landward fifty (50) feet as measured horizontally on a line perpendicular to the surface water. The combined width of Zones One, Two and Three shall be one hundred (100) feet on all sides of the surface water.

2. UTBs established pursuant to Section 7.2.14(B)(1)(a)2 shall have two (2) zones:

   a. Zone One shall consist of a stable, vegetated area that is undisturbed except for uses provided in subsection (E) and Table 7.2-6. The locations of Zone One shall be as follows: For intermittent and perennial streams, Zone One shall begin at the top of bank and extend landward a distance of thirty (30) feet on all sides of the surface water, measured horizontally on a line perpendicular to a vertical line marking the top of the bank. For ponds, lakes and reservoirs located within a natural drainage way, Zone One shall begin at the normal water level and extend landward a distance of thirty (30) feet, measured horizontally on a line perpendicular to a vertical line marking the normal water level.
b. Zone Two shall consist of a stable, vegetated area that is undisturbed except for uses provided in subsection (E) and Table 7.2-6. Grading and revegetating in Zone Two is allowed provided that the health of the vegetation in Zone One is not compromised. Zone Two shall begin at the outer edge of Zone One and extend landward twenty (20) feet as measured horizontally on a line perpendicular to the surface water. The combined width of Zones One and Two shall be fifty (50) feet on all sides of the surface water.

3. Diffuse Flow Requirement: Diffuse flow of runoff shall be maintained in the UTBs established pursuant to Section 7.2.14(B)(1) by dispersing concentrated flow prior to its entry into the UTB and reestablishing vegetation as follows:

a. Concentrated runoff from new ditches or man-made conveyances shall be converted to diffuse flow at non-erosive velocities before the runoff enters the UTB.

b. Periodic corrective action to restore diffuse flow shall be taken as necessary and shall be designed to impede the formation of gullies; and

c. No new stormwater conveyances are allowed through the UTBs except for those specified in subsection (E) and Table 7.2-6 addressing stormwater management ponds, drainage ditches, roadside ditches and stormwater conveyances.

(b) Neuse River Basin

General UTBs established pursuant to Section 7.2.14(B)(1)(b) shall have one (1) zone: Zone Three. Zone Three shall consist of a stable, vegetated area that is undisturbed except for uses provided for in subsection (E) and Table 7.2-6. Zone Three shall begin at the outer edge of the Neuse Riparian Buffer and extend landward fifty (50) feet as measured horizontally on a line perpendicular to the surface water. The combined width of the Neuse Riparian Buffer and Zone Three shall be one hundred (100) feet on all sides of the surface water.

(C) Establishing Specialized Urban Transition Buffers

(1) Property within Watershed Protection Overlay

In addition to the General UTBs established above, Specialized UTBs are required by the Town's Watershed Protection Overlay (Section 4.4.6). Specialized UTBs shall overlay General UTBs, as opposed to being situated adjacent to General UTBs. The Specialized UTBs are as follows:

(a) Low Density Development Option

In the event the Landowner elects to develop his property under the Low Density Development Option, as provided in Section 4.4.6(F)(1), a Specialized UTB thirty (30) feet wide shall be established adjacent to all perennial surface waters including perennial streams, lakes, reservoirs and ponds as approximately indicated on the most recent versions of USGS 1:24,000 scale [seven and
one-half (7.5) minute) quadrangle topographic maps prepared by the United States Geological Survey (USGS).

(b) High Density Development Option

In the event the Landowner elects to develop his property under the High Density Development Option, as provided in Section 4.4.6(F)(2), a Specialized UTB one hundred feet (100') wide shall be established adjacent to all perennial surface waters including perennial streams, lakes, reservoirs and ponds as approximately indicated on the most recent versions of USGS 1:24,000 scale (seven and one-half (7.5) minute) quadrangle topographic maps prepared by the United States Geological Survey (USGS).

(2) Uses Allowed Within Specialized UTBs

The uses allowed within Specialized UTBs are described in Table 7.2-6.

(3) Measurement of Specialized UTBs

Specialized UTBs shall be measured from a point perpendicular to the bank of the perennial waters.

(D) Overlap or Conflict between Urban Transition Buffers established by the Town and buffers established by State of North Carolina or Federal Regulations

(1) In the event of an overlap or conflict between a General UTB and a Specialized UTB, the more restrictive buffer shall govern. It is the intent of the Town that General UTBs shall provide the minimum urban transition buffer for all properties located in the Town's zoning jurisdiction.

(2) In the event of an overlap or conflict between any buffer established by this Section 7.2.14 and any buffer or other requirement established by another law, rule or regulation administered by the State of North Carolina or the Federal Government, the more restrictive law, rule or regulation shall govern.

Table 7.2-5 below graphically depicts the Town's UTBs and their zones.
TABLE 7.2-5 TOWN OF CARY GENERAL AND SPECIALIZED UTBs

<table>
<thead>
<tr>
<th>Zones of Buffers</th>
<th>General UTBs</th>
<th>Watershed Overlay Buffers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ZONE 1</td>
<td>ZONE 2</td>
</tr>
<tr>
<td>Cape Fear River Basin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not in Watershed overlay district</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shown on USGS map</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Shown on county soil map</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>In watershed overlay district</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shown on USGS map</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Shown on county soil map</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Neuse River Basin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not in Watershed overlay district</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shown on USGS map</td>
<td>No[3]</td>
<td>No[3]</td>
</tr>
<tr>
<td>Shown on county soil map</td>
<td>No[3]</td>
<td>No[3]</td>
</tr>
<tr>
<td>In watershed overlay district</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shown on county soil map</td>
<td>No[3]</td>
<td>No[3]</td>
</tr>
</tbody>
</table>

[1] Minimum thirty (30) foot wide vegetative buffer and other regulations apply. See Section 4.4.6 of the LDO.

[2] Minimum one hundred (100) foot wide vegetative buffer and other regulations apply. See Section 4.4.6 of the LDO.


(E) Activities Prohibited and Permitted in Urban Transition Buffers

(1) Any activity which disturbs the soil or vegetation within any Urban Transition Buffer is prohibited unless expressly permitted by this Section 7.2.14(E) and Table 7.2-6. Table 7.2-6 describes the uses permitted in each UTB established by this Section 7.2.14(E).

(2) Uses designated as exempt, allowable, allowable with mitigation and prohibited shall have the following requirements:

(a) EXEMPT

Uses designated as exempt are allowed within the Urban Transition Buffer provided that they adhere to the limitations of the activity as defined in subsection (E)(1) and Table 7.2-6 below. Exempt uses shall be designed, constructed and maintained to minimize soil disturbance and to provide the maximum water quality protection practicable including construction, monitoring and maintenance activities.
(b) ALLOWABLE

Uses designated as allowable may proceed within the Urban Transition Buffer provided that there are no practical alternatives to the requested use as determined pursuant to Section 7.2.14(I). This includes construction, monitoring and maintenance activities. These uses require written authorization from the Town of Cary.

(c) ALLOWABLE WITH MITIGATION

Uses designated as allowable with mitigation may proceed within the Urban Transition Buffer provided that there are no practical alternatives to the requested use as determined pursuant to Section 7.2.14(I) and mitigation approval has been obtained pursuant to Section 7.2.14(L). These uses require written authorization from the Town of Cary.

(d) PROHIBITED

Uses designated as prohibited or not designated as exempt, allowable, or allowable with mitigation, may not proceed within the Urban Transition Buffer unless a variance is granted pursuant to this Section 7.2.14.

<table>
<thead>
<tr>
<th>TABLE 7.2-6 TOWN OF CARY GENERAL AND SPECIALIZED UTBs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
</tr>
<tr>
<td>Access Trails: Pedestrian access trails leading to the surface water, docks, fishing piers, boat ramps and other water dependent activities</td>
</tr>
<tr>
<td>Pedestrian Access trails that are restricted to the minimum width practicable and do not exceed four (4) feet in width of buffer disturbance, and provided that installation and use does not result in the removal of trees as defined in this Ordinance and no impervious surface is added to the UTB</td>
</tr>
<tr>
<td>Pedestrian Access trails that exceed four (4) feet in width of buffer disturbance, the installation or use results in the removal of trees as defined in this Ordinance or impervious surface is added to the UTB</td>
</tr>
<tr>
<td>Airport facilities:</td>
</tr>
<tr>
<td>Airport facilities that impact equal to or less than one hundred and fifty (150) linear feet of UTB</td>
</tr>
<tr>
<td>Airport facilities that impact greater than one hundred and fifty (150) linear feet of UTB</td>
</tr>
<tr>
<td>Activities necessary to comply with FAA requirements (e.g. radar uses or landing strips)</td>
</tr>
<tr>
<td>Archaeological activities</td>
</tr>
<tr>
<td>Bridges</td>
</tr>
<tr>
<td>Canoe Access provided that installation and use does not result in the removal of trees as defined in this Ordinance and no impervious surface is added to the UTB</td>
</tr>
</tbody>
</table>
## TABLE 7.2-6 TOWN OF CARY GENERAL AND SPECIALIZED UTBs

<table>
<thead>
<tr>
<th>Activity</th>
<th>Exempt</th>
<th>Allowable</th>
<th>Allowable with Mitigation</th>
<th>Prohibited</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dam Maintenance activities:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dam maintenance activities that do not cause additional buffer disturbance beyond the footprint of the existing dam or those covered under the U.S. Army Corps of Engineers Nationwide Permit No. 3</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dam maintenance activities that do cause additional buffer disturbance beyond the footprint of the existing dam or those covered under the U.S. Army Corps of Engineers Nationwide Permit No. 3</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Drainage ditches, roadside ditches and stormwater conveyances through buffers:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New stormwater flows to existing drainage ditches, roadside ditches, and stormwater outfalls provided that flows do not alter or result in the need to alter the conveyance and are managed to minimize the sediment, nutrients and other pollution that convey to waterbodies</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Realignment of existing roadside drainage ditches retaining the design dimensions, provided that no additional travel lanes are added and the minimum required roadway typical section is used based on traffic and safety considerations</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New or altered drainage ditches, roadside ditches and stormwater outfalls provided that a stormwater management facility is installed to control nitrogen and attenuate flow before the conveyance discharges through the buffer</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New drainage ditches, roadside ditches and stormwater conveyances applicable to linear projects that do not provide stormwater management facility due to topography constraints provided that other practicable BMPs are employed.</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Drainage ditches, roadside ditches and stormwater outfalls that do not provide control for nitrogen before discharging into the UTB</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Excavation of the streambed in order to bring it to the same elevation as the invert of a ditch</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><strong>Driveway crossings of streams and other surface waters subject to this Ordinance:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driveway crossings on single family residential lots that disturb equal to or less than twenty-five (25) linear feet of UTB</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driveway crossings on single family residential lots that disturb greater than twenty-five (25) linear feet of UTB</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In a subdivision that cumulatively disturb equal to or less than one hundred and fifty (150) linear feet of UTB</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>In a subdivision that cumulatively disturb greater than one hundred and fifty (150) linear feet of UTB</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Activity</td>
<td>Exempt</td>
<td>Allowable</td>
<td>Allowable with Mitigation</td>
<td>Prohibited</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>--------</td>
<td>-----------</td>
<td>---------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Fences provided that disturbance is minimized and installation does not result in removal of forest vegetation</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fences provided that disturbance is minimized and installation does result in removal of trees as defined in this Ordinance</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest harvesting [refer to 15A NCAC 02B.0233 (11) and 15A NCAC 02B.0267(14)]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fertilizer application:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One-time fertilizer application to establish re-planted vegetation</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ongoing fertilizer application</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Grading and revegetation in Zone 2 and 3 only provided that diffuse flow and the health of existing vegetation in Zone 1 is not compromised and disturbed areas are stabilized</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenway/hiking trails designed, constructed and maintained to maximize nutrient removal and erosion protection, minimize adverse effects on aquatic life and habitat and protect water quality to the maximum extent practical</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Historic preservation</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landfills as defined by G.S. 130A-290</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Maintenance Access on modified natural streams: a grassed travel way on one side of the water body when less impacting alternatives are not practical. The width and specifications of the travel way shall be only that needed for equipment access and operation. The travel way shall be located to maximize stream shading.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Mining activities:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mining activities that are covered by the Mining Act provided that new UTBs that meet the requirements of 7.2.14(B)(3)(a) of this Ordinance are established adjacent to the relocated channels</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mining activities that are not covered by the Mining Act OR where new UTBs that meet the requirements of 7.2.14(B)(3)(a) of this Ordinance are not established adjacent to the relocated channels</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Wastewater or mining dewatering wells with approved NPDES permit</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Non-electric utility lines:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts other than perpendicular crossings in Zones 2 and 3 only[3]</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts other than perpendicular crossings in Zone 1[3]</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Non-electric utility line perpendicular crossing of streams and other surface waters subject to this Ordinance:[3]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpendicular crossings that disturb equal to or less than forty (40) linear feet of UTB with a maintenance corridor equal to or less than ten (10) feet in width</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**TABLE 7.2-6 TOWN OF CARY GENERAL AND SPECIALIZED UTBs**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Exempt</th>
<th>Allowable</th>
<th>Allowable with Mitigation</th>
<th>Prohibited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perpendicular crossings that disturb equal to or less than forty (40) linear feet of UTB with a maintenance corridor greater than ten (10) feet in width</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpendicular crossings that disturb greater than forty (40) linear feet but equal to or less than one hundred and fifty (150) linear feet of UTB with a maintenance corridor equal to or less than ten (10) feet in width</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpendicular crossings that disturb greater than forty (40) linear feet but equal to or less than one hundred and fifty (150) linear feet of UTB with a maintenance corridor greater than ten (10) feet in width</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpendicular crossings that disturb greater than one hundred and fifty (150) linear feet of UTB</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On-site sanitary sewage systems - new ones that use ground absorption</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Overhead electric utility lines:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts other than perpendicular crossings in Zones 2 and 3 only[3]</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts other than perpendicular crossings in Zone 1[1,2,3]</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Overhead electric utility line perpendicular crossings of streams and other surface waters subject to this Ordinance[3]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpendicular crossings that disturb equal to or less than one hundred and fifty (150) linear feet of UTB[1, 3]</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpendicular crossings that disturb greater than one hundred and fifty (150) linear feet of UTB[1, 2, 3]</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Periodic maintenance of modified natural streams such as canals and a grassed travelway on one (1) side of the surface water when alternative forms of maintenance access are not practical</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piping of a stream under a permit issued by the US Army Corps of Engineers</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playground equipment:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playground equipment on single family lots provided that installation and use does not result in removal of vegetation</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playground equipment installed on lands other than single-family lots or that requires removal of vegetation</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ponds created by impounding streams and not used as stormwater BMPs:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New ponds provided that an UTB that meets the requirements of Section 7.2.14(B)(3)(a) of this Ordinance is established adjacent to the pond</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New ponds where an UTB that meets the requirements of Section 7.2.14(B)(3)(a) of this Ordinance is NOT established adjacent to the pond</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Ponds: Drainage of a pond in a natural drainage way provided that a new riparian buffer that meets the requirements of 7.2.14(B)(1)(a), 7.2.14(B)(1)(c), 7.2.14(B)(2), 7.2.14(B)(3)(a), 7.2.14(E), 7.2.14(H), and Table 7.2-6 of this rule is established adjacent to the new channel</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## TABLE 7.2-6 TOWN OF CARY GENERAL AND SPECIALIZED UTBs

<table>
<thead>
<tr>
<th>Activity</th>
<th>Exempt</th>
<th>Allowable</th>
<th>Allowable with Mitigation</th>
<th>Prohibited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection of existing structures, facilities and streambanks when this requires additional disturbance of the UTB or the stream channel</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Railroad impacts other than crossings of streams and other surface waters subject to this Ordinance</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Railroad crossings of streams and other surface waters subject to this Ordinance:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Railroad crossings that impact equal to or less than forty (40) linear feet of UTB</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Railroad crossings that impact greater than forty (40) linear feet but equal to or less than one hundred and fifty (150) feet of UTB</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Railroad crossings that impact greater than one hundred and fifty (150) linear feet of UTB</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Recreational and accessory structures in the UTB</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Removal of previous fill or debris provided that diffuse flow is maintained and any vegetation removed is restored</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Road impacts other than crossings of streams and other surface waters subject to this Ordinance</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Road crossings of streams and other surface waters subject to this Ordinance:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road crossings that impact equal to or less than forty (40) linear feet of UTB</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road crossings that impact greater than forty (40) linear feet but equal to or less than one hundred and fifty (150) linear feet</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road crossings that impact greater than one hundred and fifty (150) linear feet</td>
<td></td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>Road Relocation: Road relocation of existing private access roads associated with public road projects where necessary for public safety:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Relocations that are less than or equal to twenty-five (25) linear feet of UTB width</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Relocations that are more than twenty-five (25) linear feet of UTB width</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>Scientific studies and stream gauging</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Stormwater BMPs:</td>
<td></td>
<td></td>
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<tr>
<td>Wet detention, bioretention and constructed wetlands in Zone Two and Three if diffuse flow of discharge is provided</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Wet detention, bioretention and constructed wetlands in Zone One</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Stream restoration</td>
<td></td>
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<td>X</td>
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<tr>
<td>Streambank or shoreline stabilization</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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</tbody>
</table>
### TABLE 7.2-6 TOWN OF CARY GENERAL AND SPECIALIZED UTBs

<table>
<thead>
<tr>
<th>Activity</th>
<th>Exempt</th>
<th>Allowable</th>
<th>Allowable with Mitigation</th>
<th>Prohibited</th>
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<tbody>
<tr>
<td><strong>Temporary roads:</strong></td>
<td></td>
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<tr>
<td>Temporary roads that disturb less than or equal to twenty-five (25)</td>
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<tr>
<td>linear feet of UTB provided that vegetation is restored to</td>
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<tr>
<td>preconstruction topographic and hydrologic conditions immediately</td>
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<tr>
<td>after construction is complete and replanted immediately</td>
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<tr>
<td>with comparable vegetation, except that tree planting may</td>
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<tr>
<td>occur during the dormant season; at the end of five (5) years</td>
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<tr>
<td>the restored UTB shall comply with the restoration criteria of section</td>
<td></td>
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<tr>
<td>(L) below</td>
<td>X</td>
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<tr>
<td>Temporary roads that disturb greater than twenty-five (25) linear</td>
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<tr>
<td>feet of UTB provided that vegetation is restored to</td>
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<tr>
<td>preconstruction topographic and hydrologic conditions immediately</td>
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<td>after construction is complete and replanted immediately</td>
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<tr>
<td>occur during the dormant season; at the end of five (5) years</td>
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<tr>
<td>the restored UTB shall comply with the restoration criteria of section</td>
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<tr>
<td>(L) below</td>
<td>X</td>
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<tr>
<td>Temporary roads used for culvert installation or bridge</td>
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<tr>
<td>construction or replacement provided that restoration to</td>
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<tr>
<td>preconstruction topographic and hydrologic conditions immediately</td>
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<tr>
<td>after construction is complete and replanted immediately</td>
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<tr>
<td>occur during the dormant season; at the end of five (5) years</td>
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<tr>
<td>the restored UTB shall comply with the restoration criteria of section</td>
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<tr>
<td>(L) below</td>
<td>X</td>
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<tr>
<td><strong>Temporary sediment and erosion control devices:</strong></td>
<td></td>
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<tr>
<td>In Zone 2 and 3 only provided that the vegetation in Zone 1 is</td>
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<tr>
<td>not compromised and that discharge is released as diffuse flow is</td>
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<tr>
<td>restored to preconstruction topographic and hydrologic conditions</td>
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<tr>
<td>immediately after construction is complete and replanted immediately</td>
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<tr>
<td>with comparable vegetation, except that tree planting may</td>
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<tr>
<td>occur during the dormant season; at the end of five (5) years</td>
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<tr>
<td>the restored UTB shall comply with the restoration criteria of section</td>
<td></td>
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<td></td>
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<tr>
<td>(L) below</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>In Zones 1, 2, and 3 to control impacts associated with uses approved</td>
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<tr>
<td>by the Town or that have received a variance provided that</td>
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<tr>
<td>sediment and erosion control for upland areas is addressed to</td>
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<tr>
<td>maximum extent practical outside the UTB and restored to</td>
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<td></td>
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</tr>
<tr>
<td>preconstruction topographic and hydrologic conditions immediately</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>after construction is complete and replanted immediately</td>
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<td>with comparable vegetation, except that tree planting may</td>
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<tr>
<td>occur during the dormant season; at the end of five (5) years</td>
<td></td>
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</tr>
<tr>
<td>the restored UTB shall comply with the restoration criteria of section</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(L) below</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-stream temporary erosion and sediment control measures for work within</td>
<td></td>
<td></td>
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<tr>
<td>a stream channel that is authorized under Sections 401 and 404 of the</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Federal Water Pollution Control Act</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-stream temporary erosion and sediment control measures for work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>within a stream channel</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 7.2-6 TOWN OF CARY GENERAL AND SPECIALIZED UTBs

<table>
<thead>
<tr>
<th>Activity</th>
<th>Exempt</th>
<th>Allowable</th>
<th>Allowable with Mitigation</th>
<th>Prohibited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underground electric utility lines:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts other than perpendicular crossings in Zone 2 and Zone 3[3]</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts other than perpendicular crossings in Zone 1[3,4]</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underground electric utility line perpendicular crossings of streams and other surface waters subject to this Ordinance:[3]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpendicular crossings that disturb less than or equal to forty (40) linear feet of UTB[3,4]</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpendicular crossings that disturb greater than forty (40) linear feet of UTB[3,4]</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetation management:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency fire control measures provided that topography is restored</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Periodic mowing and harvesting of plant products in Zone 2 and 3 only</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planting vegetation to enhance the UTB</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal of individual trees which are in danger of causing damage to dwellings, other structures or human life or are imminently endangering stability of the streambank</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal of individual trees which are dead, diseased or damaged</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal of poison ivy</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicular access roads leading to water-dependent structures as defined in 15A NCAC 02B .0202, provided they do not cross the surface water and have minimum practicable width not exceeding ten (10) feet and where installation and use result in disturbance of UTB</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water-dependent structures as defined in 15A NCAC 02B .0202 where the installation and use result in the disturbance of UTB</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water supply reservoirs:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New reservoirs provided that an UTB that meets the requirements of 7.2.14(B)(3)(a) of this Ordinance is established adjacent to the reservoir</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New reservoirs where an UTB that meets the requirements of 7.2.14(B)(3)(a) of this Ordinance is NOT established adjacent to the reservoir</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single family residential wells</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All other wells</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 7.2-6 TOWN OF CARY GENERAL AND SPECIALIZED UTBs

<table>
<thead>
<tr>
<th>Activity</th>
<th>Exempt</th>
<th>Allowable</th>
<th>Allowable with Mitigation</th>
<th>Prohibited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetland, stream and buffer restoration that results in impacts to the UTB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland, stream and buffer restoration that requires Division approval for the use of a 401 Water Quality Certification</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland, stream and buffer restoration that does not require approval for the use of a 401 Water Quality Certification</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Wildlife passage structures</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Wooden slatted decks and associated steps in the UTB, provided the use meets the requirements of Sections 7.2.14 (D) and 7.2.14 (E) of this Ordinance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deck at least eight (8) feet in height and no vegetation removed</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Deck less than eight (8) feet in height or vegetation removed</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[1] Provided that, in Zone 1, all of the following WQBMPs for overhead utility lines are used. If all of these WQBMPs are not used then the overhead utility lines shall require a no practical alternatives evaluation by the Town (Cape Fear Basin/Jordan Watershed) or Division of Water Resources (Neuse River Basin).

A minimum zone of ten (10) feet wide immediately adjacent to the water body shall be managed such that only vegetation that poses a hazard or has the potential to grow tall enough to interfere with the line is removed.

Woody vegetation shall be cleared by hand. No land grubbing or grading is allowed.

Vegetation root systems shall be left intact to maintain the integrity of the soil. Stumps shall remain where trees are cut.

Rip rap shall not be used unless it is necessary to stabilize a tower.

No fertilizer shall be used other than a one (1) time application to re-establish vegetation.

Construction activities shall minimize the removal of woody vegetation, the extent of the disturbed area, and the time in which areas remain in a disturbed state.

Active measures shall be taken after construction and during routine maintenance to ensure diffuse flow of stormwater through the buffer.

In wetlands, mats shall be utilized to minimize soil disturbance.

[2] Provided that poles or towers shall not be installed within ten (10) feet of a water body unless the Town (Cape Fear Basin/Jordan Watershed) or Division of Water Resources (Neuse River Basin) completes a no practical alternatives evaluation.

[3] Perpendicular crossings are those that intersect the surface water at an angle between 75 degrees and 105 degrees.

[4] Provided that, in Zone 1, all of the following WQBMPs for underground utility lines are used. If all of these WQBMPs are not used then the underground utility line shall require a no practical alternatives evaluation by the Town (Cape Fear Basin/Jordan Watershed) or Division of Water Resources (Neuse River Basin).

Woody vegetation shall be cleared by hand. No land grubbing or grading is allowed.

Vegetative root systems shall be left intact to maintain the integrity of the soil. Stumps shall remain, except in the trench, where trees are cut.

Underground cables shall be installed by vibratory plow or trenching.

The trench shall be backfilled with the excavated soil material immediately following cable installation.

No fertilizer shall be used other than a one (1) time application to re-establish vegetation.

Construction activities shall minimize the removal of woody vegetation, the extent of the disturbed area, and the time in which areas remain in a disturbed state.

Active measures shall be taken after construction and during routine maintenance to ensure diffuse flow of stormwater through the buffer.

In wetlands, mats shall be utilized to minimize soil disturbance.
(F) **Description of Buffers on Site and/or Subdivision Plans**

All UTBs shall be shown on all site plans and subdivision plats submitted for approval within the Town’s planning jurisdiction. In addition to UTBs, State of North Carolina and U.S. Army Corps of Engineers’ jurisdictional wetlands waters and buffers shall be shown on the inventory of natural resources required as part of site and/or subdivision plan approval.

(G) **Exclusion of Urban Transition Buffer and Riparian Buffer from Lots**

Generally, no single-family lots created through a site and/or subdivision plan may encroach upon any required or established riparian buffer or UTB, except that single-family lots platted prior to July 27, 2000 shall be exempt from Zone Three of the Urban Transition Buffer requirements. Notwithstanding the foregoing, single-family lots platted after July 27, 2000 may encroach upon a required or established riparian buffer or UTB when all of the following conditions are met:

1. The total area of a parcel under single ownership is not greater than five (5) acres and the Landowner establishes that he/she is unable to use any cluster development option that may be available;

2. The proposed subdivision consists of fewer than ten (10) lots and has no homeowners association;

3. There is no other reason for the formation of a homeowners association (e.g., covenant, other common areas, common facilities, engineered stormwater control structures);

4. The area of the UTB or riparian buffer is subject to a permanent conservation easement or other legal instrument dedicated to a not-for-profit conservation entity approved by the Town. All documents required for such a conveyance to a not-for-profit conservation entity shall be provided to and approved by the Town, in writing on such instruments, prior to recording any plat showing property proposed to be conveyed.

(H) **Exemption when Existing Uses are Present and Ongoing**

This Section 7.2.14 shall not apply to uses that are existing and ongoing; however, this Section 7.2.14 shall apply at the time an existing, ongoing use is changed to another use. Change of use shall involve the initiation of any activity that does not meet either of the following criteria for existing, ongoing activity:

1. It was present within the UTB as of July 27, 2000 and has continued to exist since that time. Existing uses shall include agriculture, buildings, industrial facilities, commercial areas, transportation facilities, maintained lawns, utility lines and on site sanitary sewage systems any of which involve either specific, periodic management of vegetation or displacement of vegetation by use is exempt from this Section. Change of ownership through purchase or inheritance is not a change of use. Activities necessary to maintain uses are allowed provided that the site remains similarly vegetated, no impervious surface is added within fifty (50) feet of the surface water where it did not previously exist as of July 27, 2000 and existing diffuse flow is maintained.

2. Projects or proposed development that are determined by the Town to meet at least one (1) of the following criteria:
(a) Project requires a 401 Certification/404 Permit and these were issued prior to July 27, 2000.

(b) Projects that require a state permit, such as landfills, NPDES wastewater discharges, land application of residuals and road construction activities, have begun construction or are under contract to begin construction and received all required state permits and certifications prior to July 27, 2000.

(c) Projects that are being reviewed through the Clean Water Act Section 404/National Environmental Policy Act Merger 01 Process (published by the US Army Corps of Engineers and Federal Highway Administration, 2003) or its immediate successor if a Finding of No Significant Impact has been issued for the project and the project has written approval of the Town prior to July 27, 2000; or

(d) Projects that are not required to be reviewed by the Clean Water Act Section 404/National Environmental Policy Act Merger 01 Process (published by the US Army Corps of Engineers and Federal Highway Administration, 2003) or its immediate successor if a Finding of No Significant Impact has been issued for the project and the project has written approval of the Town prior to July 27, 2000; or

(I) Determinations of No Practical Alternatives/Request for Authorization Certificate

(1) Persons who wish to undertake uses designated as allowable or allowable with mitigation shall submit a request for a "no practical alternatives" determination to the Town. The applicant shall certify that the project meets all the following criteria for finding "no practical alternatives."

(a) The basic project purpose cannot be practically accomplished in a manner that would better minimize disturbance, preserve aquatic life and habitat, and protect water quality;

(b) The use cannot practically be reduced in size or density, reconfigured or redesigned to better minimize disturbance, preserve aquatic life and habitat, and protect water quality; and

(c) Best management practices shall be used if necessary to minimize disturbance, preserve aquatic life and habitat, and protect water quality.

(2) The applicant shall also submit at least the following information in support of its assertion of "no practical alternatives":

(a) The name, address and phone number of the applicant;

(b) The nature of the activity to be conducted by the applicant;

(c) The location of the activity, including the jurisdiction;

(d) A map of sufficient detail to accurately delineate the boundaries of the land to be utilized in carrying out the activity, the location and dimensions of any disturbance in UTBs associated with the activity, and the extent of UTBs on the land;
(e) An explanation of why this plan for the activity cannot be practically accomplished, reduced or reconfigured to better minimize disturbance to the UTB, preserve aquatic life and habitat and protect water quality; and

(f) Plans for any best management practices proposed to be used to control the impacts associated with the activity.

(3) Within sixty (60) days of a complete submission, the Town shall review the entire project and make a finding of fact as to whether the criteria of this Section 7.2.14(I) have been met. A finding of "no practical alternatives" shall result in issuance of an Authorization Certificate. Failure to act within sixty (60) days shall be construed as a finding of "no practical alternatives" and an Authorization Certificate shall be issued to the applicant unless one of the following occurs:

(a) The applicant agrees, in writing, to a longer period;

(b) The Town determines that the applicant has failed to furnish requested information necessary to the Town's decision;

(c) The final decision is to be made pursuant to a public hearing; or

(d) The applicant refuses access to its records or premises for the purpose of gathering information necessary to the Town's decision.

(4) The Town may attach conditions to the Authorization Certificate that support the purpose, spirit and intent of this Section 7.2.14.

(5) Any appeals of determinations regarding Authorization Certificates for activities in Zones One and Two shall be referred to the Director of the Division of Water Resources, c/o the 401 Oversight Express Permitting Unit, or its successor. The Director's decision is subject to review as provided in G.S. Chapter 150B, Articles 3 and 4. Any appeals of determinations regarding Authorization Certificates for activities taking place only in Zone Three shall be pursuant to Sections 3.21 and 11.2 of this Ordinance.

(J) **Modification of Urban Transition Buffers as part of Approving Development Plans**

UTBs are part of the Town's overall zoning, land subdivision and land use regulations. The Town has collected these regulations together in the Town's Land Development Ordinance (LDO). UTBs are intended to assist the Town in accomplishing the broad and important purposes of the LDO stated in 1.3 of the LDO as well as the specific purposes stated in Sections 1.3.1-1.3.12 and 7.2.14(A). In any specific development plan, the Town reviews the entire proposed development and determines whether the proposed development in its entirety satisfies the LDO. The Town recognizes that UTBs will affect different property and projects differently and that all circumstances or applications of UTBs cannot be foreseen. Therefore, the Town has established a process by which the width of Zone 3 of the UTB may be modified in certain limited circumstances based upon review and approval of an applicant's application for modification which shall include the overall site development plan or subdivision plan. Any modification granted shall be conditioned upon the implementation of the related site or subdivision plan and shall be conditioned upon the applicant providing mitigation as set forth below.
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(1) **Procedures for Requesting Modifications to Zone Three**

The Zoning Board of Adjustment, after receiving comment from various Town departments which review the proposed development plan pursuant to the LDO, may reduce the total area of Zone Three after establishing the following at a quasi-judicial hearing:

(a) The reduction will have a minimal impact upon the purposes of the General UTBs stated in Section 7.2.14(A) and is consistent with general purposes of the LDO stated in Section 1.3; and

(b) The mitigation of impacts offered by the applicant as part of the proposed development plan significantly outweighs the impacts of the reduction to the General UTBs proposed by the applicant; and

(c) The impact of the reduction in the General UTB is balanced by mitigation, as required below:

   1. Mitigation on a 1:1 ratio for restoration of a degraded buffer or for protection of ephemeral streams contiguous to protected streams; or

   2. Mitigation on a 3:1 ratio for preservation of an existing buffer; or

   3. Mitigation on a 10:1 ratio for preservation of open space.

(d) The requirements of Section 7.2.14(L)(7)(c), (d), (f), (g) and (h) shall apply to any mitigation required by Section 7.2.14(J)(1)(c) above. In addition, the applicant shall submit a restoration or enhancement plan meeting the requirements of Section 7.2.14(L)(7)(e) together with its request for modification.

(e) The preferred mitigation area is off-site. However, in some cases mitigation requirements may be met by protecting land on-site which would otherwise not be protected through another avenue such as buffer, wetlands, floodplain or open space requirements.

(2) In addition to the mitigation required and the considerations provided above, the Zoning Board of Adjustment may consider other factors such as the following:

(a) Whether a substantial conflict exists between the General UTBs and other provisions and provisions of the LDO (e.g., the appropriate layout of streets in a proposed development conflicts with the location of the General UTBs);

(b) Whether approvals of other governmental agencies impede the effectiveness of the General UTBs or otherwise impact the layout or development of the proposed development; or

(c) Any other information which may be relevant to the Zoning Board of Adjustment determination that the development plan otherwise satisfies the purposes and goals of the LDO.

(3) Notwithstanding the foregoing, in the event the applicant provides written evidence that the State of North Carolina has granted the applicant a variance to the riparian buffer required by the State of North Carolina, or if the Town has granted a minor variance as described below in section 7.2.14(K), the Planning Director shall grant a modification to the UTBs applicable to such applicant sufficient to permit such applicant to utilize the State variance granted.
(K) Variances

(1) Except where General UTBs are modified pursuant to Section 7.2.14(J) above, General UTBs shall not be modified or varied unless the applicant is granted a variance pursuant to this sub-section (K).

(2) Requirements for Variances.

Persons who wish to undertake prohibited uses may pursue a variance. The Town may grant minor variances. For major variances, the Town shall prepare preliminary findings and submit them to the Division of Water Resources, 401 Oversight Express Permitting Unit, or its successor for approval by the Environmental Management Commission. The variance request procedure shall be as follows:

(a) For any variance request, the Town shall make a finding of fact as to whether there are practical difficulties or unnecessary hardships that prevent compliance with the UTB requirements. A finding of practical difficulties or unnecessary hardships shall require that the following conditions are met:

1. If the applicant complies with the provisions of this Ordinance, he/she can secure no reasonable return from, nor make reasonable use of, his/her property. Merely proving that the variance would permit a greater profit from the property shall not be considered adequate justification for a variance. Moreover, the Town shall consider whether the variance is the minimum possible deviation from the terms of this Section 7.2.14 that shall make reasonable use of the property possible;

2. The hardship results from application of this Section 7.2.14 to the property rather than from other factors such as deed restrictions or other hardship;

3. The hardship is due to the physical nature of the applicant's property, such as its size, shape, or topography, such that compliance with provisions of this Section 7.2.14 would not allow reasonable use of the property;

4. The applicant did not cause the hardship by knowingly or unknowingly violating this Section 7.2.14;

5. The applicant did not purchase the property after July 14, 2011 (the effective date of this Ordinance), and then request a variance; and

6. The hardship is rare or unique to the applicant's property.

(b) The variance is in harmony with the general purpose and intent of the State's riparian buffer protection requirements and this Ordinance and preserves its spirit; and

(c) In granting the variance, the public safety and welfare have been assured, water quality has been protected, and substantial justice has been done.
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(3) Minor Variances

A minor variance request pertains to activities that will impact Zone Two of the UTB. Minor variance requests shall be reviewed and approved based on the criteria in Section 7.2.14(K)(2). The Town may attach conditions to the variance approval that support the purpose, spirit and intent of the UTB program. Request for appeals to decisions made by the Town shall be made in writing to the Director of Water Quality, 401 Oversight Express Permitting Unit, or its successor. The Director's decision is subject to review as provided in G.S. Chapter 150B, Articles 3 and 4.

(4) Major Variances

A major variance request pertains to activities that will impact any portion of Zone One or any portion of both Zones One and Two of UTB. If Town has determined that a major variance request meets the requirements in Section 7.2.14(K)(2), then it shall prepare a preliminary finding and submit it to the NC Environmental Management Commission c/o the Division of Water Resources, 401 Oversight Express Permitting Unit, or its successor, for approval. Within ninety (90) days after receipt by Town, the Commission shall review preliminary findings on major variance requests and take one (1) of the following actions: approve, approve with conditions and stipulations, or deny the request. Appeals from a Commission decision on a major variance request are made on judicial review to Superior Court.

(5) Any use allowed by a variance which requires mitigation as a condition of variance approval shall not be undertaken until a Mitigation Approval is issued pursuant to Section 7.2.14(L).

(L) Mitigation

(1) This item shall apply to persons who wish to impact a UTB when one (1) of the following applies:

(a) A person has received an Authorization Certificate pursuant to Section 7.2.14(I) for a proposed use that is designated as "allowable with mitigation"; or

(b) A person has received a variance pursuant to Section 7.2.14(K) and is required to perform mitigation as a condition of a variance approval; or

(c) A person has requested a modification pursuant to Section 7.2.14(J).

(2) Issuance of the Mitigation Approval

The Town shall issue a mitigation approval upon determining that a proposal meets the requirements set out in this Ordinance. The approval shall identify at a minimum the option chosen, the required and proposed areas, and either the mitigation location or the offset payment amount as applicable.

(3) Options for Meeting the Mitigation Requirement

The mitigation requirement may be met through one (1) of the following options:

(a) Payment of a mitigation fee pursuant to 15A NCAC 2B .0269 for impacts to Zone 1 and Zone 2 of the UTB only;
(b) Donation of real property or of an interest in real property pursuant to Section 7.2.14(L)(6); or

(c) Restoration or enhancement of a non-forested riparian buffer pursuant to the requirements of Section 7.2.14(L)(7).

(4) The Area of Mitigation

The Town shall determine the required area of mitigation, which shall apply to all mitigation options identified in Section 7.2.14(K)(3) and as further specified in the requirements for each option set out in this Section, according to the following:

(a) The impacts in square feet to each zone of the UTB shall be determined by the Town by adding the following:

1. The area of the footprint of the use causing the impact to the UTB;

2. The area of the boundary of any clearing and grading activities within the UTB necessary to accommodate the use; and

3. The area of any ongoing maintenance corridors within the UTB associated with the use.

(b) The required area of mitigation shall be determined by applying the following multipliers to the impacts determined in Section 7.2.14(K)(4)(a) of this Ordinance to each zone of the UTB:

1. Impacts to Zone One of the UTB shall be multiplied by three (3);

2. Impacts to Zone Two of the UTB shall be multiplied by one and one-half (1.5); and

3. Impacts to wetlands within the UTB that are subject to mitigation under 15A NCAC 2H .0506 shall comply with the mitigation ratios in 15A NCAC 2H .0506.

(5) The Location of Mitigation

For any option chosen for impacts in the Jordan watershed, the mitigation effort shall be located within the same subwatershed of the Jordan watershed, as defined in 15A NCAC 02B.0262, and the same distance from the Jordan Reservoir as the proposed impact, or closer to the Reservoir than the impact, and as close to the location of the impact as feasible. Alternatively, the applicant may propose mitigation anywhere within the same subwatershed of the Jordan watershed, as defined in 15A NCAC 02B.0262, provided that the mitigation proposal accounts for differences in delivery of nutrients to the affected arm of Jordan Reservoir resulting from differences between the locations of the impact and mitigation. Additional location requirements for the property donation option are enumerated in Section 7.2.14(6)(c)1.

(6) Donation of Property

Persons who choose to satisfy their mitigation determination by donating real property or an interest in real property shall meet the following requirements:
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(a) The donation of real property interests may be used to either partially or fully satisfy the payment of a mitigation fee to the Riparian Buffer Restoration Fund pursuant to 15A NCAC 02B.0272 for impacts to Zone 1 and Zone 2. The value of the property interest shall be determined by an appraisal performed in accordance with Section 7.2.14(L)(6)(d)4. The donation shall satisfy the mitigation determination if the appraised value of the donated property interest is equal to or greater than the required fee. If the appraised value of the donated property interest is less than the required fee calculated pursuant to 15A NCAC 02B.0272, the applicant shall pay the remaining balance due.

(b) The donation of conservation easements to satisfy mitigation requirements shall be accepted only if the conservation easement is granted in perpetuity.

(c) Donation of real property interests to satisfy the mitigation determination shall be accepted only if such property meets all of the following requirements:

1. In addition to the location requirements of Section 7.2.14(L)(5), for impacts in the Jordan watershed, the property shall be located within an area that is identified as a priority for restoration in, or is otherwise consistent with the goals of, the Basinwide Wetlands and Riparian Restoration Plan for the Cape Fear River Basin developed by NC Division of Water Resources pursuant to G.S. 143-214.10;

2. The property shall contain riparian buffers not currently protected by the State's riparian buffer protection program that are in need of restoration as defined in Section 7.2.14(L)(7);

3. The restorable riparian buffer on the property shall have a minimum length of one thousand (1000) linear feet along a surface water and a minimum width of fifty (50) feet as measured horizontally on a line perpendicular to the surface water;

4. The size of the restorable riparian buffer on the property to be donated shall equal or exceed the area of mitigation responsibility determined pursuant to Section 7.2.14(L)(4);

5. Restoration shall not require removal of man-made structures or infrastructure;

6. The property shall be suitable to be successfully restored, based on existing hydrology, soils, and vegetation;

7. The estimated cost of restoring and maintaining the property shall not exceed the value of the property minus site identification and transaction costs;

8. The property shall not contain any building, structure, object, site, or district that is listed in the National Register of Historic Places established pursuant to Public Law 89-665, 16 U.S.C. 470 as amended;

9. The property shall not contain any hazardous substance or solid waste;
10. The property shall not contain structures or materials that present health or safety problems to the general public. If wells, septic, water or sewer connections exist, they shall be filled, remediated or closed at owner's expense in accordance with state and local health and safety regulations;

11. The property and adjacent properties shall not have prior, current, and known future land use that would inhibit the function of the restoration effort; and

12. The property shall not have any encumbrances or conditions on the transfer of the property interests.

(d) At the expense of the applicant or donor, the following information shall be submitted to the Town with any proposal for donations or dedications of interest in real property:

1. Documentation that the property meets the requirements laid out in Section 7.2.14(L)(6)(c);

2. US Geological Survey 1:24,000 (seven and one-half (7.5) minute) scale topographic map, county tax map, USDA Natural Resource Conservation Service County Soil Survey Map, and county road map showing the location of the property to be donated along with information on existing site conditions, vegetation types, presence of existing structures and easements;

3. A current property survey performed in accordance with the procedures of the North Carolina Department of Administration, State Property Office as identified by the State Board of Registration for Professional Engineers and Land Surveyors in "Standards of Practice for Land Surveying in North Carolina." Copies may be obtained from the North Carolina State Board of Registration for Professional Engineers and Land Surveyors, 3620 Six Forks Road, Suite 300, Raleigh, North Carolina 27609;

4. A current appraisal of the value of the property performed in accordance with the procedures of the North Carolina Department of Administration, State Property Office as identified by the Appraisal Board in the "Uniform Standards of Professional North Carolina Appraisal Practice." Copies may be obtained from the Appraisal Foundation, Publications Department, P.O. Box 96734, Washington, D.C. 20090-6734; and

5. A title certificate.

(7) Riparian Buffer Restoration or Enhancement

Persons who choose to meet their mitigation requirement through riparian buffer restoration or enhancement shall meet the following requirements:

(a) The applicant may restore or enhance a non-forested riparian buffer if either of the following applies:

1. The area of riparian buffer restoration is equal to the required area of mitigation determined pursuant to Section 7.2.14(L)(4); or
2. The area of riparian buffer enhancement is three (3) times larger than the required area of mitigation determined pursuant to Section 7.2.14(L)(4);

(b) The location of the riparian buffer restoration or enhancement shall comply with the requirements in Section 7.2.14(L)(5);

(c) The riparian buffer restoration or enhancement site shall have a minimum width of fifty (50) feet as measured horizontally on a line perpendicular to the surface water;

(d) Enhancement and restoration shall both have the objective of establishing a forested riparian buffer according to the requirements of this Item. Enhancement shall be distinguished from restoration based on existing buffer conditions. Where existing trees are sparse, defined as greater than or equal to one hundred (100) trees per acre but less than two hundred (200) trees per acre, a buffer may be enhanced. Where existing woody vegetation is absent, defined as less than one hundred (100) trees per acre, a buffer may be restored;

(e) The applicant shall submit a restoration or enhancement plan for approval by the Town after receiving an Authorization Certificate for the proposed use according to the requirements of Section 7.2.14(I); after receiving a variance for the proposed use according to the requirements of Section 7.2.14(K); or prior to requesting a modification for the proposed use according to the requirements of Section 7.2.14(J). The restoration or enhancement plan shall contain the following:

1. A map of the proposed restoration or enhancement site;

2. A vegetation plan. The vegetation plan shall include a minimum of at least two (2) native hardwood tree species planted at a density sufficient to provide three hundred twenty (320) trees per acre at maturity;

3. A grading plan. The site shall be graded in a manner to ensure diffuse flow through the riparian buffer;

4. A fertilization plan; and

5. A schedule for implementation.

(f) Within one (1) year after the Town has approved the restoration or enhancement plan, the applicant shall present proof to the Town that the riparian buffer has been restored or enhanced. If proof is not presented within this timeframe, then the person shall be in violation of both the State's riparian buffer protection program and this Section 7.2.14;

(g) The mitigation area shall be placed under a perpetual conservation easement that will provide for protection of the property's nutrient removal functions; and

(h) The applicant shall submit annual reports for a period of five (5) years after the restoration or enhancement showing that the trees planted have survived and that diffuse flow through the riparian buffer has been maintained. The applicant shall replace trees that do not survive and restore diffuse flow if needed during that five (5)-year period.
(M) Site Inspections

Agents, officials, or other qualified persons authorized by the Town may periodically inspect UTBs to ensure compliance with this ordinance. Notice of the right to inspect shall be included in the letter of approval of each variance and authorization certificate. Authorized agents, officials or other qualified persons shall have the authority, upon presentation of proper credentials, to enter and inspect at reasonable times any property, public or private, for the purpose of investigating and inspecting the site of any UTB. No person shall willfully resist, delay, or obstruct an authorized representative, employee, or agent of the Town, while that person is inspecting or attempting to inspect a UTB nor shall any person obstruct, hamper or interfere with any such representative while in the process of carrying out their official duties. The Town shall have the power to conduct such investigations as deemed reasonably necessary to carry out the duties as prescribed in this Section 7.2.14.

(N) Violations; Fines; Enforcement

(1) This Section 7.2.14 shall be enforced by the Director of Water Resources or his designee. Any person who fails to comply with any provision of this Section 7.2.14 shall be in violation of this Ordinance for each occurrence or non-compliance. The disturbance or damage of vegetation within the UTB shall constitute a violation of this Ordinance. For purposes of this Section 7.2.14, "disturbance" shall be defined as any action that results in injury or harm to required trees, shrubbery, or other vegetation. The owner(s) of the property which term includes their agents, heirs, and assigns, shall be fined and shall replace the disturbed or damaged vegetation as set forth in subsections (N)(2) and (N)(3). In addition, the Town of Cary may assess civil penalties in accordance with Chapter 11 of the LDO. Each day that the violation continues shall constitute a separate offense.

(2) The area disturbed or damaged shall be revegetated to re-establish the natural landscape. The person to whom a notice of violation is issued must submit a vegetation plan which shall include a minimum of at least two (2) native hardwood tree species planted at a density sufficient to provide three hundred twenty (320) trees per acre at maturity. In addition, any tree with a dbh of at least six (6) inches that is damaged or removed shall be replaced with one (1) or more trees that have a caliper of at least two (2) inches and a cumulative dbh equal to or greater than the original tree.

(3) A fine of between two dollars ($2.00) and four dollars ($4.00) for every square foot area used by the disturbed or damaged vegetation within the UTB shall be imposed. In determining the amount of the fine, the Water Resources Director shall consider the degree and extent of harm caused by the violation, the cost of rectifying the damage, and whether the violation was committed willfully. Fines imposed pursuant to this subsection may be appealed pursuant to Section 11.2.2(D).

(O) Delegation of Authority

Any act authorized by this Section 7.2.14 to be carried out by or at the direction of the Town may be carried out by the Town Manager, Director of Water Resources or designee of either such official.
(P) Definitions

For the purpose of Section 7.2.14, these terms shall be defined as follows:

"Access Trails" means pedestrian trails constructed of pervious or impervious surfaces and related structures to access a surface water, including boardwalks, steps, rails and signage.

"Airport Facilities" means all properties, facilities, buildings, structures, and activities that satisfy or otherwise fall within the scope of one (1) or more of the definitions or uses of the words or phrases "air navigation facility", "airport", or "airport protection privileges" under G.S. 63-1; the definition of "aeronautical facilities" in G.S. 63-79(1); the phrase "airport facilities" as used in G.S. 159-48(b)(1); and the phrase "aeronautical facilities" as defined in G.S. 159-81 and G.S. 159-97; and the phrase "airport facilities and improvements" as used in Article V, Section 13, of the North Carolina Constitution, which shall include, without limitation, any and all of the following: airports, airport maintenance facilities, clear zones, drainage ditches, fields, hangars, landing lighting, airport and airport-related offices, parking facilities, related navigational and signal systems, runways, stormwater outfalls, terminals, terminal shops, and all appurtenant areas used or suitable for airport buildings or other airport facilities, and all appurtenant rights-of-way; restricted landing areas; any structures, mechanisms, lights, beacons, marks, communicating systems, or other instrumentalities or devices used or useful as an aid, or constituting an advantage or convenience to the safe taking off, navigation, and landing of aircraft, or the safe and efficient operation and maintenance of an airport or restricted landing area; easements through, or interests in, air space over land or water, interests in airport hazards outside boundaries of airports or restricted landing areas, and other protection privileges, the acquisition or control of which is necessary to ensure safe approaches to the landing areas of airports and restricted landing areas, and the safe and efficient operation thereof and any combination of any or all of such facilities. Notwithstanding the foregoing, the following shall not be included in the definition of "airport facilities":

1. Satellite parking facilities
2. Retail and commercial development outside of the terminal area, such as rental car facilities; and
3. Other secondary development, such as hotels, industrial facilities, free-standing offices and other similar buildings, so long as these facilities are not directly associated with the operation of the airport, and are not operated by a unit of government or special government entity such as an airport authority, in which case they are included in the definition of "airport facilities".

"Channel" means a natural water-carrying trough cut vertically into low areas of the land surface by erosive action of concentrated flowing water or a ditch or canal excavated for the flow of water.

"DBH" means the diameter at breast height of a tree measured at four and one-half (4.5) feet above ground level surface.

"Development" means the same as defined in Rule 15A NCAC 2B .0202(23).

"Ditch or canal" means a man-made channel other than a modified natural stream constructed for drainage purposes that is typically dug through inter-stream divide areas. A ditch or canal may have flows that are perennial, intermittent, or ephemeral and may exhibit hydrological and biological characteristics similar to perennial or intermittent streams.
“Ephemeral Stream” means a feature that carries only stormwater in direct response to precipitation with water flowing only during and shortly after large precipitation events. An ephemeral stream may or may not have a well-defined channel, the aquatic bed is always above the water table, and stormwater runoff is the primary source of water. An ephemeral stream typically lacks the biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water.

“Existing Development” means development, other than that associated with agricultural or forest management activities that meets one (1) of the following criteria:

1. It either is built or has established a vested right based on statutory or common law as interpreted by the courts, for projects that do not require a state permit, as of the effective date of either local new development stormwater programs implemented under Rule 15A NCAC 2B .0265 (Jordan Water Supply Nutrient Strategy: Stormwater Management for New Development) or, for projects requiring a state permit, as of the applicable compliance date established in Rule 15A NCAC 2B .0271 (Jordan Water Supply Nutrient Strategy: Stormwater Management for New Development), Items (5) and (6); or

2. It occurs after the compliance date set out in Sub-Item (4)(d) of Rule .0265 (Jordan Water Supply Nutrient Strategy: Stormwater Management for New Development) but does not result in a net increase built-upon area.

“Greenway / Hiking Trails” means pedestrian trails constructed of pervious or impervious surface and related structures including but not limited to boardwalks, steps, rails, and signage, and that generally run parallel to the shoreline.

“High Value Tree” means a tree that meets or exceeds the following standards: for pine species, fourteen (14)-inch DBH or greater or eighteen (18)-inch or greater stump diameter; or for hardwoods and wetland species, sixteen (16)-inch DBH or greater or twenty-four (24)-inch or greater stump diameter.

“Intermittent Stream” means a well-defined channel that contains water for only part of the year, typically during winter and spring when the aquatic bed is below the water table. The flow may be heavily supplemented by stormwater runoff. An intermittent stream often lacks the biological and hydrological characteristics commonly associated with the continuous conveyance of water.

“Jordan Nutrient Strategy” or “Jordan water supply nutrient strategy” means the set of Rules 15A NCAC 2B .0262 through .0273 and .0311(p).

“Jordan Reservoir” means the surface water impoundment operated by the US Army Corps of Engineers and named B. Everett Jordan Reservoir, as further delineated for purposes of the Jordan Nutrient strategy rule in Rule 15A NCAC 2B .0262(4).

“Jordan watershed” means all lands and waters draining to B. Everett Jordan Reservoir.

“New Development” means any development project that does not meet the definition of existing development set out in Section 7.2.14.

“Perennial Stream” means a well-defined channel that contains water year round during a year of normal rainfall with the aquatic bed located below the water table for most of the year. Groundwater is the primary source of water for a perennial stream, but it also carries stormwater runoff. A perennial stream exhibits the typical biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water.
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"Perennial waterbody" means a natural or man-made basin, including lakes, ponds, and reservoirs, that stores surface water permanently at depths sufficient to preclude growth of rooted plants. For the purpose of the State's riparian buffer protection program, the waterbody must be part of a natural drainage way (i.e., connected by surface flow to a stream).

"Referenced / reference reach" means a stable stream that is in dynamic equilibrium with its valley and contributing watershed. A reference reach can be used to develop natural channel design criteria for stream restoration projects.

"Shoreline stabilization" is the in-place stabilization of an eroding shoreline. Stabilization techniques which include "soft" methods or natural materials (such as root wads, or rock vanes) may be considered as part of a restoration design. However, stabilization techniques that consist of "hard" engineering, such as concrete lined channels, riprap, or gabions, while providing bank stabilization, shall not be considered stream restoration.

"Stream restoration" is defined as the process of converting an unstable, altered or degraded stream corridor, including adjacent riparian zone and flood-prone areas to its natural or referenced, stable conditions considering recent and future watershed conditions. This process also includes restoring the geomorphic dimension, pattern, and profile as well as biological and chemical integrity, including transport of water and sediment produced by the stream's watershed in order to achieve dynamic equilibrium.

"Stream" means a body of concentrated flowing water in a natural low area or natural channel on the land surface.

"Stump diameter" means the diameter of a tree measured at six (6) inches above the ground surface level.

"Surface Waters" means all waters of the state as defined in G.S. 143-212 except underground waters.

"Tree" means a woody plant with a DBH equal to or exceeding five (5) inches or a stump diameter exceeding six (6) inches.

"Temporary road" means a road constructed temporarily for equipment access to build or replace hydraulic conveyance structures such as bridges, culverts, pipes or water dependent structures or to maintain public traffic during construction.

7.2.15 Highway Corridor Buffer

(A) Purpose and Intent

The purpose of the Highway Corridor Buffer is to provide orderly development along US 1, I-40, I-440 and NC-540, to encourage the most appropriate use of adjacent lands, to maintain the scenic natural beauty of the area visible from such fully-controlled-access highway and adjacent lands, to provide open space, and to promote the safe and efficient movement of traffic. These highways commonly establish an image of the quality of life in the Town for visitors and residents alike. Preservation of this natural beauty is required to enhance trade, capital investment, tourism, and the general welfare. All development within this buffer shall comply with the regulations of this Section.
(B) Applicability

The Highway Corridor Buffer is established along both sides of existing and planned fully-controlled-access highways. Such highways include US 1, I-40, I-440, and NC-540. The Highway Corridor Buffer covers all lands adjacent to the right-of-way along both sides of each such fully-controlled-access highway.

(C) Buffer Requirements

(1) General Requirement

A buffer strip, with a width extending one hundred (100) feet from and parallel to the right-of-way boundary of the fully-controlled-access highway, shall be maintained.

(2) Interchange Requirements

A buffer strip width extending fifty (50) feet from and parallel to the right-of-way for interchange ramps shall be maintained.

(3) Reductions

(a) Town Council

The Town Council may reduce the required width of this buffer strip as part of its approval of a concept plan or preliminary development plan as a component of a rezoning request, taking into consideration: the topography of the area; surrounding land uses, particularly residential uses; the actual location of the controlled/limited access highway; the size and shape of land parcels affected by the buffer; and whether the buffer requirement would render the entire property unusable. In reducing the width of the buffer strip, the Town Council shall ensure that the applicant and/or developer will provide appropriate landscaping meeting the requirements of Section 7.2.15(C)(4) below. In no event, however, shall the Town Council reduce the required width of the buffer strip to less than thirty (30) feet.

(b) Zoning Board of Adjustment

Pursuant to the procedure in Section 3.19.1, the Zoning Board of Adjustment may consider a reduction of the required width of this buffer strip as a component of a development plan, taking into consideration: the topography of the area; surrounding land uses, particularly residential uses; the actual location of the controlled/limited access highway; the size and shape of land parcels affected by the buffer; and whether the buffer requirement would render the entire property unusable. In reducing the width of the buffer strip, the Zoning Board of Adjustment shall ensure that the applicant and/or developer will provide appropriate landscaping meeting the requirements of Section 7.2.15(C)(4) below. In no event, however, shall the Zoning Board of Adjustment reduce the required width of the buffer strip to less than thirty (30) feet pursuant to this section.

(4) Maintenance of Existing Vegetation

Within the required buffer strip, all existing vegetation shall be maintained in a natural, undisturbed state and, unless the existing natural vegetation provides such a buffer,
the applicant and/or developer shall install and maintain an Opaque Type A buffer meeting the requirements of Section 7.2.3(D) and (G) of this Ordinance. The owners of the property are responsible for maintenance of the buffer and the consequences resulting from disturbance to the buffer in accordance with Section 7.2.13, Maintenance Responsibility, Replacement of Damaged Vegetation, and Associated Fines. If the developer caused or is responsible for such disturbance of the buffer, and the developer is not the owner of the buffer, then the developer shall also be responsible for the consequences of such disturbance in accordance with Section 7.2.13.

(5) Development within Buffer

No development shall be allowed within the required buffer strip except as provided for in Section 7.2.3(H)(1) and (H)(2).

(D) Variances

The required width of the buffer strip may be reduced to less than thirty (30) feet pursuant to Section 3.20 (Variances).

(E) Actions of Government or Public Utilities

The law may permit the width of this buffer strip to be reduced through the action(s) of a unit of government or Public Utility (as such term is defined by G.S. 62-3), or may permit development within the buffer by a unit of government or Public Utility, such as but not limited to construction of highways or utility transmission facilities. In such situations, the action to reduce the buffer width or engage in development within the buffer by the government or Public Utility may not be subject to requirements of the LDO, including review or approval by the Zoning Board of Adjustment. See LDO Section 1.6.

7.3 STORMWATER MANAGEMENT

7.3.1 Purpose and Definitions

(A) This section is intended to protect water quality for present and future residents of the Town and surrounding regions by limiting the amount of pollutants, including but not limited to nitrogen and phosphorus, in stormwater runoff. Specific objectives include: control of nitrogen and phosphorus export from development, control of peak stormwater runoff, and the use of best management practices.

(B) For the purpose of this section 7.3, the following definitions shall apply:
LARGER COMMON PLAN OF DEVELOPMENT OR SALE
Any area where multiple separate and distinct construction or land-disturbing activities will occur under one (1) plan. For purposes of this definition only, a plan is any announcement or piece of documentation (including but not limited to a sign, public notice or hearing, sales pitch, advertisement, loan application, drawing, permit application, zoning request, or computer design) or physical demarcation (including but not limited to boundary signs, lot stakes, or survey markings) indicating that construction activities may occur on a specific plot.

REDEVELOPMENT
Any development on previously-developed land.

7.3.2 Nutrient Reduction Requirements

(A) Nitrogen and Phosphorus Control Plan Required

For purposes of this section, nitrogen and phosphorus control plans shall be required for the following:

(1) Any activity that, alone or as part of a larger common plan of development or sale, disturbs greater than one (1) acre of land in order to establish, expand, or modify a single-family or duplex residential development or a recreational facility.

(2) Any activity that, alone or as part of a larger common plan of development or sale, disturbs greater than twelve thousand (12,000) square feet of land in order to establish, expand or modify a multifamily residential development or a commercial, industrial or institutional facility.

(3) Any grubbing, stump removal, and/or grading activity that disturbs greater than twelve thousand (12,000) square feet.

(4) Demolition and subsequent construction upon a previously developed site.

(B) Exemptions

(1) For purposes of this section, development or land disturbance shall not include agriculture, mining, or forestry activities.

(2) Existing development as of March 1, 2001 in the Neuse River Basin, is not subject to the requirements of this Section. Expansions to existing development must meet the requirements of this Section. The impervious surface area of the existing development is not required to be included in the nitrogen load attributed to the site expansion; nitrogen calculations must follow Town procedures for allocating undeveloped land to the site.

(3) Redevelopment and/or rebuilding activity which results in no net increase in the built-upon area from that that previously existed and which provides equal or greater stormwater control than that provided by previous development.
In the Cape Fear River Basin any proposed new development that would replace or expand structures or improvements that existed as of December 1, 2001, and that would not result in a net increase in built-upon area shall not be required to meet the nutrient loading targets or high-density requirements except to the extent that it shall provide stormwater control at least equal to the previous development.

**Water Body Development Restrictions**

**Calculation of Nitrogen and Phosphorus Export**

1. The nitrogen export from each development in the Neuse River Basin must be calculated per Town procedures and approved by the Stormwater Manager or his or her designee. This export will be calculated in pounds per acre per year (lb/ac/yr). For calculating nitrogen export, refer to Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs (Schueler's Simple Method), or to the Neuse River Basin: Model Stormwater Program for Nitrogen Control Manual (Methods 1 & 2), or for calculating nitrogen export loading:

   a. Method 1 is intended for residential developments where lots are shown but the actual footprint of the buildings is not shown on the plans.

   b. Method 2 is for residential, commercial, and industrial developments when the entire footprint of the buildings, parking lots, road, and any other built-upon area is shown.
(c) The Scheuler Simple Method may be used for new development on a case-by-case basis as approved by the Town.

(2) The developer shall determine the need for engineered stormwater controls to meet the loading rate targets in the Cape Fear River Basin by using the most current approved accounting tool for nutrient loading approved by the North Carolina Environmental Management Commission pursuant to 15A NCAC 2B .0265.

(D) Nitrogen and Phosphorus Export Standards

(1) Any activity that is required to submit a nitrogen control plan in the Neuse River Basin must achieve a nitrogen export of less than or equal to three and six-tenths (3.6) pounds per acre per year. Any activity that is required to submit a nitrogen and phosphorus control plan in the Cape Fear River Basin must achieve an export rate of less than or equal to two and two-tenths (2.2) pounds per acre per year of nitrogen and eighty-two hundredths (0.82) pounds per acre per year of phosphorus in the Upper New Hope and four and four-tenths (4.4) pounds per acre per year of nitrogen and seventy-eight hundredths (0.78) pounds per acre per year in the Lower New Hope. If the development contributes greater than three and six-tenths (3.6) pounds per acre per year of nitrogen in the Neuse River Basin, greater than two and two-tenths (2.2) pounds per acre per year of nitrogen and/or eighty-two hundredths (0.82) pounds per acre per year of phosphorus in the Upper New Hope, or greater than four and four-tenths (4.4) pounds per acre per year of nitrogen and/or seventy-eight hundredths (0.78) pounds per acre per year of phosphorus in the Lower New Hope, then the table below explains the options available depending whether the development is residential or non-residential.

(2) Notwithstanding the foregoing, in the Cape Fear River Basin, redevelopment that would replace or expand existing structures or improvements and would result in a net increase in built-upon area shall have the option of either meeting the loading standards identified in section 7.3.2 (D)(1) or meeting a loading rate that achieves the following nutrient loads compared to the existing development: in the Upper New Hope Watershed, thirty-five (35) percent reduction in nitrogen and five (5) percent reduction in phosphorus; and in the Lower New Hope Watershed, no increase for nitrogen or phosphorus.

(3) Development subject to this section 7.3 shall attain a maximum nitrogen loading rate on-site of six (6) pounds per acre per year for single family, detached and duplex residential development and ten (10) pounds per acre per year for other development, including multi-family residential, commercial and industrial and shall meet any requirements for engineered stormwater controls otherwise imposed by the LDO. An applicant may achieve the additional reductions in nitrogen and phosphorus loading required by this section by making offset payments to the North Carolina Ecosystem Enhancement Program contingent upon the acceptance of payments by that program. An applicant may propose other offset measures, including providing his or her own offsite offset or utilizing a private seller. All offset measures permitted by this ordinance shall meet the requirements of 15A NCAC 02B .0273 (2) through (4) and 15A NCAC 02B .0240.
### TABLE 7.3-1: NITROGEN/PHOSPHORUS EXPORT REDUCTION OPTIONS

<table>
<thead>
<tr>
<th>Residential</th>
<th>Commercial/Industrial/Institutional/Local Government/Multifamily Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the computed export is less than 6.0 lbs/ac/yr, then the owner may either:</td>
<td>If the computed export is less than 10.0 lbs/ac/yr, then the owner may either:</td>
</tr>
<tr>
<td>Install BMPs to remove enough nitrogen to bring the development down to 3.6 lbs/ac/yr in the Neuse River Basin. Install BMPs to bring the nitrogen down to 2.2 lbs/ac/yr and phosphorus to 0.82 lbs/ac/yr in the Upper New Hope and the nitrogen down to 4.4 lbs/ac/yr and the phosphorus to 0.78 lbs/ac/yr Lower New Hope in the Cape Fear River Basin.</td>
<td>Install BMPs to remove enough nitrogen to bring the development down to 3.6 lbs/ac/yr in the Neuse River Basin. Install BMPs to bring the nitrogen down to 2.2 lbs/ac/yr and phosphorus to 0.82 lbs/ac/yr in the Upper New Hope and the nitrogen down to 4.4 lbs/ac/yr and the phosphorus to 0.78 lbs/ac/yr Lower New Hope in the Cape Fear River Basin.</td>
</tr>
<tr>
<td>Pay a one-time offset payment to bring the nitrogen down to the 3.6 lbs/ac/yr in the Neuse River Basin. Pay a one-time offset payment to bring the nitrogen down to 2.2 lbs/ac/yr and phosphorus to 0.82 lbs/ac/yr in the Upper New Hope and the nitrogen down to 4.4 lbs/ac/yr and the phosphorus to 0.78 lbs/ac/yr Lower New Hope in the Cape Fear River Basin.</td>
<td>Pay a one-time offset payment to bring the nitrogen down to the 3.6 lbs/ac/yr in the Neuse River Basin. Pay a one-time offset payment to bring the nitrogen down to 2.2 lbs/ac/yr and phosphorus to 0.82 lbs/ac/yr in the Upper New Hope and the nitrogen down to 4.4 lbs/ac/yr and the phosphorus to 0.78 lbs/ac/yr Lower New Hope in the Cape Fear River Basin.</td>
</tr>
<tr>
<td>Do a combination of BMPs and offset payment to achieve a 3.6 lbs/ac/yr export in the Neuse, 2.2 lbs/ac/yr nitrogen and 0.82 lbs/ac/yr phosphorus in the Upper New Hope and 4.4 lbs/ac/yr nitrogen and 0.78 lbs/ac/yr phosphorus in the Lower New Hope.</td>
<td>Do a combination of BMPs and offset payment to achieve a 3.6 lbs/ac/yr export in the Neuse, 2.2 lbs/ac/yr nitrogen and 0.82 lbs/ac/yr phosphorus in the Upper New Hope and 4.4 lbs/ac/yr nitrogen and 0.78 lbs/ac/yr phosphorus in the Lower New Hope.</td>
</tr>
<tr>
<td>If the computed nitrogen export is greater than 6.0 lbs/ac/yr, the owner must use on-site BMPs to bring the development's export down to 6.0 lbs/ac/yr. Then, the owner may use one of the three options above to achieve the reduction between 6.0 and 3.6 lb/ac/yr in the Neuse River Basin, 2.2 lbs/ac/yr in the Upper New Hope or 4.4 lbs/ac/yr in the Lower New Hope of the Cape Fear River Basin.</td>
<td>If the computed nitrogen export is greater than 10.0 lbs/ac/yr, the owner must use on-site BMPs to bring the development's export down to 10.0 lbs/ac/yr. Then, the owner may use one of the three options above to achieve the reduction between 10.0 and 3.6 lb/ac/yr in the Neuse River Basin, 2.2 lbs/ac/yr in the Upper New Hope or 4.4 lbs/ac/yr in the Lower New Hope of the Cape Fear River Basin.</td>
</tr>
</tbody>
</table>

Once it has been determined that an offset payment is forthcoming, the owner shall furnish the Town with evidence that the payment for the reductions in nitrogen and/or phosphorus has been made prior to the Town’s issuance of a grading permit.

(4) The nitrogen and phosphorus export standards in this ordinance are supplemental to, not replacements for, stormwater standards otherwise required by federal, state or local law, including without limitation any riparian buffer requirements applicable to the location of the development. This includes, without limitation, the riparian buffer protection requirements of 15A NCAC 2B .0267 and .0268.
§ 7.3.3 Peak Runoff Control

There shall be no net increase in peak stormwater run-off flow leaving a development from pre-development conditions for the one (1)-year design storm. New developments are required to minimize damage to subject streams caused by storm flows.

(A) Calculation of Peak Flow

Acceptable methodologies for computing pre- and post-development conditions for the one (1)-year design storm include:

1. The Rational Method (used when the drainage area is two hundred (200) acres or less)
2. The Peak Discharge Method as described in USDA Technical Release Number 55 (TR-55) (drainage area is two thousand (2,000) acres or less)
3. The Putnam Method (drainage area is greater than two thousand (2,000) acres)
4. USGS Regression Equations, where applicable

The same method must be used for both the pre- and post-development conditions.

(B) Exceptions to Peak Flow Control

Developments with less than ten (10) percent net increase in peak flow of the one (1)-year design storm are not required to control peak flow from the site. However, if the net increase in peak flow from the new development is greater than ten (10) percent, the entire net increase from pre-development one (1)-year design storm peak flow must be controlled.

(C) Downstream Impact Analysis

A Downstream Impact Analysis shall be supplied for all new proposed developments that require site/subdivision plan approval. Site/subdivision plans which are not subject to the stormwater management regulations are exempt from the Downstream Impact Analysis requirements.

Each development plan shall:

1. Calculate the pre- and post-development discharges for each discharge point from the site.

   If the post-development calculated discharge is equal to or less than a ten (10) percent increase for the two (2), five (5) and ten (10)-year peak discharges at each discharge point, then no further analysis is needed.

   If the post-development peak discharge at any discharge point is greater than forty (40) cubic feet per second (cfs) then further analysis is needed and shall be treated as in Section 7.3.3(C)(2) below. In lieu of the ten (10) percent increase in off-site run-off the engineer shall limit run-off to the extent that downstream conveyance systems can accommodate the run-off increase without causing any property damage.

2. If the post-development discharge for the two (2), five (5) and ten (10)-year discharges at any discharge point is greater than ten (10) percent of the pre-development discharge, then additional analysis is needed for that discharge point.
Identify the point downstream where the impacts become less than a ten (10) percent increase.

Analyze the impacts of the increase on the stormwater conveyance system(s) (pipes, culverts, ditches, swales, etc.) between the discharge point and the point where the impact becomes less than ten (10) percent.

Identify negative impacts on all improvements (businesses, homes, lawns, streets, pipes, ditches, swales, etc.) through the use of inlet and outlet control calculations and backwater analyses for culverts, channel capacity calculations for swales and ditches.

Construct on-site detention, off-site improvements, or make a payment-in-lieu for inadequate downstream conveyance systems to fully mitigate all impacts created by the proposed development. Requests for payment-in-lieu must be approved by Town Council.

Payment-in-lieu shall be based on the sealed, approved estimate of one hundred (100) percent of the costs to construct the appropriate mitigation facility. Those costs shall include design, land costs, construction, and a fifty (50)-year cycle of maintenance. The chosen facility has to be a facility that is capable of obtaining all permits required by all appropriate state and federal agencies.

(3) If on-site detention is the chosen mitigation, limit the peak discharge at all discharge points to what would be expected from an R-40 zoning condition for the two (2), five (5) and ten (10)-year storm events, not to exceed a ten (10) percent increase over the pre-development conditions.

7.3.4 Allowable Best Management Practices

Neuse River buffers and Jordan Lake Buffers required by the Division of Water Resources may not be used for compliance with nitrogen reduction requirements; however, additional fifty (50)-foot buffers (including locally required buffers) may be used as nitrogen control BMPs. All BMPs shall meet the standards of the most current version of the North Carolina Department of Environment and Natural Resources Stormwater Best Management Practices Manual ("BMP Manual"). If specifications or guidelines of the BMP Manual are more restrictive or apply a higher standard than other laws or regulations, that fact shall not prevent application of the specifications or guidelines in the BMP Manual. If the standards, specifications, guidelines, policies, criteria, or other information in the BMP Manual are amended subsequent to the submittal of an application for approval pursuant to this section 7.3 but prior to approval, the new information shall control and shall be utilized in reviewing the application and in implementing this section 7.3 with regard to the application. Whenever an applicant proposes to utilize a practice or practices not designed and constructed in accordance with the criteria and specifications in the BMP Manual, the applicant shall have the burden of demonstrating that the practice(s) will satisfy the minimum water quality and quantity performance standards of this section 7.3. The applicant may be required to provide the documentation, calculations, and examples necessary to determine whether such an affirmative showing is made.

If more than one BMP is installed in series on a development, then the removal rate shall be determined through serial rather than additive calculations. For example, if a wet detention pond discharges through a UTB, then the removal rate shall be estimated to be forty-seven and five-tenths (47.5) percent. The pond removes twenty-five (25) percent of the nitrogen and discharges seventy-five (75) percent into the buffer. The buffer then removes thirty (30) percent of the nitrogen discharged from the pond, which is twenty-two and five-tenths (22.5) percent. The sum of twenty-five (25) and twenty-two and five-tenths (22.5) is forty-seven and five-tenths (47.5). The removal rate is not twenty-five (25) percent plus thirty (30) percent.
§ 7.3.5 Maintenance of Best Management Practices

All best management practices that are implemented to achieve nitrogen or phosphorus reduction and flow attenuation will require complete legal documentation and a maintenance plan and must comply with all requirements of Section 4.4.6(G), Engineered Stormwater Control Structures.

7.3.6 Illegal Discharges to the Storm Sewer System

(A) Purpose

The purpose of this ordinance is to provide for the health, safety, and general welfare of the citizens of the Town of Cary through the regulation of non-storm water discharges to the storm drainage system to the maximum extent practicable as required by federal and state law. This ordinance establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process. The objectives of this ordinance are:

1. To regulate the contribution of pollutants to the MS4 by storm water discharges by any user.

2. To prohibit illicit connections and discharges to the MS4.

3. To establish legal authority to carry out all inspection, surveillance, monitoring, and enforcement procedures necessary to ensure compliance with this ordinance.

(B) Applicability

This ordinance shall apply to all water entering the storm drain system generated on any developed and undeveloped lands unless explicitly exempted by the Town of Cary.

(C) Responsibility for Administration

The Town Manager shall administer, implement, and enforce the provisions of this ordinance. Any powers granted or duties imposed upon the Town Manager may be delegated in writing by the Town Manager to persons or entities acting in the beneficial interest of or in the employ of the Town.

(D) Compatibility With Other Regulations

This ordinance is not intended to modify or repeal any other ordinance, rule, regulation, or other provision of law. The requirements of this ordinance are in addition to the requirements of any other ordinance, rule, regulation, or other provision of law, and where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule, regulation, or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human health or the environment shall control.

(E) Severability

The provisions of this ordinance are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this ordinance or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this ordinance.
(F) **Ultimate Responsibility**

The standards set forth herein and promulgated pursuant to this ordinance are minimum standards; therefore this ordinance does not intend or imply that compliance by any person will ensure that there will be no contamination, pollution, or unauthorized discharge of pollutants.

(G) **Discharge Prohibitions**

(1) **Prohibition of Illegal Discharges**

No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the MS4 any pollutants or waters containing any pollutants, other than stormwater. The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

(a) The following discharges are exempt from discharge prohibitions established by this ordinance: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water.

(b) Discharges or flow from firefighting, and other discharges specified in writing by the Town Manager or his/her designee as being necessary to protect public health and safety.

(c) Discharges associated with dye testing; however, this activity requires a verbal notification to the Town Manager or his/her designee prior to the time of the test.

(d) The prohibition shall not apply to any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the United States Environmental Protection Agency (EPA), provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

(2) **Prohibition of Illicit Connections**

(a) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.

(b) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

(c) A person is considered to be in violation of this ordinance if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

(d) Improper connections in violation of this ordinance must be disconnected and redirected, if necessary, to an approved onsite wastewater management system or the sanitary sewer system upon approval of the Town Manager.
(e) Any drain or conveyance that has not been documented in plans, maps or equivalent, and which may be connected to the storm sewer system, shall be located by the owner or occupant of that property upon receipt of written notice of violation from the Town Manager requiring that such locating be completed. Such notice will specify a reasonable time period within which the location of the drain or conveyance is to be determined, that the drain or conveyance be identified as storm sewer, sanitary sewer or other, and that the outfall location or point of connection to the storm sewer system, sanitary sewer system or other discharge point be identified. Results of these investigations are to be documented and provided to the Town Manager.

(H) Watercourse Protection

Every person owning property through which a watercourse passes, or such person’s lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

(I) Industrial or Construction Activity Discharges

(1) Submission of Notice of Intent to the Town of Cary

(a) Any person subject to an industrial or construction activity NPDES stormwater discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the Town Manager prior to the allowing of discharges to the MS4.

(b) The operator of a facility, including construction sites, required to have an NPDES permit to discharge stormwater associated with industrial activity shall submit a copy of the Notice of Intent (NOI) to the Town Manager at the same time the operator submits the original Notice of Intent to the EPA as applicable.

(c) The copy of the Notice of Intent may be delivered to the Town Manager either in person or by mailing it to: Notice of Intent to Discharge Stormwater Stormwater Services Manager, 316 N. Academy Street, Cary, NC 27513.

(d) A person commits an offense if the person operates a facility that is discharging storm water associated with industrial activity without having submitted a copy of the Notice of Intent to do so to the Town Manager.

(J) Compliance Monitoring

(1) Right of Entry: Inspection and Sampling

The Town Manager shall be permitted to enter and inspect facilities subject to regulation under this ordinance as often as may be necessary to determine compliance with this ordinance.

(a) If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the Town of Cary.
(b) Facility operators shall allow the Town Manager ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of an NPDES permit to discharge stormwater, and the performance of any additional duties as defined by state and federal law.

(c) The Town Manager shall have the right to set up on any permitted facility such devices as are necessary in the opinion of the Town Manager to conduct monitoring and/or sampling of the facility’s stormwater discharge. The monitoring and/or sampling of the facility’s stormwater shall be at the facilities expense.

(d) The Town of Cary has the right to require the discharger to install monitoring equipment as necessary. The facility’s sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure stormwater flow and quality shall be calibrated to ensure their accuracy.

(e) Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the Town Manager and shall not be replaced. The costs of clearing such access shall be borne by the operator.

(f) Unreasonable delays in allowing the Town of Cary access to a permitted facility is a violation of a storm water discharge permit and of this ordinance. A person who is the operator of a facility with an NPDES permit to discharge storm water associated with industrial activity commits an offense if the person denies the Town of Cary reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this ordinance.

(2) Search Warrants

If the Town Manager has been refused access to any part of the premises from which stormwater is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this ordinance, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this ordinance or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the Town Manager may seek issuance of a search warrant.

(K) Requirement to Prevent, Control, and Reduce Stormwater Pollutants by the Use of Best Management Practices

The Town of Cary will adopt requirements identifying Best Management Practices (BMPs) for any activity, operation, or facility which may cause or contribute to pollution or contamination of stormwater, the storm drain system, or waters of the United States. The owner or operator of such activity, operation, or facility shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses through the use of these structural and non-structural BMPs. Further, any person responsible for a property or premise that is, or may be, the source of an illicit discharge, may be required to implement, at said person’s expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the MS4. Compliance with all terms and conditions of a valid NPDES permit
authorizing the discharge of storm water associated with industrial activity, to the extent practicable, shall be deemed in compliance with the provisions of this section. These BMPs shall be part of a Stormwater Management Plan (SWMP) as necessary for compliance with requirements of the NPDES permit.

(L) Notification of Spills

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into storm water, the storm drain system, or waters of the United States, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the Town Manager in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the Town Manager within two business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least five (5) years. Failure to provide notification of a release as provided above is a violation of this ordinance.

(M) Violations, Enforcement, and Penalties

(1) Violations

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this ordinance. Any person who has violated or continues to violate the provisions of this ordinance, may be subject to the enforcement actions outlined in this section or may be restrained by injunction or otherwise abated in a manner provided by law.

In the event the violation constitutes an immediate danger to public health or public safety, the Town Manager is authorized to enter upon the subject private property, without giving prior notice, to take any and all measures necessary to abate the violation and/or restore the property. Town Manager is authorized to seek costs of the abatement as outlined in Section (P).

(2) Warning Notice

When the Town Manager finds that any person has violated, or continues to violate, any provision of this ordinance, or any order issued hereunder, the Town Manager may serve upon that person a written Warning Notice, specifying the particular violation believed to have occurred and requesting the discharger to immediately investigate the matter and to seek a resolution whereby any offending discharge will cease. Investigation and/or resolution of the matter in response to the Warning Notice in no way relieves the alleged violator of liability for any violations occurring before or after receipt of the Warning Notice. Nothing in this subsection shall limit the authority of the Town of Cary to take any action, including emergency action or any other enforcement action, without first issuing a Warning Notice.
(3) Notice of Violation

Whenever the Town Manager finds that a person has violated a prohibition or failed to meet a requirement of this ordinance, the Town Manager may order compliance by written notice of violation to the responsible person. The Notice of Violation shall contain:

(a) The name and address of the alleged violator;

(b) The address when available or a description of the building, structure or land upon which the violation is occurring, or has occurred;

(c) A statement specifying the nature of the violation;

(d) A description of the remedial measures necessary to restore compliance with this ordinance and a time schedule for the completion of such remedial action;

(e) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;

(f) A statement that the determination of violation may be appealed to the Stormwater Services Manager by filing a written notice of appeal within thirty (30) days of service of notice of violation; and

(g) A statement specifying that, should the violator fail to restore compliance within the established time schedule, the work will be done by a designated governmental agency or a contractor and the expense thereof shall be charged to the violator.

Such notice may require without limitation:

1. The performance of monitoring, analyses, and reporting;

2. The elimination of illicit connections or discharges;

3. That violating discharges, practices, or operations shall cease and desist;

4. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property;

5. Payment of a fine to cover administrative and remediation costs; and

6. The implementation of source control or treatment BMPs.

(4) Compensatory Action

In lieu of enforcement proceedings, penalties, and remedies authorized by this ordinance, the Town of Cary may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, etc.
(5) Suspension of MS4 Access

(a) Emergency Cease and Desist Orders

When the Town Manager finds that any person has violated, or continues to violate, any provision of this ordinance, or any order issued hereunder, or that the person's past violations are likely to recur, and that the person's violation(s) has (have) caused or contributed to an actual or threatened discharge to the MS4 or waters of the United States which reasonably appears to present an imminent or substantial endangerment to the health or welfare of persons or to the environment, the Town Manager may issue an order to the violator directing it immediately to cease and desist all such violations and directing the violator to:

1. Immediately comply with all ordinance requirements; and

2. Take such appropriate preventive action as may be needed to properly address a continuing or threatened violation, including immediately halting operations and/or terminating the discharge.

Any person notified of an emergency order directed to it under this Subsection shall immediately comply and stop or eliminate its endangering discharge. In the event of a discharger's failure to immediately comply voluntarily with the emergency order, the Town of Cary may take such steps as deemed necessary to prevent or minimize harm to the MS4 or waters of the United States, and/or endangerment to persons or to the environment, including immediate termination of a facility's water supply, sewer connection, or other municipal utility services. The Town of Cary may allow the person to recommence its discharge when it has demonstrated to the satisfaction of the Town Manager that the period of endangerment has passed, unless further termination proceedings are initiated against the discharger under this ordinance. A person that is responsible, in whole or in part, for any discharge presenting imminent endangerment shall submit a detailed written statement, describing the causes of the harmful discharge and the measures taken to prevent any future occurrence, to the Town Manager within thirty (30) days of receipt of the emergency order. Issuance of an emergency cease and desist order shall not be a bar against, or a prerequisite for, taking any other action against the violator.

(a) Suspension due to Illicit Discharges in Emergency Situations

The Town Manager may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or waters of the United States. If the violator fails to comply with a suspension order issued in an emergency, the Town Manager may take such steps as deemed necessary to prevent or minimize damage to the MS4 or waters of the United States, or to minimize danger to persons.
(b) Suspension due to the Detection of Illicit Discharge

Any person discharging to the MS4 in violation of this ordinance may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. The Town Manager will notify a violator of the proposed termination of its MS4 access. The violator may petition the Town Manager for a reconsideration and hearing. A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this Section, without the prior approval of the Town Manager.

(6) Civil Penalties

In the event the alleged violator fails to take the remedial measures set forth in the notice of violation or otherwise fails to cure the violations described therein within five days, or such greater period as the Stormwater Services manager shall deem appropriate, after the Stormwater Services manager has taken one or more of the actions described above, the Stormwater Services Manager may impose a penalty not to exceed one thousand dollars ($1000) (depending on the severity of the violation) for each day the violation remains unremedied after receipt of the notice of violation.

(7) Criminal Prosecution

Any person that has violated or continues to violate this ordinance shall be liable to criminal prosecution to the fullest extent of the law, and shall be subject to a criminal penalty of one thousand dollars ($1000) per violation per day and/or imprisonment for a period of time not to exceed thirty (30) days. Each act of violation and each day upon which any violation shall occur shall constitute a separate offense.

(N) Appeal of Notice of Violation

Any person receiving a Notice of Violation may appeal the determination of the Town Manager. The notice of appeal must be received within five (5) days from the date of the Notice of Violation and must specify with particularity the grounds for the appeal. Hearing on the appeal before the court of appropriate jurisdiction shall take place within thirty (30) days from the date of receipt of the notice of appeal. The decision of the municipal authority or their designee shall be final.

(O) Enforcement Measures After Appeal

If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or, in the event of an appeal, within thirty (30) days of the decision of the municipal authority upholding the decision of the Town Manager, then representatives of the Town of Cary shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the government agency or designated contractor to enter upon the premises for the purposes set forth above.

(P) Cost of Abatement of the Violation

Within thirty (30) days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file
a written protest objecting to the amount of the assessment within thirty (30) days. If the amount due is not paid within a timely manner as determined by the decision of the municipal authority or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment. Any person violating any of the provisions of this article shall become liable to the Town of Cary by reason of such violation. The liability shall be paid in not more than ten (10) equal payments. Interest at the rate of eight percent per annum shall be assessed on the balance beginning on the first day following discovery of the violation.

(Q) Violations Deemed a Public Nuisance

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this ordinance is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

(R) Remedies Not Exclusive

The remedies listed in this ordinance are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the Stormwater Services Manager to seek cumulative remedies. The Town of Cary may recover all attorney's fees, court costs and other expenses associated with enforcement of this ordinance, including sampling and monitoring expenses.

7.3.7 Town of Cary NPDES Phase II Post Construction Runoff Controls

To meet the requirements of the Town of Cary NPDES Phase II Permit any new development or redevelopment as of July 1, 2005 not exempted pursuant to Section 7.3.2(B) must meet either the low density or high density option requirements described below. New development or redevelopment in the Swift Creek or Jordan Lake Watersheds must meet the requirements of Section 4.4.6 of the LDO. For purposes of this Section 7.3.7, impervious surface area shall be calculated pursuant to Section 4.4.6(D)(2) of the LDO and the provisions of Section 4.4.6(G) of the LDO shall apply to all engineered stormwater control structures.

(A) Low Density Projects, having no more than two (2) dwelling units per acre or no more than twenty-four (24) percent impervious surface area for all residential and non-residential development, shall transport stormwater runoff by vegetated conveyances to the maximum extent practicable.

(B) High Density Projects, having more than two (2) dwelling units per acre or more than twenty-four (24) percent impervious surface area for all residential and non-residential development, shall implement stormwater control measures that comply with each of the following standards:

1. The stormwater control measures shall control and treat the difference between the pre-development and post-development conditions for the one (1) year twenty-four (24) hour storm. Runoff volume drawdown shall be a minimum of twenty-four (24) hours, but not more than one hundred twenty (120) hours.

2. Engineered stormwater control structures shall be designed to achieve a minimum of eighty-five (85) percent average annual removal for Total Suspended Solids (TSS).
7.3.8 Variance

To the extent any state or federal law or regulations requires the Town to establish a variance procedure for any requirement of this section 7.3, excluding section 7.3.6, the variance procedure established in Section 4.4.6(I) of the LDO shall be utilized. The provisions of section 7.3.6 shall not be subject to this requirement.

(Ord. No. 05-001, 1-13-05; Ord. No. 05-015, 9-8-05; Ord. No. 06-009, adopted 4-27-06; eff. 4-27-06; Ord. No. 2007-04, 3-22-07; Ord. No. 2008-LDO-01, 9-25-08; Ord. No. 2010-LDO-01, 1-14-10; Ord. No. 2012-LDO-08, 10-11-12; Ord. No. 2013-LDO-02, 6-13-13; Ord. No. 2014-LDO-03, 8-14-14)

7.4 SOIL EROSION AND SEDIMENTATION CONTROL

7.4.1 Purposes

This section is adopted for the purpose of regulating land-disturbing activities in order to control accelerated erosion and sedimentation and accordingly to prevent water pollution from sedimentation, to prevent accelerated erosion and sedimentation of lakes and natural watercourses, and to prevent damage to public and private property by sedimentation during and after construction.

7.4.2 Permit and Approval Requirements

Land-disturbing activities shall be subject to the requirements and procedures set forth in Section 3.13 of this Ordinance for obtaining grading permits and the approval of erosion control plans and required permits by the U.S. Army Corps of Engineers or other federal or state agencies responsible for regulating development in wetlands. Any required state and/or federal permits must be obtained prior to the issuance of a grading permit.

7.4.3 General Erosion and Sedimentation Control Standards

All persons conducting land-disturbing activities shall take all reasonable measures to protect all public and private property from damage by such activities. Any and all state and/or federal standards apply and must be met. In situations where state and/or federal rules conflict with the provisions of this section, the more restrictive shall apply. All land-disturbing activities, except for those exempted by Section 3.13.1 of this Ordinance, shall meet the following standards:
(A) **Conveyance Channels**

(1) Stream banks and drainageway channels downstream from any land-disturbing activity shall be protected from increased degradation by accelerated erosion caused by increased velocity of runoff from the land-disturbing activity. The land-disturbing activity shall be planned and conducted such that the velocity of stormwater runoff in the receiving watercourse at the point of discharge resulting from a ten-year storm after development shall not exceed the greater of:

(a) The velocity as determined from Table 7.4-1 below; or

(b) The velocity in the receiving watercourse determined for the ten-year storm prior to development.

![Table 7.4-1: Maximum permitted velocities for stormwater discharges](image)

1. **Fine sand (noncolloidal)**
   - Feet per Second: 2.5
   - Meters per Second: 0.8
2. **Sandy loam (noncolloidal)**
   - Feet per Second: 2.5
   - Meters per Second: 0.8
3. **Silt loam (noncolloidal)**
   - Feet per Second: 3.0
   - Meters per Second: 0.9
4. **Ordinary firm loam**
   - Feet per Second: 3.5
   - Meters per Second: 1.1
5. **Fine gravel**
   - Feet per Second: 5.0
   - Meters per Second: 1.5
6. **Stiff clay (very colloidal)**
   - Feet per Second: 5.0
   - Meters per Second: 1.5
7. **Graded, loam to cobbles (noncolloidal)**
   - Feet per Second: 5.0
   - Meters per Second: 1.5
8. **Graded, silt to cobbles (colloidal)**
   - Feet per Second: 5.5
   - Meters per Second: 1.7
9. **Alluvial silts (noncolloidal)**
   - Feet per Second: 3.5
   - Meters per Second: 1.1
10. **Alluvial silts (colloidal)**
    - Feet per Second: 5.0
    - Meters per Second: 1.5
11. **Coarse gravel (noncolloidal)**
    - Feet per Second: 6.0
    - Meters per Second: 1.8
12. **Cobbles and shingles**
    - Feet per Second: 5.5
    - Meters per Second: 1.7
13. **Shales and hard pans**
    - Feet per Second: 6.0
    - Meters per Second: 1.8

* These values are for channels with straight alignment. For sinuous channels: multiply allowable velocity by 0.95 for slightly sinuous channels; by 0.9 for moderately sinuous channels; and by 0.8 for highly sinuous channels.

(2) If the requirements of paragraph (1) above cannot be met, then the channel below the discharge point shall be designed and constructed to withstand the expected velocity. Any channel stabilization activities involving stream bank stabilization may not be approved without the required state and/or federal permits.

(3) Alternative and innovative measures to satisfy the intent of this paragraph (A), applied either alone or in combination, may be used if there are no objectionable secondary consequences and the applicant can demonstrate to the Stormwater Services Manager that such measures have the potential to keep stormwater discharge velocities from creating an erosion problem in the receiving watercourse. Some alternative measures include:
§ 7.4.3 CARY LAND DEVELOPMENT ORDINANCE

(a) Avoiding increases in surface runoff volume and velocity by including measures to promote infiltration to compensate for increased runoff from areas rendered impervious;

(b) Avoiding increases in stormwater discharge velocities by using vegetated or roughened swales or waterways in lieu of closed drains and high-velocity paved sections;

(c) Providing energy dissipators, which may range from simple rip-rapped sections to complex structures, at the outlets of storm drainage facilities to reduce flow velocities to the point of discharge; and/or

(d) If the watercourse velocity is greater than 2.0 F.P.S., improving cross-sections and installing erosion-resistant linings.

(B) Slopes Left Exposed

Slopes left exposed shall be planted or otherwise provided with ground cover, devices, or structures sufficient to restrain erosion within fifteen (15) calendar days after completion of any phase of grading.

(C) Design Requirements

Erosion and sedimentation control measures, structures, and devices shall be planned, designed, and constructed to provide protection from the calculated maximum peak rate of runoff from the ten-year storm. Runoff rates shall be calculated in accordance with the Town's Standard Specifications and Details Manual. Calculations shall be submitted with the plans and shall be drafted and organized in a neat and readable manner.

(D) Protective Cover Required

All uncovered areas shall be provided with protective cover unless the Planning Director has granted an extension of time, for good cause shown, upon written request of the developer or landowner. This cover shall be installed within 15 working days (exclusive of days where seedbed preparation is not possible due to weather as determined by the Planning Director) or 90 calendar days following completion of any phase of grading, whichever period is shorter. Ground cover is not required on cleared land forming the future basin of a planned reservoir.

(E) Activity Near Watercourse

All land-disturbing activities near a lake or natural watercourse shall provide erosion and sedimentation control measures. An undisturbed buffer may be used as an erosion/sedimentation control measure, provided that the undisturbed zone shall be of sufficient width to confine visible siltation within the 25 percent of the undisturbed zone nearer to the land-disturbing activity. This requirement shall not apply to land-disturbing activities for the construction of facilities to be located on, over, or under a lake or natural watercourse.

(F) Protection During Construction

During construction, soil erosion and sedimentation control practices and devices shall be employed that are sufficient to retain the sediment generated by the land-disturbing activity within the boundaries of the tract during construction upon and development of said tract in accordance with plans approved by the Town.
(G) Limits on Single-Family Lot Grading

Grading and Erosion Control Plans submitted as part of a site/subdivision plan associated with residential development that has a gross density of three (3) units per acre or less are limited to clearing and disturbing only the land area required to install the infrastructure to serve the development (e.g., sewer and water lines, roads, storm water devices, greenways, and similar infrastructure). Until a building permit is issued for a lot, each lot must remain undisturbed, with the exception of portions of a lot impacted by the installation of infrastructure. Exceptions to grade upon a lot prior to the issuance of a building permit may be granted as a modification to the original plan approved by the Director of Water Resources, if there is sufficient justification (e.g., problematic drainage issues and/or severe topographic issues).

(H) Limit on Grading Area for Medium Density Residential Developments

Site/subdivision plans containing residential development with a gross density not exceeding eight (8) units per acre shall not grade more than twenty-five (25) acres per phase or section of development. Each twenty-five (25) acre phase or section of development must be stabilized and seeded meeting the requirements of this ordinance prior to grading an additional phase or section of development. Exceptions to this requirement may be granted as a modification to the original plan approved by the Director of Water Resources if compliance is not practicable due to physical site constraints, such as topography, presence of stream buffers or other natural features, or lot dimensions; or due to presence of existing development or infrastructure.

(I) Installation of Required Landscape After Grading

See Section 7.2.3, Requirements for Perimeter Buffers and Landscape Areas, for the specific requirements.

(J) Compliance with Town Manual

In addition to the standards set forth in this section, all soil erosion and sedimentation control measures shall conform to the applicable minimum standards set forth in the Town’s Standard Specifications and Details Manual.

(Ord. No. 2009-LDO-01, 2-12-09; Ord. No. 2010-LDO-05, 12-16-10)

7.4.4 Basic Control Objectives for Erosion Control Plans

In addition to meeting the standards of this Section 7.4.3 above, all erosion control plans submitted for approval under Section 3.13 of this Ordinance shall be developed and implemented in accordance with the following objectives:

(A) Identify Especially Vulnerable Areas

On-site areas that are subject to severe erosion, and off-site areas that are especially vulnerable to damage from erosion and/or sedimentation, shall be identified and receive special attention.

(B) Limit Time of Exposure

All land-disturbing activities shall be planned and conducted to limit exposure to the shortest feasible time.
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(C) Limit Exposed Area

All land-disturbing activities shall be planned and conducted to minimize the size of the area to be exposed at any one (1) time.

(D) Control Surface Water

Surface water runoff originating upgrade of exposed areas should be controlled to reduce erosion and sediment loss during the period of exposure.

(E) Control Sedimentation

All land-disturbing activities shall be planned and conducted so as to prevent off-site sedimentation damage.

(F) Manage Stormwater Runoff

When the increase in the velocity of stormwater runoff resulting from a land-disturbing activity is sufficient to cause accelerated erosion of the receiving watercourse, erosion control plans shall include measures to control the velocity at the point of discharge so as to minimize accelerated erosion of the site and increased sedimentation of the stream.

7.4.5 Borrow and Waste Areas

When the person conducting the land-disturbing activity is also the person conducting the borrow or waste disposal activity, areas from which borrow is obtained and which are not regulated by the Mining Act of 1971 (G.S. 74-46 et seq., as amended), and waste areas for surplus materials other than landfills regulated by the N. C. Department of Human, Environment, and Natural Resources, Division of Solid Waste Management, shall be considered as part of the land-disturbing activity from where the borrow material is being used or from which the waste material originated. When the person conducting the land-disturbing activity is not the person obtaining the borrow and/or disposing of the waste, these areas shall be considered a separate land-disturbing activity.

7.4.6 Access and Haul Roads

Temporary access and haul roads, other than public roads, constructed or used in connection with any land-disturbing activity shall be considered a component of such activity.

7.4.7 Operations in Lakes or Natural Watercourses

Land-disturbing activities for construction in, on, over, or under a lake or natural watercourse shall be planned and conducted so as to minimize the extent and duration of disturbance of the stream channel or lakebed. Where relocation of a stream is an essential component of the proposed activity, the relocation shall be planned and executed so as to minimize changes in the stream flow characteristics, except where the developer or landowner demonstrates to the Planning Director that significant alteration to the flow characteristics is justified.

(Ord. No. 2013-LDO-02, 6-13-13; Ord. No. 2014-LDO-03, 8-14-14)

7.5 FLOOD DAMAGE PREVENTION

7.5.1 Purpose; Enforcement

(A) The Flood Hazard Area of the Town is subject to periodic inundation that could result in loss of life and property, hazards to public health and safety, disruption of commerce and
governmental services, damage to and disruption of public utilities, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare. These losses and hazards are caused by the cumulative effect of obstructions in floodplains, which increase flood heights and velocities, and by the occupancy in flood-prone areas by uses that are vulnerable to floods, or hazardous to other properties, because they are inadequately elevated, flood proofed, or otherwise protected from flood damages. Therefore, the regulations set forth in this section are designed to:

1. Restrict or prohibit uses that are dangerous to health, safety, and property due to water or erosion or in flood heights or velocities;

2. Require that uses that are vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction;

3. Control the alteration of natural floodplains, stream channels, and natural protective barriers that accommodate and restrain floodwaters;

4. Prevent or control filling, grading, dredging, and other development that may increase erosion or flood damage;

5. Prevent or regulate the construction of flood barriers that will unnaturally divert floodwaters or that may increase flood hazards to other lands;

6. To ensure that potential homebuyers are notified that property is in a flood-prone area.

The degree of flood protection required by this section is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This section does not imply that land outside the Flood Hazard Area will be free from flooding or flood damages. Neither shall this section create liability on the part of the Town or by any officer or employee thereof for any flood damages that result from reliance on this section or any administrative decision lawfully made hereunder.

In the interpretation and application of this section, all provisions shall be considered as minimum requirements, shall be liberally construed in favor of the Town, and shall be deemed neither to limit nor repeal any other powers granted to the Town under state statutes.

This Section 7.5 shall be enforced by the Director of Water Resources or his designee. Any person who fails to comply with any provision of this Section 7.5 shall be in violation of this Ordinance.

7.5.2 Applicability

Purpose

This section shall apply to all areas of flood hazard including one percent (1%) annual chance floodplain within the jurisdiction of this Ordinance, and all development in and near such areas shall comply with the requirements of this section. Areas of one percent (1%) annual chance floodplain include Special Flood Hazard Areas and Future Conditions Flood Hazard Areas identified by:
(1) The Federal Emergency Management Agency (FEMA) or produced under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its Flood Hazard Boundary Map (FHBM) or Flood Insurance Study (FIS) and its accompanying flood maps such as the Flood Insurance Rate Map(s) (FIRM) and/or the Flood Boundary Floodway Map(s) (FBFM), for Wake County dated May 2, 2006, which, are adopted by reference and declared to be a part of this ordinance. The Special Flood Hazard Areas also include those defined through standard engineering analysis for private developments or by governmental agencies, but which have not yet been incorporated in the FIRM.

(2) Residential development that contains a significant watercourse that has a contributory drainage area of fifty (50) acres or greater shall require the applicant to provide a signed and sealed engineered study prepared by a qualified professional that determines the extent of flooding limits experienced by the one percent (1%) annual chance flood event.

(B) Exemptions

(1) All new residential construction and substantial residential improvements proposed on a parcel of land that has no buildable area outside the Special Flood Hazard Area or Future Conditions Flood Hazard Area, and that was recorded prior to June 1978, shall be exempt from the requirements for residential construction set forth in this section, but shall be developed in strict accordance with the requirements for non-residential construction.

(2) Residential subdivisions submitted for review prior to May 10, 2001, shall be exempted from the requirements prohibiting the platting of lands located within Special Flood Hazard Areas and Future Conditions Flood Hazard Areas, provided the section complies with the requirements in place prior to May 10, 2001.

(3) Site and/or subdivision plans submitted prior to May 10, 2001, and all new residential construction or substantial residential improvements proposed on a platted lot that is located within the Special Flood Hazard Area or Future Conditions Hazard Area, but was not so located at the time it was platted, shall be exempt from the requirement to obtain a special use permit for filling in the flood fringe portion of the Special Flood Hazard Area or the Future Conditions Flood Hazard Area but shall submit a floodplain development permit application. An engineering study must be performed to determine whether an adverse impact will result from filling in the flood fringe portion of the Special Flood Hazard Area or Future Conditions Flood Hazard Area and must be submitted with the floodplain development permit application. For purposes of this Section 7.5.2, an "adverse impact" includes, but is not limited to, a reduction of floodplain storage greater than ten (10) percent, an increase in one hundred (100) year flood.
average channel velocities greater than ten (10) percent, or the potential for aggravating a known existing drainage problem as determined by the Town of Cary Floodplain Administrator. If an adverse impact will result, the construction or improvements must meet the requirements for new non-residential construction and substantial improvements to non-residential construction contained in Section 7.5.3(C) and (D)(2).

7.5.3 Development Restrictions and Related Standards In and Near Special Flood Hazard Areas and Future Conditions Flood Hazard Areas

(A) Establishment of Floodplain Development Permit

A Floodplain Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities within Special Flood Hazard Areas and Future Conditions Flood Hazard Areas determined in accordance with Section 7.5.2(A) of this ordinance.

(B) Development Restrictions

In general, no development is allowed in Special Flood Hazard Areas or Future Conditions Flood Hazard Areas unless one or more of the following are met:
(1) A special use is approved;

(2) The property/use is exempted from this requirement; and/or

(3) The development is for roads, greenways, pedestrian crossings, park-related equipment, or public utilities and facilities such as waste water, gas, electrical, and water systems that are located and constructed to minimize flood damage.

Structures for pedestrian crossings (e.g., footbridges, etc.), playground equipment, and other similar items may be permitted if the applicant provides certification by a professional registered engineer, architect, or landscape architect that these encroachments will not result in any increase in flood levels during the base flood.

(C) Development Standards

No structure or land shall hereafter be located, extended, converted, altered, or developed in any way without full compliance with the terms of this ordinance and other applicable regulations.

If development or encroachments are permitted, the following standards shall apply in Special Flood Hazard Areas and Future Conditions Flood Hazard Areas.

(1) All new non-residential construction and substantial improvements to existing non-residential construction shall be:

   (a) Anchored to prevent flotation, collapse, or lateral movement of the structure; and
   
   (b) Constructed with materials and utility equipment resistant to flood damage; and
   
   (c) Constructed by methods and practices that minimize flood damage.

(2) All new and replacement electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and constructed to prevent water from entering or accumulating in or on the components.

(3) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.

(4) New and replacement sanitary sewer systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharges from the system into flood waters.

(5) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

(6) Nothing in this ordinance shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this ordinance and located totally or partially within the floodway, non-encroachment area, or stream setback, provided there is no additional encroachment below the regulatory flood protection elevation in the floodway, non-encroachment area, or stream setback, and provided that such repair, reconstruction, or replacement meets all of the other requirements of this ordinance.
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(7) New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted in Special Flood Hazard Areas or Future Conditions Flood Hazard Areas, except by variance as specified in Section 3.20. A structure or tank for chemical or fuel storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility may be located in a Special Flood Hazard Area or a Future Conditions Flood Hazard Area only if the structure or tank is either elevated or floodproofed to at least the regulatory flood protection elevation and certified according to Section 7.5.2(E)(3)(a) of this ordinance.

(D) Additional Development Standards and Restrictions for Areas with Established Base Flood Elevation Data

(1) Residential Construction

(a) New construction of or substantial improvements to any residential structure shall be located outside Special Flood Hazard Areas and Future Conditions Flood Hazard Areas and shall have the lowest floor, including basement, elevated no lower than the regulatory flood protection elevation as defined. "Substantial improvement" is defined in Chapter 12.

Residential Construction 2'-0" Above Base Flood Elevation

(b) No proposed building lot that is wholly or partly subject to flooding shall be approved unless there is established on the final plat a line representing an actual contour as determined by field survey at elevation of the regulatory flood protection elevation as determined by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, or by other studies approved by the Town. Such a line shall be known and identified on the site and/or subdivision plan and final plat as the "Building Restriction Floodline."
(c) Placement of fill within the floodway, non-encroachment area, and/or flood fringe is prohibited unless such activities are authorized through a Special Use Permit.

(d) Subdivisions submitted after May 10, 2001, may not plat house lots located within Special Flood Hazard Areas or Future Conditions Flood Hazard Areas unless one of the following exemptions are met:

1. This requirement does not apply to subdivisions within Planned Developments provided that the master plan and/or conditions have exempted lots from this provision.

2. The Town Council may allow these areas to be included in lots only when all of the following conditions are met:

   a. The Special Flood Hazard Area or Future Conditions Flood Hazard Area impacts a limited section of the subdivision (i.e., less than ten percent (10%) of the total land area of the subdivision);

   b. There is no other reason for the formation of a homeowner’s association to retain ownership and maintenance responsibility for the Special Flood Hazard Area or Future Conditions Flood Hazard Area (e.g., covenant, other common areas);

   c. The Special Flood Hazard Area or Future Conditions Flood Hazard Area is placed in a permanent maintenance easement prior to plat recordation.

(2) Non-Residential Construction Approved within Special Flood Hazard Areas and Future Conditions Flood Hazard Areas

(a) New construction of or substantial improvements to any commercial, industrial, or other non-residential structure shall have the lowest floor, including basement, elevated no lower than the regulatory flood protection elevation as defined in Chapter 12, with attendant utilities and sanitary facilities flood-proofed.

(b) For all new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on the exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must be certified by a registered Professional Engineer or architect, or must meet or exceed the following minimum criteria:

1. A minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding shall be provided;

2. The bottom of all openings shall be no higher than one (1) foot above grade;

3. Openings may be equipped with screens, louvers, or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters; and

4. A registered professional engineer or architect shall certify to the Town Manager that the standards of this section are satisfied.
(E) Application Requirements

(1) Application for a floodplain development permit shall be made to the floodplain administrator prior to any development activities located within Special Flood Hazard Areas and Future Conditions Flood Hazard Areas. The following items shall be presented to the floodplain administrator to apply for a floodplain development permit:

(a) A plot plan drawn to scale which shall include, but shall not be limited to, the following specific details of the proposed floodplain development:

1. the nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed structures, utility systems, grading/pavement areas, fill materials, storage areas, drainage facilities, and other development;

2. the boundary of the Special Flood Hazard Area or Future Conditions Flood Hazard Area as delineated on the FIRM or other flood map as determined in Section 7.5.2(A), or a statement that the entire lot is within the Special Flood Hazard Area or Future Conditions Flood Hazard Area;

3. flood zone(s) designation of the proposed development area as determined on the FIRM or other flood map as determined in Section 7.5.2(A);

4. the boundary of the floodway(s) or non-encroachment area(s) as determined in Section 7.5.2(A);

5. the Base Flood Elevation (BFE) or Future Conditions Flood Elevation where provided as set forth in Section 7.5.2(A), Section 7.5.4;

6. the old and new location of any watercourse that will be altered or relocated as a result of proposed development;

7. certification of the plot plan by a registered land surveyor or professional engineer.

(b) Proposed elevation, and method thereof, of all development within a Special Flood Hazard Area or Future Conditions Flood Hazard Area including but not limited to:

1. Elevation in relation to mean sea level of the proposed reference level (including basement) of all structures;

2. Elevation in relation to mean sea level to which any non-residential structure in Zone AE, A or X (Future) will be flood-proofed; and

3. Elevation in relation to mean sea level to which any proposed utility systems will be elevated or floodproofed;

(c) If floodproofing, a Floodproofing Certificate (FEMA Form 81-65) with supporting data and an operational plan that includes, but is not limited to, installation, exercise, and maintenance of floodproofing measures.
(d) A Foundation Plan, drawn to scale, which shall include details of the proposed foundation system to ensure all provisions of this ordinance are met. These details include but are not limited to:

1. The proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/posts/piers/piles/shear walls);

2. Openings to facilitate equalization of hydrostatic flood forces on walls in accordance with Section 7.5.3(D)(2)(b)1 4, when solid foundation perimeter walls are used in Zones A, AE and X (future);

(e) Usage details of any enclosed areas below the regulatory flood protection elevation.

(f) Plans and/or details for the protection of public utilities and facilities such as sewer, gas, electrical, and water systems to be located and constructed to minimize flood damage;

(g) Copies of all other Local, State and Federal permits required prior to floodplain development permit issuance (Wetlands, Endangered Species, Erosion and Sedimentation Control, Mining, etc.)

(h) Documentation for placement of Recreational Vehicles and/or Temporary Structures, when applicable, to ensure Section 7.5.3(G)(5)(b) ordinance are met.

(i) A description of proposed watercourse alteration or relocation, when applicable, including an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map (if not shown on plot plan) showing the location of the proposed watercourse alteration or relocation.

(2) Permit Requirements

The floodplain development permit shall include, but not be limited to:

(a) A description of the development to be permitted under the floodplain development permit.

(b) The Special Flood Hazard Area or Future Conditions Flood Hazard Area determination for the proposed development per available data specified in Section 7.5.3(A).

(c) The regulatory flood protection elevation required for the reference level and all attendant utilities.

(d) The regulatory flood protection elevation required for the protection of all public utilities.

(e) All certification submittal requirements with timelines.

(f) A statement that no fill material or other development shall encroach into the floodway or non-encroachment area of any watercourse, as applicable.
(g) The flood openings requirements, if in Zones A, AE or X (Future).

(3) Certification Requirements

(a) Elevation Certificates

1. An Elevation Certificate (FEMA Form 81-31) is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the floodplain administrator a certification of the elevation of the reference level, in relation to mean sea level. The floodplain administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder prior to the beginning of construction. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit.

2. An Elevation Certificate (FEMA Form 81-31) is required after the reference level is established. Within seven (7) calendar days of establishment of the reference level elevation, it shall be the duty of the permit holder to submit to the floodplain administrator a certification of the elevation of the reference level, in relation to mean sea level. Any work done within the seven (7) day calendar period and prior to submission of the certification shall be at the permit holder’s risk. The floodplain administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further work being permitted to proceed. Failure to submit the certification or failure to make required corrections shall be cause to issue a stop-work order for the project.

3. A final as-built Elevation Certificate (FEMA Form 81-31) is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance. It shall be the duty of the permit holder to submit to the floodplain administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities. The floodplain administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.

(b) Floodproofing Certificate

If non-residential floodproofing is used to meet the regulatory flood protection elevation requirements, a Floodproofing Certificate (FEMA Form 81-65), with supporting data and an operational plan, is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the floodplain administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to mean sea level. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The floodplain administrator shall review the certificate data and plan. Deficiencies detected by
such review shall be corrected by the applicant prior to permit approval. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit. Failure to construct in accordance with the certified design shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.

(c) If a manufactured home is placed within Zone A, AE or X (Future) and the elevation of the chassis is more than thirty-six (36) inches in height above grade, an engineered foundation certification is required per Section 7.5.7(A), (B) and (C).

(d) If a watercourse is to be altered or relocated, a description of the extent of watercourse alteration or relocation; a professional engineer's certified report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map showing the location of the proposed watercourse alteration or relocation shall all be submitted by the permit applicant prior to issuance of a floodplain development permit.

(e) Certification Exemptions

The following structures, if located within Zone A, AE or X (Future), are exempt from the elevation/floodproofing certification requirements specified in items (a) and (b) of this subsection:

1. recreational Vehicles meeting requirements of Section 7.5.4(F);
2. temporary Structures meeting requirements of Section 7.5.4(F); and
3. accessory Structures less than one hundred fifty (150) square feet meeting requirements of Section 7.5.3(H).

(F) Additions/Improvements

(1) Elevated Buildings

Fully enclosed area, of new construction and substantially improved structures, which is below the lowest floor:

(a) shall not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator). The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, except to enclose storage areas;

(b) shall be constructed entirely of flood resistant materials below the regulatory flood protection elevation;

(c) shall include, in Zones A, AE and X (Future), flood openings to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a qualified professional or meet or exceed the following minimum design criteria;
1. a minimum of two (2) flood openings on different sides of each enclosed area subject to flooding;

2. the total net area of all flood openings must be at least one (1) square inch for each square foot of enclosed area subject to flooding;

3. if a building has more than one (1) enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;

4. the bottom of all required flood openings shall be no higher than one (1) foot above the adjacent grade;

5. flood openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions; and

6. enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require flood openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires flood openings as outlined above.

(G) Additions/Improvements to Existing Structures

(1) For additions and/or improvements to pre-FIRM structures located within the Special Flood Hazard Area or Future Flood Conditions Hazard Area when the addition and/or improvements in combination with any interior modifications to the existing structure are:

(a) not a substantial improvement, the addition and/or improvements must be designed to minimize flood damages and must not be any more non-conforming than the existing structure.

(b) a substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction contained in Section 7.5.3(C) and (D).

(2) Additions to post-FIRM structures located within the Special Flood Hazard Area or Future Flood Conditions Hazard Area with no modifications to the existing structure other than a standard door in the common wall shall require only the addition to comply with the standards for new construction contained in Section 7.5.3(C) and (D).

(3) Additions and/or improvements to post-FIRM structures located within the Special Flood Hazard Area or Future Flood Conditions Hazard Area when the addition and/or improvements in combination with any interior modifications to the existing structure are:

(a) not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction contained in Section 7.5.3(C) and (D).

(b) a substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction contained in Section 7.5.3(C) and (D).
(4) For either a pre-FIRM or post-FIRM structure located within the Special Flood Hazard Area or Future Flood Conditions Hazard Area, where an independent perimeter load-bearing wall is provided between the addition and the existing building, the addition(s) shall be considered a separate building and only the addition must comply with the standards for new construction contained in Section 7.5.3(C) and (D).

(5) Recreational Vehicles

Recreational vehicles shall either:

(a) be on site for fewer than one hundred and eighty (180) consecutive days and be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities, and has no permanently attached additions); or

(b) meet all the requirements for new construction.

(6) Temporary Non-Residential Structures

Prior to the issuance of a Floodplain Development Permit for a temporary structure, the applicant must submit to the Floodplain Administrator a plan for the removal of such structure(s) in the event of a hurricane, flash flood or other type of flood warning notification. The following information shall be submitted in writing to the floodplain administrator for review and written approval;

(a) a specified time period for which the temporary use will be permitted. Time specified may not exceed three (3) months, renewable up to one (1) year;

(b) the name, address, and phone number of the individual responsible for the removal of the temporary structure;

(c) the time frame prior to the event at which a structure will be removed (i.e., minimum of seventy-two (72) hours before landfall of a hurricane or immediately upon flood warning notification);

(d) a copy of the contract or other suitable instrument with the entity responsible for physical removal of the structure; and

(e) designation, accompanied by documentation, of a location outside the Special Flood Hazard Area or Future Conditions Flood Hazard Area, to which the temporary structure will be moved.

(H) Accessory Structures

When accessory structures (sheds, detached garages, etc.) are to be placed within a Special Flood Hazard Area or Future Conditions Flood Hazard Area, the following criteria shall be met:

(1) Accessory structures shall not be used for human habitation (including working, sleeping, living, cooking or restroom areas);

(2) Accessory structures shall not be temperature-controlled;
§ 7.5.3 CARY LAND DEVELOPMENT ORDINANCE

(3) Accessory structures shall be designed to have low flood damage potential;

(4) Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;

(5) Accessory structures shall be firmly anchored in accordance with Section 7.5.3(C)(1);

(6) All service facilities such as electrical shall be installed in accordance with Section 7.5.3(D)(2)(a);

(7) Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below regulatory flood protection elevation in conformance with Section 7.5.3(D)(2)(b)1—4.

An accessory structure with a footprint less than one hundred fifty (150) square feet that satisfies the criteria outlined above does not require an elevation or floodproofing certificate. Elevation or floodproofing certifications are required for all other accessory structures in accordance with Section 7.5.3(E)(3).

7.5.4 Limitations on Encroachments in Floodways and Non-Encroachment Areas

Floodways and non-encroachment areas, located within the Special Flood Hazard Area or Future Conditions Flood Hazard Areas, are extremely hazardous areas due to the velocity of flood waters that carry debris, potential projectiles, and the potential for erosion. Therefore, encroachments, including fill, in floodways or non-encroachment areas are permitted only in limited circumstances and only under the following restrictions:

(A) There shall be no encroachment, including fill, unless the applicant has received a Special Use Permit (see Section 3.8) or the use is permitted (see Section 7.5.3(A). The applicant for a special use involving the floodway portion of a Special Flood Hazard Area or Future Conditions Flood Hazard Area shall provide certification by a professional registered engineer, architect, or landscape architect that the encroachment will not result in any increase in flood levels during the discharge of the base flood or provide a Conditional Letter or Map Revision issued by the Federal Emergency Management Agency.

(B) Once paragraph (A) above is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction requirements of this section.

7.5.5 Standards for Streams without Established Base Flood Elevations

Located within Special Flood Hazard Areas are small streams where no base flood data has been provided. The following provisions apply within such areas:

(A) No encroachments, including fill, new construction, substantial improvements, or new development, shall be permitted within a distance of the stream bank equal to five (5) times the width of the stream at the top of the bank or twenty (20) feet each side from the top of the bank, whichever is greater, unless a special use is approved or the use is permitted.
New Construction near Streams

Standards for Streams without Established Base Flood Elevations
(B) In cases where the streams lacking base flood data are USGS or County Soils Map streams, then the limitations upon encroachments shall apply to the entire area within the associated UTBs, or an area five (5) times the width of the stream at the top of the bank, whichever is greater.

(C) If paragraph (A) above is satisfied, and base flood elevation data is available from other sources, all new construction and substantial improvements within such areas shall comply with all applicable flood hazard ordinance provisions of this Section and shall be elevated or flood-proofed in accordance with elevations established under Section 7.5.2. When base flood elevation data is not available from a federal, state, or other source, the lowest floor, including basement, shall be elevated to or above the regulatory flood protection elevation as defined in Chapter 12.

7.5.6 Cross Drainage Area Standards and Restrictions

For any new proposed development subject to flooding which includes, but is not limited to, those lots along any significant watercourse, whether or not the stream or water course is enclosed with a pipe or culvert; the applicant shall make a determination of the crest elevation of the flood expected to be equaled or exceeded that has a one (1) percent chance of annual occurrence in accordance with generally accepted engineering practice, which is to be submitted with the seal and signature of a Professional Engineer to the Director of Water Resources. Any new construction of, or substantial improvements (see Chapter 12, Definitions) to, any residential or non-residential structure shall comply with Section 7.5.3(C).

7.5.7 Special Requirements for Manufactured Homes

(A) No manufactured home shall be placed in Special Flood Hazard Areas or Future Conditions Flood Hazard Areas, except when located within an existing manufactured home park. In existing manufactured home parks, all manufactured homes to be placed or substantially improved within Zones A1-30, AH and AE, as indicated on the Flood Insurance Rate Map, shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is no lower than the regulatory flood protection elevation as defined in Chapter 12 and shall be securely anchored to an adequate foundation system in accordance with the most current edition of the State of North Carolina Regulations for Manufactured Homes adopted by the Commissioner of Insurance pursuant to G.S. 143-143.15.

(B) Manufactured homes may not be placed in the floodway.

(C) All manufactured homes within Special Flood Hazard Areas or Future Conditions Flood Hazard Areas shall be anchored to resist flotation, collapse, or lateral movement in accordance with the Regulations for Mobile Homes and Modular Housing adopted by the Commissioner of Insurance pursuant to G.S. 143-15. Where the required elevation can be met by elevating the chassis no more than thirty-six (36) inches above grade at the site, the chassis shall be supported by reinforced piers or other foundation of equivalent strength. When the elevation of the chassis is above thirty-six (36) inches in height an engineering certification is required.

7.5.8 Special Requirements for Development Proposals Requiring Site and/or Subdivision Plan Approval

For purposes of this section only, the boundaries of the Special Flood Hazard Area or Future Conditions Flood Hazard Area for a subdivision or a discrete phase of a subdivision are established if all of the following conditions are met:
(A) The subdivision is approved for construction through approval of a preliminary subdivision plan and all other applicable permits;

(B) A substantial investment is made in constructing the subdivision.

(C) In addition to satisfying the other requirements of this Ordinance, all proposals for subdivisions and site plans shall:

1. Be consistent with the need to minimize flood damage;

2. Have public utilities and facilities, such as wastewater, gas, electrical, and water systems, located and constructed so as to minimize flood damage;

3. Have all proposed residential structures located outside the Special Flood Hazard Area or Future Conditions Flood Hazard Area, with the lowest floor, including basement, elevated at least two feet above the base flood elevation;

4. Have all proposed non-residential structures located outside of the Special Flood Hazard Area or Future Conditions Flood Hazard Area, with the lowest floor, including basement, located at least two (2) feet above the base flood elevation. (Note that an approved special use may permit structures in a flood fringe - see Section 3.12.3).

5. Have all drainage structures located within the Flood Hazard Area designed to accommodate the one percent (1%) annual chance flood without causing increased base flood elevations on properties other than that for which development approval is being requested;

6. Shall provide base flood elevation data along with the subdivision plan or site plan, which is submitted to the Town for approval.


7.6 NUISANCE AND HAZARD CONTROL STANDARDS

7.6.1 Purpose and Applicability

This section is intended to ensure that industrial, research, and other business activities are established and maintained with proper appearance from streets and adjoining properties, and to ensure that such activities are good neighbors to adjoining properties by controlling the emission of noise, odors, glare, vibration, smoke, dust, liquid wastes, radiation, radioactivity, and similar pollutants. Accordingly, this section states the performance standards and conditions with which the Town expects the construction and operation of industrial, research, and other business activities to comply. These performance standards, like all other provisions of this Ordinance, are continuing obligations, and all industrial, research, and other business uses will be expected to operate in compliance with these standards. Any land use that fails to comply with these standards shall be in violation of this Ordinance.
7.6.2 General Standards and Measures for Compliance

(A) All uses shall be conducted so as to preclude any nuisance, hazard, or commonly-recognized offensive condition or characteristics of the use, including the creation or emission on other properties of dust, gas, smoke, noise, fumes, odors, vibrations, particulate matter, chemical compounds, toxic matter, fire, explosions, electrical disturbance, heat, glare, or excessive night illumination. At any time before or after a building is used or occupied, the Planning Director may require that adequate control measures be provided in accordance with the requirements or standards of the appropriate state or federal government agency responsible for regulating that condition or pollutant, in order to protect the public health, safety, comfort, convenience, and general welfare from any such nuisance, hazard, condition, or pollutant.

(B) Federal and State environmental regulations may also apply to one or more of the features governed by the standards in Section 7.6.3 below. The intent is for the standards of this section to supplement and complement, not supersede or replace, any applicable Federal and State regulations. If any standard herein conflicts with an applicable Federal or State standard, then the Federal or State standard shall control.

7.6.3 Performance Standards

(A) Landscaping

All required front yards, side yards, and rear yards shall be open, landscaped green areas or left in their natural state. Where landscaped, such yards shall be planted attractively with lawn, trees, shrubs, and the like in accordance with the site plan which the Town has approved for the use. Any areas left in their natural state shall be properly maintained in a sightly and well-kept condition. Parking areas also shall be maintained in a sightly and well-kept condition.

(B) Noise

Noise shall be muffled so as not to become objectionable at or beyond the property line due to intermittent beat frequency, shrillness, or intensity.

(C) Odors

Odors from any use shall not exceed the standards established by the State of North Carolina.

(D) Glare

Direct or reflected glare, such as from floodlights or high temperature processes, and as differentiated from general illumination, shall not be visible at or beyond any property line.

(E) Smoke

Smoke emissions shall not exceed the maximum limits established by the State of North Carolina.

(F) Dust and Other Particulate Matter

Solid or liquid particulate matter shall not be emitted at any point in a concentration exceeding three-tenths (0.3) grains per cubic foot of the conveying gas or air.
(G) **Gases**

Fumes or gases shall not be emitted at any point in concentrations or amounts that are noxious, toxic, corrosive, or in excess of any applicable maximum limits established by State or Federal regulations.

(H) **Fire and Explosion Hazards**

All operations shall be carried out in accordance with the Town Fire Code and with reasonable precautions against fire and explosive hazards.

(I) **Radiation and Radioactivity**

Operations shall cause no radiation or radioactivity at or beyond any property line that exceeds any applicable standards or regulations established by the U. S. Nuclear Regulatory Commission or by other federal or state agencies or laws.

(J) **Electrical Radiation**

Any electrical radiation shall not at any point adversely affect or interfere with any operations or equipment other than those of the person, company, or other entity emitting the radiation. Avoidance of adverse effects or interference from electrical radiation by appropriate single or mutual scheduling of operations is permitted.

(K) **Wastewater and Industrial Wastes**

All wastewater and industrial wastes shall be treated and disposed in such a manner as to comply with the water quality standards applicable to the classification assigned to the receiving waters by the State of North Carolina. Approval by the State of North Carolina of all plans for waste disposal facilities shall be required before the issuance of any building permit. All uses connected to the Town’s sanitary sewer system also shall comply with all applicable requirements established in Chapter 19, Article IV of the Code of Ordinances of the Town of Cary.

(L) **Underground and Above-Ground Storage Tanks**

All storage tanks which are placed above or below the ground shall be designed and installed so as to prevent the infiltration of their contents into groundwater or surface waters, and to comply with all applicable State regulations promulgated by the North Carolina Department of Health, Environment and Natural Resources.

### 7.6.4 Effects of Concurrent Operations on Different Properties

The sum total of the effects of concurrent operations on two (2) or more parcels measured at any property line shall not be greater or more offensive to the senses than the standards contained in this section. Compliance with the provisions of this section may occur by independent or mutual changes in operational levels, scheduling of operations, and other adjustments.

### 7.6.5 Determination of Violation of Performance Standards

(A) The Planning Director shall have the authority to determine violations of the standards set forth in this section. The procedures set forth in this section shall be followed prior to the initiation of any enforcement action under Chapter 11 of this Ordinance.
When determination of a violation of these standards requires the use of personnel or instruments not available to the Town, and a violation exists in the opinion of the Planning Director, the following procedures shall be followed:

1. The Planning Director shall give written notice of the alleged violation by registered or certified mail, return receipt requested, to the owner or occupant of the property. The notice shall describe the alleged violation, state the reasons why the Director believes there is a violation, and require that the owner or occupant answer the allegation within thirty (30) days of receiving the notice.

2. After the thirty (30)-day period passes, if a dispute still exists between the Director and the alleged violator regarding the existence of violation, then the alleged violator may appeal to the Zoning Board of Adjustment. The Director shall then transmit to the Town Council a copy of the notice given to the alleged violator, along with any recommendations as to alterations, modifications, or securing the services of a consultant to determine whether a standard has been violated. The Town Council then shall make a determination as to whether a violation exists.

3. If the Zoning Board of Adjustment finds the alleged violation to exist, then the costs of making that determination shall be charged to the owner or occupant of the property responsible for the violation. If the Zoning Board of Adjustment determines that no violation exists, then the Town shall cover the costs of making the determination.

4. If a violation is not removed or corrected as directed by the Town Council, then the Director may:
   
   a. Recommend to the Town Council that any occupancy permits previously issued to the violator be voided and that the operator be required to cease operation until the violation is removed, corrected, or otherwise remedied; and/or
   
   b. Initiate further enforcement actions under Chapter 11 of this Ordinance.

(Ord. No. 2011-LDO-01, 1-11-11)

7.7 BUILDING DESIGN STANDARDS

7.7.1 Purpose and Intent

The review and approval of building design is critical to upholding and promoting high quality development throughout the Town. The purpose of this section is to ensure that proposed developments are designed in a way that promotes compatibility throughout the Town, including within residential developments, within non-residential centers, and between residential and non-residential areas. Specifically, the intent of this Section is as follows:

A. To encourage high quality appearance for developments, thoroughfares, and streets;

B. To provide proper standards that ensure a high quality appearance for Cary, and promote good design while also allowing individuality, creativity, and artistic expression;

C. To encourage the proper use of the land by promoting an appropriate balance between the built environment and preservation/conservation of open space (note that some places may be appropriate for more urban type development and less open space, such as the downtown and other areas designated in the Comprehensive Plan);
(D) To preserve and improve property values and protect private and public investment; and

(E) To preserve and protect the identity and character of Cary, and to enhance the business economy.

7.7.2 Applicability

All projects requiring submission of a site and/or subdivision plan under Section 3.9 of this Ordinance shall comply with the requirements of this Section. Such projects also must comply with the Town's Community Appearance Manual, Design Guidelines Manual, and/or Downtown Design Guidelines, which provide examples and illustrations of concepts discussed in this Section.

7.7.3 General Requirements

(A) Development within Non-Residential Centers

All proposed buildings within non-residential centers shall be designed to be consistent within the center in terms of architectural design, exterior building materials, colors, and arrangement of buildings and other features. A Statement of Architectural Compatibility (SAC) shall be required prior to the approval of the first site plan within the development; see Section 7.7.4.

(B) Development Outside of Non-Residential Centers

For all other non-residential development located outside of non-residential centers (e.g., subdivisions, buildings on "stand alone" parcels, modifications to existing developments, and infill development), the building design(s) shall be compatible within the subdivision or with adjacent buildings in close proximity to the proposed building. In such cases, a Statement of Architectural Compatibility is not required.

(C) Building Placement

Buildings shall comply with the following standards and those provisions that address building orientation, arrangement, mass, and other elements. All development plans must also follow the provisions in the Town's Community Appearance Manual and Site Design Standards.

(1) All buildings must front a street, park, open space, or pedestrian way. A street may be an external roadway adjacent to a property, or a public or private street within a site. Buildings with one (1) double-loaded bay of parking between them and a street count as being sited to front a street. In addition, in non-residential centers, ten (10) acres or more in size within Mixed Use Overlay Districts, a majority of the tenant spaces forty thousand (40,000) square feet or less must be located on a double fronted street with no more than one hundred eighty (180) feet between buildings. For infill or redevelopment sites, buildings may front adjacent public streets in lieu of the double-loaded requirement.

(2) Drive-throughs with roof structures or canopies shall be oriented away from major roadways. Cantilevered awnings or metal canopies are acceptable as part of a drive through.

(3) Infill development should have the same predominate setbacks and orientation of adjacent existing buildings, unless there is an opportunity to establish a new predominate street-front orientation.
(4) Buildings on adjacent outparcels must be grouped adjacent to one another in groups of two (2) or more. Grouped outparcel buildings must be sited no more than one hundred (100) feet apart.

(D) Review Considerations

The approval authority may consider alternative colors and designs for buildings provided that they meet the intent of this section. The approval authority should consider criteria such as the intensity of the colors, the extent of the design difference and the spatial separation of each building.

7.7.4 Statement of Architectural Compatibility (SAC)

A Statement of Architectural Compatibility (SAC) shall be included with all site plans for buildings within a non-residential center, and shall be submitted with the first site plan submission (see Section 3.9) on the application form specified in the Community Appearance Manual. The Town Council or the Planning Director shall consider the SAC as part of the site and/or subdivision plan review. The SAC shall include:

(A) Primary physical characteristics including predominant color(s), exterior materials and architectural features;

(B) Primary landscape theme (general, not specific);

(C) Building height and placement;

(D) Lighting elements (general);

(E) Other elements which may be relevant to a specific development and how they are compatible with the adjacent sites; and

(F) Master Sign Plan (general).

The SAC shall designate the unifying elements that are to be incorporated within the entire project (including any outparcel) and specifically how these elements are to be used.

7.7.5 Criteria for Review of SAC

(A) Primary Color(s)

A maximum of three (3) predominant colors shall be designated as a primary unifying element (this does not include accent colors). Flexibility may be used to allow additional colors and/or a range of predominant colors provided that these colors are in the same family of colors (similar to each other). Any color specified as a primary unifying element shall be dominant in the building facade. Color "samples" shall be provided to the staff at the time of site plan review. Colored renderings may be required, but shall not be a substitute for this requirement. In addition to listing the color(s), the SAC shall also describe how and where the color will be used. It is recognized that the same color on a different material may not match exactly.
(B) Accent Colors

These colors may be used as a secondary unifying element provided they are used throughout the development. Non-illuminated accent bands (e.g., canopies with gas stations and the roof of fast food buildings) on roofs, canopies, or other features shall be one (1) of the primary colors of the development or be white or earth tone in color.

(C) Exterior Materials

The dominant material or combination of materials shall be defined. For each building material selected, the color of that material shall also be defined.

(D) Architectural Features

Architectural features refer to a number of building elements that are repeated throughout the development. These include, but are not limited to: roof lines, canopies, building ornamentation, patterns, and building form. Any architectural feature designated as a unifying element throughout all buildings shall contribute to the identity of the development and not be just a minor architectural detail.

1. Use of Awnings

No awnings/canopies shall be internally lit. All awnings/canopies shall utilize the same design and color throughout the development.

2. Roof Type

Outparcels may use a different roof type (e.g., pitch vs. flat) than the main buildings within centers provided that the building on the outparcel is a size where the different roof type does not dominate the center and/or the roof type has a tie to the other buildings (e.g., mansard roofs).

3. Detached Canopies

Detached canopies are subject to the provisions of the Design Standards Manual, including color and roof pitch requirements.

(E) Landscaping

Plant materials may be used in such a way as to reinforce compatibility depending on the type of plant materials selected and their placement on the site. This previous statement is not intended to limit creative landscape designs within the center, but to promote general compatibility in materials. Drought tolerant or native species (including trees, shrubs, and turf grasses) that do not require extensive watering are strongly recommended.

(F) Setbacks and Building Placement

The use of common setbacks and building orientation from a street right-of-way may be an appropriate unifying element where a number of freestanding buildings occur within the development.

(G) Building Height

A standard height among a group of buildings can usually tie the buildings together visually.
§ 7.7.5 CARY LAND DEVELOPMENT ORDINANCE

(H) Lighting

A consistent type of lighting fixture repeated throughout the development as well as a similar wattage, height, type of light produced and/or color of light are to serve as a unifying element. Light pole height, wattage, pole/fixture/light color should all be the same.

7.7.6 Recording Requirements

Where non-residential subdivision plans or residential developments requiring a site plan are approved, no lots shall be recorded without noting the general requirements for architectural compatibility on the maps for recordation. Owners of properties with non-residential subdivision and site plans which include outparcel lots are strongly recommended to record architectural compatibility covenants which refer to these requirements on record in the Planning Department. These covenants shall run with the land and be administrated by a property owners’ association or similar organization.

7.7.7 Amendment Process

(A) The SAC may be amended if the amendments are signed by the owner of the non-residential center or overall project and approved by the Planning Director. The Director shall review the amendments based on their ability to meet the intent of this Ordinance. The SAC for the main structures of the development shall be approved as part of the first site plan within a development.

(B) Any revision to the SAC that involves a change in the primary characteristics of an existing development (such as a change in color or addition of a canopy) shall be reviewed and approved by those with the authority to approve plans and all owners of property falling under the SAC governance. Any change in primary or secondary characteristics shall be implemented comprehensively throughout the entire development including outparcels within a reasonable time frame (i.e., less than one (1) year unless otherwise approved by the Planning Director). Any approved changes shall meet the criteria of Section 7.7.5.

7.8 OFF-STREET PARKING AND LOADING

7.8.1 Purpose

In order to relieve traffic congestion in the streets, to minimize any detrimental effects of off-street parking areas on adjacent properties, to ensure the proper and uniform development of parking areas throughout the Town, and to support opportunities for development and redevelopment of businesses in the portions of the town center with the most intensive development potential, off-street parking and loading spaces for each land use shall be provided in accordance with the standards established in this section.

7.8.2 Off-Street Parking Space Requirements

(A) Applicability

(1) Except as provided in Section 7.8.2(A)(2) below, each use or establishment within the Town shall initially and continually provide sufficient off-street parking spaces, in compliance with the requirements of this section, for all residents, employees, customers, visitors, and others who may spend time at the use or establishment.
(2) Off-street parking shall not be required for existing and new non-residential uses within the HMXD sub-district of the Town Center zoning district. However, where off-street parking spaces are provided, they shall be considered "Required Parking Spaces" for the purpose of determining the proportionate number of required handicapped parking spaces per Section 7.8.2(F).

(B) Effect on New and Existing Uses

(1) Parking Spaces Required

Permanent off-street parking spaces shall be provided as specified by this section for all uses occupying land or facilities (or portions thereof). Such parking spaces may be provided in a parking garage. The requirements of this section shall be met:

(a) At the time a Certificate of Occupancy is issued for a building or structure in which an approved use takes place;

(b) At the time any principal or ancillary use or building is enlarged or increased in capacity, such as by adding dwelling units, guest rooms, seats, floor area, or other units of measurement used in Table 7.8-1, which follows; or

(c) Before conversion from one (1) type of use or occupancy to another, or any change in the manner in which the use is constructed that would result in additional parking requirements.

(2) Certification

Each site and/or subdivision plan that is submitted for approval shall include information as to the number, location, and dimensions of all off-street parking and loading spaces and the means of ingress and egress to such spaces. This information shall be illustrated in sufficient detail to indicate whether the requirements of this Section are met. In those cases where no site plan is required, the applicant must show that the number of parking spaces and the design and construction of all parking areas meet the requirements of this Section in order to receive a Certificate of Occupancy.

(3) Timing of Construction

(a) Except as provided in paragraph (B)(2) above, all parking areas required under this Section shall be completed prior to the issuance of a Certificate of Occupancy for the use or uses that they serve.

(b) Parking areas for phased development projects shall be provided in accordance with Table 7.8-1.
(C) Computation of Off-Street Parking Requirements

(1) Calculations

When measurements of the number of required spaces result in fractions, the space requirements shall be rounded upward to the next highest whole number.

(2) Different Use Areas

Except as provided for in this chapter, parking shall be calculated separately for each different use area in a building or on a site, including all ancillary uses.

(3) On-Street Parking

Except as provided for in this chapter, on-street parking within public or private streets, driveways, or drives, shall not be used to satisfy the off-street parking requirements prescribed by this section.

(4) Commercial Parking Maximums

(a) For uses classified as commercial, the number of spaces shown in Table 7.8-1 shall be considered the maximum number of surface spaces allowed for such uses for the purpose of reducing unnecessary/rarely-used parking and decreasing the amount of impervious surface on sites.

(b) Parking spaces provided within a parking deck or other parking structure shall not count toward the maximum parking requirement. For the purposes of this subsection, a parking structure includes any structure that provides parking vertically on more than one (1) level or that provides parking underneath a building that has occupied floor(s) above the parking level.

(c) As part of the review and approval of any procedure set forth in Chapter 3, the Planning Director may approve an increase in the maximum number of surface parking spaces of up to thirty (30) percent only if the additional surface parking is necessary to satisfy the parking expected for the use, based on factors including, but not limited to, the number of employees per square foot; the number of trips generated by the use, and the time of day when the use generates the most trips.

(d) The Zoning Board of Adjustment may approve an increase in the maximum number of surface parking spaces above thirty (30) percent only if it finds, after conducting a quasi-judicial hearing, that the increase advances the goals and purposes of this Ordinance and is necessary to satisfy the demand for parking expected for the use based on factors including, but not limited to, the number of employees per square foot; the number of trips generated by the use; and the time of day when the use generates the most trips.

(5) Parking Based on Seating

When requirements use seating as a unit of measurement, all calculations shall be based on the design capacity of the areas used for seating.
(6) **Parking Based on Floor Area**

Except as provided for in this Section, when requirements use amount of square footage in buildings as a unit of measurement, all calculations shall be based on gross floor area.

(7) **Parking Based on Students, Staff, and Occupants**

Except as provided for in this chapter, when requirements use number of students, staff, or occupants as a unit of measurement, all calculations shall be based on the maximum enrollment, the largest number of persons working on any single shift, or the maximum fire-rated capacity, whichever is applicable and results in the greater number of required spaces.

(8) **Residential Parking**

(a) Driveways may be used to satisfy minimum on-site parking requirements, provided that sufficient space is available to prevent vehicle encroachment onto sidewalk and/or into adjoining vehicular travel lanes.

(b) All parking required by Table 7.8-1 shall be located directly at the dwelling unit for which the parking is intended, or not more than two hundred (200) feet away from the dwelling unit. Adequate off street pedestrian access shall be provided between the required parking space(s) and the dwelling unit. With appropriate justification, this distance may be increased by the Planning Director.

(c) **Visitor Parking.** In addition to the minimum parking requirement established in Table 7.8-1, excluding single-family detached uses, all residential uses requiring site plan approval shall provide an additional one-fourth (0.25) parking space for each dwelling unit proposed. Visitor parking shall be installed in accordance with Section 7.8.2(G).

(d) Parking for single-family and duplex units shall be considered an accessory use subject to requirements of Section 5.3.4(K).

(9) **Parking for Unlisted Uses**

Parking requirements for uses not specifically listed in Table 7.8-1 shall be determined by the Planning Director based on the requirements for the closest comparable use, as well as on the particular parking demand and trip generation characteristics of the proposed use. The Planning Director may alternately require the submittal of a parking demand study that justifies estimates of parking demand based on the recommendations of the Institute of Traffic Engineers (ITE), and includes relevant data collected from uses or combinations of uses that are the same or comparable to the proposed use in terms of density, scale, bulk, area, type of activity, and location.

(10) **Unimpeded Parking**

Generally, no parking spaces shall be located so as to require the moving of any vehicle on the premises in order to enter or leave any other space. Notwithstanding the above, the Planning Director may allow stacking spaces provided for auto-related uses to count toward the minimum required parking, as long as such spaces are not part of areas required for site ingress or egress, or areas intended for fueling.
(D) Required Off-Street Parking Spaces

(1) Schedule “A”

Unless otherwise expressly stated in this Ordinance, off-street parking spaces shall be provided in accordance with Table 7.8-1. Off-street parking spaces for uses within the Town Center District shall be provided according to Section 6.1.3 of this Ordinance. For uses classified as commercial, the number of motor vehicle spaces shown on the table shall be considered the maximum allowed for such uses. Exceptions to the maximum parking allowed may be approved if justified in accordance with Section 7.8.2(C)(4).

<table>
<thead>
<tr>
<th>RESIDENTIAL USES</th>
<th>Land Use</th>
<th>Number of Motor Vehicle Spaces</th>
<th>Number of Bike Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Living</td>
<td>Boarding house</td>
<td>1.5 per guest room</td>
<td>1 rack, or 1 rack per 40 guests</td>
</tr>
<tr>
<td>Household Living</td>
<td>Caretaker’s residence</td>
<td>2 per du</td>
<td>N/A</td>
</tr>
<tr>
<td>Household Living</td>
<td>Detached dwelling</td>
<td>2 per du</td>
<td>N/A</td>
</tr>
<tr>
<td>Household Living</td>
<td>Duplex dwelling</td>
<td>2 per du</td>
<td>N/A</td>
</tr>
<tr>
<td>Household Living</td>
<td>Manufactured home</td>
<td>2 per du</td>
<td>N/A</td>
</tr>
<tr>
<td>Household Living</td>
<td>Multi-family dwelling (including mid-rise)</td>
<td>2 per du + 0.5 per bedroom over 2 bedrooms, + 0.25 per du designated for visitor parking (See 7.8.2(C)(8))</td>
<td>1 rack per building, or 1 per 50 units*</td>
</tr>
<tr>
<td>Household Living</td>
<td>Patio dwelling</td>
<td>2 per du</td>
<td>N/A</td>
</tr>
<tr>
<td>Household Living</td>
<td>Residential use in non-residential building</td>
<td>2 per du + 0.5 per bedroom over 2 bedrooms</td>
<td>N/A</td>
</tr>
<tr>
<td>Household Living</td>
<td>Semi-detached/attached dwellings</td>
<td>2 per du + 0.5 per bedroom over 2 bedrooms</td>
<td>N/A</td>
</tr>
<tr>
<td>Household Living</td>
<td>Townhouse</td>
<td>2 per du + 0.5 per bedroom over 2 bedrooms, + 0.25 per du designated for visitor parking (See 7.8.2(C)(8))</td>
<td>N/A</td>
</tr>
<tr>
<td>Household Living</td>
<td>Accessory dwelling unit</td>
<td>1 per bedroom</td>
<td>N/A</td>
</tr>
<tr>
<td>Group Living</td>
<td>Dormitory</td>
<td>1.5 per guest room</td>
<td>1 rack per building, or 1 per 50 units*</td>
</tr>
<tr>
<td>Group Living</td>
<td>Family care home</td>
<td>0.25 per resident + 1 per each staff person</td>
<td>1 rack per building</td>
</tr>
<tr>
<td>Group Living</td>
<td>Group home</td>
<td>0.50 per resident</td>
<td>1 rack per building</td>
</tr>
<tr>
<td>Group Living</td>
<td>Life care community</td>
<td>0.25 per resident + 1 per each staff person</td>
<td>1 rack per building</td>
</tr>
<tr>
<td>Group Living</td>
<td>Nursing home, congregate care, dependent living units</td>
<td>0.25 per resident + 1 per each staff person</td>
<td>1 rack per building</td>
</tr>
</tbody>
</table>
### TABLE 7.8-1: OFF-STREET PARKING SCHEDULE "A"

("du" = dwelling unit; "sf" = square feet)

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Number of Motor Vehicle Spaces</th>
<th>Number of Bike Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PUBLIC/INSTITUTIONAL USES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aviation, Airport/landing strip</td>
<td>See Schedule &quot;C&quot;</td>
<td>N/A</td>
</tr>
<tr>
<td>Aviation, Heliport</td>
<td>See Schedule &quot;C&quot;</td>
<td>N/A</td>
</tr>
<tr>
<td>Cemetery</td>
<td>See Schedule &quot;C&quot;</td>
<td>N/A</td>
</tr>
<tr>
<td>Day Care, Child day care center</td>
<td>1 per each 200 sf</td>
<td>N/A</td>
</tr>
<tr>
<td>Day Care, Day care home, large</td>
<td>4 per home + 1 additional space if there is an employee who does not reside in the home</td>
<td>N/A</td>
</tr>
<tr>
<td>Day Care, Day care home, small</td>
<td>3 per home + 1 additional space if there is an employee who does not reside in the home</td>
<td>N/A</td>
</tr>
<tr>
<td>Government Services, Government offices</td>
<td>1 per every 200 sf of gross floor area used by the public + 1 per each 600 sf of gross floor are not used by the public</td>
<td>1 rack per building, or 1 rack per 50,000 sf *</td>
</tr>
<tr>
<td>Government Services, Public safety station</td>
<td>1 per each 500 sf</td>
<td>1 rack</td>
</tr>
<tr>
<td>Government Services, Public utility facilities</td>
<td>See Schedule &quot;C&quot;</td>
<td>N/A</td>
</tr>
<tr>
<td>Hospital</td>
<td>1 per patient bed + 1.25 per full-time employee (total number of full time employees regardless of shift size)</td>
<td>1 rack per building, or 1 rack per 50,000 sf *</td>
</tr>
<tr>
<td>Library</td>
<td>1 per each 200 sf</td>
<td>3 racks, or 1 rack per 50 auto spaces*</td>
</tr>
<tr>
<td>Museum</td>
<td>1 per each 500 sf</td>
<td>3 racks, or 1 rack per 50 auto spaces*</td>
</tr>
<tr>
<td>Park and Open Space, Athletic field, public</td>
<td>1 per 5,000 sf of land area</td>
<td>3 racks, or 1 rack per 50 auto spaces*</td>
</tr>
<tr>
<td>Park and Open Space, Community Garden</td>
<td>0.1 per each acre</td>
<td>3 racks, or 1 rack per 50 auto spaces*</td>
</tr>
<tr>
<td>Park and Open Space, Outdoor amphitheater, public</td>
<td>1 per every 3 fixed seats or 1 per each 35 sf of non-fixed seating*</td>
<td>3 racks, or 1 rack per 50 auto spaces*</td>
</tr>
<tr>
<td>Park and Open Space, Park, public</td>
<td>See Schedule &quot;C&quot;</td>
<td>3 racks, or 1 rack per 50 auto spaces*</td>
</tr>
<tr>
<td>Park and Open Space, Neighborhood recreation center, public</td>
<td>1 per each 250 sf</td>
<td>3 racks, or 1 rack per 50 auto spaces*</td>
</tr>
<tr>
<td>Park and Open Space, Resource conservation facility</td>
<td>See Schedule &quot;C&quot;</td>
<td>3 racks, or 1 rack per 50 auto spaces*</td>
</tr>
</tbody>
</table>
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(*du* = dwelling unit; *sf* = square feet)

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<tbody>
<tr>
<td><strong>PUBLIC/INSTITUTIONAL USES (Cont.)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passenger Terminal</td>
<td>Bus, air, or rail terminal</td>
<td>1 per each 200 sf</td>
</tr>
<tr>
<td>Religious Assembly</td>
<td>All</td>
<td>1 per every 3 persons of maximum fire-rated capacity in the assembly area or sanctuary</td>
</tr>
<tr>
<td>Educational Use (public or private)</td>
<td>College</td>
<td>1 per classroom + 1 per every 2 students</td>
</tr>
<tr>
<td>Educational Use (public or private)</td>
<td>Elementary, middle</td>
<td>2.25 per classroom</td>
</tr>
<tr>
<td>Educational Use (public or private)</td>
<td>Pre-school</td>
<td>1 per each 200 sf + 1 stacking lane for at least 4 cars</td>
</tr>
<tr>
<td>Educational Use (public or private)</td>
<td>Senior high</td>
<td>1.5 per classroom + 1 per every 5 students</td>
</tr>
<tr>
<td>Non-Governmental Utilities</td>
<td>Utility facility, major</td>
<td>See Schedule &quot;C&quot;</td>
</tr>
<tr>
<td>Non-Governmental Utilities</td>
<td>Transportation facility</td>
<td>See Schedule &quot;C&quot;</td>
</tr>
<tr>
<td>Non-Governmental Utilities</td>
<td>Utility substation, minor</td>
<td>See Schedule &quot;C&quot;</td>
</tr>
<tr>
<td><strong>COMMERCIAL USES (NOTE: Motor vehicle spaces listed for commercial uses are maximums. Refer to Section 7.8.2[C][4] for exceptions to this requirement.)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural Uses</td>
<td>Farming, general</td>
<td>None</td>
</tr>
<tr>
<td>Agricultural Uses</td>
<td>Forestry</td>
<td>None</td>
</tr>
<tr>
<td>Agricultural Uses</td>
<td>Produce stand</td>
<td>See Schedule &quot;C&quot;</td>
</tr>
<tr>
<td>Animal Service</td>
<td>Veterinary hospital/office with indoor kennels</td>
<td>1 per each 300 sf</td>
</tr>
<tr>
<td>Animal Service</td>
<td>Kennel, indoor only</td>
<td>1 per each 400 sf</td>
</tr>
<tr>
<td>Animal Service</td>
<td>Kennel, indoor/outdoor</td>
<td>1 per each 400 sf of indoor space</td>
</tr>
</tbody>
</table>
### TABLE 7.8-1: OFF-STREET PARKING SCHEDULE "A"

("du" = dwelling unit; "sf" = square feet)

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<tbody>
<tr>
<td><strong>COMMERCIAL USES (Cont.)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal Service Veterinary hospital/office with outdoor kennels</td>
<td>1 per each 300 sf</td>
<td>1 rack</td>
</tr>
<tr>
<td>Assembly General assembly</td>
<td>1 per every 3 persons of maximum fire-rated capacity</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Assembly Special Event Center</td>
<td>1 per each 50 sf of indoor and outdoor assembly space</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Assembly Dance, Rental</td>
<td>1 per each 50 sf or 1 per every 4 persons of maximum fire-rated capacity*</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Assembly Club or lodge</td>
<td>1 per every 3 persons of maximum fire-rated capacity + parking required for other uses as may be necessary.</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Financial Institution Bank, without drive-through service</td>
<td>1 per each 200 sf</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Financial Institution Bank, with drive-through service</td>
<td>1 per each 200 sf + one lane per each drive-up window and/or ATM with stacking spaces per Table 7.8-3</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Financial Institution Stand alone ATM</td>
<td>2 per machine</td>
<td>N/A</td>
</tr>
<tr>
<td>Food and Beverage Service Nightclub, bar indoor operation</td>
<td>1 per each 50 sf or 1 per every 4 persons of maximum fire-rated capacity*</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Food and Beverage Service Nightclub, bar with outdoor operation</td>
<td>1 per each 50 sf, including outdoor waiting/seating/dining areas, or 1 per every 4 persons of maximum fire-rated capacity*</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Food and Beverage Service Restaurant, indoor operation</td>
<td>1 per each 150 sf, including outdoor waiting/seating/dining areas, or 1 per every 3 persons of maximum fire-rated capacity*</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
</tbody>
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<tbody>
<tr>
<td><strong>COMMERCIAL USES (Cont.)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food and Beverage Service</td>
<td>Restaurant, with outdoor operation</td>
<td>1 per each 150 sf, including outdoor waiting/seating/dining areas, or 1 per every 3 persons of maximum fire-rated capacity*</td>
</tr>
<tr>
<td>Office</td>
<td>Office, business or professional</td>
<td>1 per each 300 sf</td>
</tr>
<tr>
<td>Office</td>
<td>Office, health care</td>
<td>1 per each 250 sf</td>
</tr>
<tr>
<td>Office</td>
<td>Wellness Center</td>
<td>1 per each 200 sf</td>
</tr>
<tr>
<td>Office</td>
<td>Radio and television broadcasting studios</td>
<td>1 per each 500 sf</td>
</tr>
<tr>
<td>Public Accommodation</td>
<td>Guest house</td>
<td>2 per guest house + 1 per sleeping room</td>
</tr>
<tr>
<td>Public Accommodation</td>
<td>Hotel or motel</td>
<td>1 per sleeping room + 1 per 4 seats in meeting or assembly rooms</td>
</tr>
<tr>
<td>Recreation/Entertainment, Indoor</td>
<td>Amusement establishment</td>
<td>1 per each 200 sf or 1 per every 3 persons of maximum fire-rated capacity*</td>
</tr>
<tr>
<td>Recreation/Entertainment, Indoor</td>
<td>Commercial indoor/outdoor recreational facilities, general</td>
<td>1 per every 3 persons of maximum fire-rated capacity</td>
</tr>
<tr>
<td>Recreation/Entertainment, Indoor</td>
<td>Swimming pool</td>
<td>1 per each 75 sf of water surface</td>
</tr>
<tr>
<td>Recreation/Entertainment, Indoor</td>
<td>Tennis courts</td>
<td>3 per court</td>
</tr>
<tr>
<td>Recreation/Entertainment, Indoor</td>
<td>Neighborhood recreation center, indoor/outdoor (private)</td>
<td>1 per each 200 sf (this may be reduced by one space for every single family dwelling which is located within 400 feet of direct pedestrian access from the facility)</td>
</tr>
</tbody>
</table>
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</thead>
<tbody>
<tr>
<td><strong>COMMERCIAL USES (Cont.)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreation/Entertainment, Indoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pool or billiard hall</td>
<td>1 per each 50 sf or 1 per every 4 persons of maximum fire-rated capacity*</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Recreation/Entertainment, Indoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theater (large &amp; small), excluding drive-in theater</td>
<td>1 per every 4 seats</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Recreation/Entertainment, Indoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronic Gaming Operation</td>
<td>1 per each 200 sf or 1 per every 3 persons of maximum fire-rated capacity or one per electronic gaming machine*</td>
<td>3 racks, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Recreation/Entertainment, Outdoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athletic field, private</td>
<td>1 per every 5,000 sf of land area</td>
<td>3 racks, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Recreation/Entertainment, Outdoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General outdoor recreational facility commercial, general</td>
<td>1 per every 3 persons of maximum fire-rated capacity</td>
<td>3 racks, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Recreation/Entertainment, Outdoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swimming pool</td>
<td>1 per each 75 sf of water surface</td>
<td>3 racks, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Recreation/Entertainment, Outdoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tennis courts</td>
<td>3 per court</td>
<td>3 racks, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Recreation/Entertainment, Outdoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golf course (public or private)</td>
<td>6.6 per hole</td>
<td>3 racks, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Recreation/Entertainment, Outdoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golf driving range (public or private)</td>
<td>3 per hole or tee</td>
<td>3 racks, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Recreation/Entertainment, Outdoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor vehicle raceway</td>
<td>1 per every 4 persons of maximum fire-rated capacity</td>
<td>3 racks, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Recreation/Entertainment, Outdoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outdoor amphitheater, commercial</td>
<td>1 per each 3 fixed seats or 1 per each 35 sf of non-fixed seating</td>
<td>3 racks, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Retail Sales and Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convenience store</td>
<td>1 per each 150 sf</td>
<td>1 rack</td>
</tr>
<tr>
<td>Retail Sales and Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crematorium</td>
<td>1 per each 500 sf</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Retail Sales and Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm market</td>
<td>3 per each vendor stall or unit</td>
<td>1 rack</td>
</tr>
<tr>
<td>Retail Sales and Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funeral home</td>
<td>1 per each 200 sf</td>
<td>1 rack</td>
</tr>
<tr>
<td>Retail Sales and Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABC store</td>
<td>1 per each 300 sf</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Land Use</td>
<td>Number of Motor Vehicle Spaces</td>
<td>Number of Bike Spaces</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td><strong>COMMERCIAL USES (Cont.)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail Sales and Service</td>
<td>Postal center, private 1 per each 300 sf + 1 per employee + 1 additional space for each delivery vehicle generally maintained on the premises</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Retail Sales and Service</td>
<td>Personal service establishment 1 per each 200 sf</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Retail Sales and Service</td>
<td>Retail store 1 per each 250 sf</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Retail Sales and Service</td>
<td>Adult business 1 per each 200 sf</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Retail Sales and Service</td>
<td>Shopping center, general 1 per each 250 sf</td>
<td>1 rack per building, or 1 rack per 50,000 sf *</td>
</tr>
<tr>
<td>Retail Sales and Service</td>
<td>Shopping center, small based on each tenant, except in the Town Center District, where parking is 1 per each 250 sf</td>
<td>1 rack per building, or 1 rack per 50,000 sf *</td>
</tr>
<tr>
<td>Retail Sales and Service</td>
<td>Trade school 2 per classroom + 1 per every 2 students</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Vehicles and Equipment</td>
<td>Automobile sales/rental 1 per each 300 sf of enclosed floor area + 1 per each 5,000 sf of outdoor display area</td>
<td>1 rack</td>
</tr>
<tr>
<td>Vehicles and Equipment</td>
<td>Vehicle filling station 1 per each 250 sf of retail + 4 per service bay + 0.5 per pump + 2 lanes per pump island with stacking spaces per Table 7.8-3</td>
<td>1 rack</td>
</tr>
<tr>
<td>Vehicles and Equipment</td>
<td>Car wash, self service and automatic 2 per bay + 1 lane per each bay with stacking spaces per Table 7.8-3</td>
<td>N/A</td>
</tr>
<tr>
<td>Vehicles and Equipment</td>
<td>Car wash, full service 1 per each 150 sf + 1 lane per each bay with stacking spaces per Table 7.8-3</td>
<td>N/A</td>
</tr>
<tr>
<td>Vehicles and Equipment</td>
<td>Heavy equipment sales/rental 1 per each 400 sf of enclosed floor area + 1 per each 5,000 sf of outdoor display area</td>
<td>N/A</td>
</tr>
<tr>
<td>Vehicles and Equipment</td>
<td>Towing and storage 1 per each 300 sf + storage area</td>
<td>N/A</td>
</tr>
</tbody>
</table>
### TABLE 7.8-1: OFF-STREET PARKING SCHEDULE "A"

("du" = dwelling unit; "sf" = square feet)

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Number of Motor Vehicle Spaces</th>
<th>Number of Bike Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COMMERCIAL USES (Cont.)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicles and Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle service, light</td>
<td>1 per each 300 sf + 2 per bay</td>
<td>N/A</td>
</tr>
<tr>
<td>Vehicles and Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle repair, heavy</td>
<td>1 per each 200 sf + 4 per bay</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>INDUSTRIAL USES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General industrial services</td>
<td>See Schedule &quot;B&quot;</td>
<td>1 rack</td>
</tr>
<tr>
<td>Research laboratory</td>
<td>1 per each 500 sf</td>
<td>1 rack</td>
</tr>
<tr>
<td>Manufacturing and Production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing, heavy</td>
<td>See Schedule &quot;B&quot;</td>
<td>1 rack</td>
</tr>
<tr>
<td>Manufacturing, light</td>
<td>See Schedule &quot;B&quot;</td>
<td>1 rack</td>
</tr>
<tr>
<td>Prototype process and production plants</td>
<td>1 per each 500 sf</td>
<td>1 rack</td>
</tr>
<tr>
<td>Brewery, distillery, or winery with a tasting room or restaurant</td>
<td>1 per 100 SF for indoor and outdoor tasting room or restaurant areas.</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Brewery, distillery, or winery without a tasting room or restaurant</td>
<td>1 per 5000 SF for production areas and indoor storage area.</td>
<td>1 rack, or 1 rack per 100 auto spaces*</td>
</tr>
<tr>
<td>Resource extraction</td>
<td>See Schedule &quot;C&quot;</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Telecommunications Facilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antenna, co-location on existing tower</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td>Concealed (stealth) antennae and towers</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td>Other building mounted antennae and towers</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td>Other freestanding towers</td>
<td>See Schedule &quot;C&quot;</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Warehouse and Freight Movement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini-storage</td>
<td>1 per each 5,000 sf + 2 loading spaces</td>
<td>N/A</td>
</tr>
<tr>
<td>Outdoor storage</td>
<td>See Schedule &quot;B&quot;</td>
<td>N/A</td>
</tr>
<tr>
<td>Railroad stations and yards</td>
<td>See Schedule &quot;C&quot;</td>
<td>N/A</td>
</tr>
<tr>
<td>Warehousing and distribution establishment</td>
<td>See Schedule &quot;B&quot;</td>
<td>N/A</td>
</tr>
<tr>
<td>Wholesale establishment</td>
<td>See Schedule &quot;B&quot;</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Waste-Related Uses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recycling and salvage operations</td>
<td>1 per each 300 sf + 1 per each 10,000 sf of gross yard area</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*whichever number is greater
(2) **Schedule "B"**

Uses subject to off-street parking schedule "B" shall provide the following minimum number of off-street parking spaces:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number of Spaces Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office or administrative area</td>
<td>1 per 300 square feet</td>
</tr>
<tr>
<td>Indoor sales area</td>
<td>1 per 200 square feet</td>
</tr>
<tr>
<td>Outdoor sales or display area (3,000 square feet or less)</td>
<td>1 per 750 square feet</td>
</tr>
<tr>
<td>Outdoor sales or display area (over 3,000 square feet)</td>
<td>1 per 1,000 square feet</td>
</tr>
<tr>
<td>Cluster box unit - mailbox</td>
<td></td>
</tr>
<tr>
<td>0-20 mailboxes</td>
<td>0</td>
</tr>
<tr>
<td>21-60 mailboxes</td>
<td>2</td>
</tr>
<tr>
<td>61-80 mailboxes</td>
<td>3</td>
</tr>
<tr>
<td>81-100 mailboxes</td>
<td>4</td>
</tr>
<tr>
<td>101 mailboxes or more</td>
<td>4 plus 1 per each additional 50 mailboxes or portion thereof above 100</td>
</tr>
</tbody>
</table>

**Indoor storage/warehousing/vehicle service/manufacturing area:**

<table>
<thead>
<tr>
<th>Area</th>
<th>Number of Spaces Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3,000 square feet</td>
<td>1 per 250 square feet</td>
</tr>
<tr>
<td>3,001-5,000 square feet</td>
<td>1 per 500 square feet</td>
</tr>
<tr>
<td>5,001-10,000 square feet</td>
<td>1 per 750 square feet</td>
</tr>
<tr>
<td>10,001+ square feet</td>
<td>1 per 1,250 square feet</td>
</tr>
</tbody>
</table>

(3) **Schedule "C"**

Uses that reference Schedule "C" have widely varying parking and loading demand characteristics, making it impossible to specify a single off-street parking or loading standard. Upon receiving a development application for a use subject to "Schedule C" standards, the Planning Director shall apply the off-street parking and loading standard specified for the listed use that is deemed most similar to the proposed use or establish minimum off-street parking requirements on the basis of a parking and loading study prepared by the applicant. Such a study shall include estimates of parking demand based on recommendations of the Institute of Traffic Engineers (ITE), or other acceptable estimates as approved by the Planning Director, and should include other reliable data collected from uses or combinations of uses that are the same as or comparable with the proposed use. Comparability will be determined by density, scale, bulk, area, type of activity, and location. The study shall document the source of data used to develop the recommendations.
§ 7.8.2  CARY LAND DEVELOPMENT ORDINANCE

(4)  Standards for Bicycle Parking

Consistent with the recommendations of the Comprehensive Transportation Plan, developments shall provide appropriate bicycle amenities to encourage cycling. Acceptable rack elements, rack location and access, rack area and site conditions such as protection from the elements and visibility shall conform to the Association of Pedestrian and Bicycle Professionals Bicycle Parking Guidelines adopted in spring of 2002. The guidelines are available at http://www.bicyclinginfo.org/de/parkguide.htm. Should a topographical or other site constraint create a situation in which the bicycle parking requirements require reduction, modification, or deletion, the Planning Department Director will have the ability to approve such changes.

(5)  Bicycle Related Signage

Signs restricting bicycle travel in vehicular areas at retail sites will be prohibited.

(E)  Stacking Spaces for Drive-Through Uses

(1)  In addition to meeting the off-street parking requirements of this section, drive-through facilities specified in Table 7.8-3 shall comply with the following minimum stacking space standards:

<table>
<thead>
<tr>
<th>Type of Use</th>
<th>Minimum Stacking Spaces</th>
<th>Measured From</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank, teller lane</td>
<td>4</td>
<td>Teller window</td>
</tr>
<tr>
<td>Bank, ATM</td>
<td>3</td>
<td>Teller machine</td>
</tr>
<tr>
<td>Restaurant, with drive through</td>
<td>8</td>
<td>Order box*</td>
</tr>
<tr>
<td>Car Wash, automatic</td>
<td>6</td>
<td>Bay entrance</td>
</tr>
<tr>
<td>Car Wash, self-service</td>
<td>3</td>
<td>Bay entrance</td>
</tr>
<tr>
<td>Car Wash, full service</td>
<td>4</td>
<td>Bay entrance</td>
</tr>
<tr>
<td>Auto Service Station, gas pump island</td>
<td>30 feet from each end of island</td>
<td></td>
</tr>
<tr>
<td>Unlisted</td>
<td>**</td>
<td></td>
</tr>
</tbody>
</table>

* A minimum 4-vehicle queue shall be provided from the order box to the pick-up window.

** Requirements for uses not specifically listed may be determined by the Planning Director based upon the requirements for comparable uses and upon the particular characteristics of the use. Alternately, the applicant may submit a parking demand study per 7.8.2 (C)(9).

(F)  Handicapped Parking Requirements

(1)  Residential Uses

Handicapped-accessible parking for residential uses shall be provided at the rate of one (1) space per each dwelling unit that is designed for occupancy by the handicapped.
(2) **Non-Residential Uses**

Handicapped-accessible parking spaces shall be provided for uses other than residential, at the rate shown in Table 7.8-4 below:

<table>
<thead>
<tr>
<th>Total Number of Required Parking Spaces</th>
<th>Number of Required Handicapped Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-25</td>
<td>1</td>
</tr>
<tr>
<td>26-50</td>
<td>2</td>
</tr>
<tr>
<td>51-75</td>
<td>3</td>
</tr>
<tr>
<td>76-100</td>
<td>4</td>
</tr>
<tr>
<td>101-150</td>
<td>5</td>
</tr>
<tr>
<td>151-200</td>
<td>6</td>
</tr>
<tr>
<td>201-300</td>
<td>7</td>
</tr>
<tr>
<td>301-400</td>
<td>8</td>
</tr>
<tr>
<td>401-500</td>
<td>9</td>
</tr>
<tr>
<td>501-1,000</td>
<td>2 percent of total spaces</td>
</tr>
<tr>
<td>Above 1,000</td>
<td>20 spaces, plus one space for each 100 over 1,000 spaces or fraction thereof.</td>
</tr>
</tbody>
</table>

(3) **Relationship to General Off-Street Parking Requirements**

Handicapped parking required by this section shall count towards the fulfillment of the general off-street parking requirements of this section.

(4) **Compliance with North Carolina Building Code**

In addition to meeting the requirements of this Section, all handicapped parking shall comply with the NC State Building Code Volume 1C (as amended); but the more restrictive of the two (2) shall apply.

(G) **Design and Location of Parking Areas/Stacking Spaces**

(1) All parking areas shall be located and designed so as to avoid undue interference with the use of public streets and alleys. Parking areas shall provide suitable maneuvering room so that all vehicles may enter an abutting street in a forward direction. The backing of a motor vehicle onto a public street from a parking area shall be prohibited, except for residential parking. The Director of Transportation and Facilities may allow parking on public streets within the Town Center and Mixed Use Overlay Districts provided that the design is consistent with the Site Design Standards or other applicable policies and plans and does not create a safety issue. Pedestrian pathways shall be provided within parking areas in accordance with Section 7.10.4 of this ordinance and consistent with the Site Design Standards.

(2) All parking areas shall be designed, constructed, and drained in accordance with the Town's Standard Specifications and Details Manual.
§ 7.8.2 CARY LAND DEVELOPMENT ORDINANCE

(3) Parking facilities shall be continually maintained in compliance with the approved site and/or subdivision plan and shall be free of litter and debris at all times.

(4) Each parking area shall meet all applicable landscaping, screening, and buffering requirements set forth in Section 7.2 of this Ordinance.

(5) All parking areas shall be separated at least ten (10) feet from buildings, in order to allow room for sidewalks, landscaping, and other plantings between the building and the parking area. This separation may be eliminated in the rear of buildings in areas designed for unloading and loading of materials; this applies primarily to industrial and warehousing buildings.

(6) The visibility of parking areas shall be reduced by placing at least thirty (30) percent of the parking to the rear or side of buildings for all non-residential developments greater than five (5) acres. An alternative to this requirement is to screen the parking from the public roadway with a Type A streetscape and/or berm. No parking is allowed between non-residential buildings and the right-of-way for individual buildings located on sites at the intersection of thoroughfares and/or collectors designated on the Cary Comprehensive Transportation Plan unless the building floor elevation is ten (10) feet or more below the grade of the adjacent roadway.

(7) [Reserved]

(8) For residential uses requiring designated visitor parking and consisting of more than one (1) building, the total number of required visitor parking spaces shall be provided in small groups evenly dispersed throughout the entire site.

(9) Each parking pod/bay shall not exceed two hundred (200) spaces without being separated by streets, primary travel ways, and/or pedestrian plazas (see Site Design Standards for examples and additional guidance). Exceptions can be made by the Planning Director for single tenant spaces forty thousand (40,000) square feet and over.

(10) Parking in front of main building entrances along private streets and/or primary travel ways is required with the exception of those areas used for loading and unloading, fire lanes, outdoor display of merchandise, and pedestrian access from the main entrance to parking areas. Parking on public streets may be provided if approved by the Transportation and Facilities and Planning Directors, and depending on anticipated vehicular speeds, traffic volumes, pedestrian conflicts, and the particular design and geometry of parking. The intent of these streets is to provide the primary circulation network through and within a development.

(H) Reduction in Number of Required Off-Street Parking Spaces

(1) As part of the review and approval of any procedure set forth in Chapter 3, the Planning Director may approve a reduction of up to fifteen (15) percent in the number of designated parking spaces only if the reduced number of parking spaces will be sufficient to satisfy the demand for parking expected for the use, based on the nature of the use, the number of trips generated by the use, the times of day when the use generates the most trips, and the extent to which other establishments are located on the same property and may reduce the number of vehicle trips required between different establishments.
(2) As part of the review and approval of any procedure set forth in Chapter 3, the Zoning Board of Adjustment may allow the following reductions. Review of a parking reduction request does not change the applicable approval authority for the development plan as a whole. Any request for parking reduction in excess of the reductions permitted here shall be processed as a variance request (Section 3.20).

(a) The Zoning Board of Adjustment may allow a reduction of up to thirty (30) percent in the number of designated parking spaces upon holding a quasi-judicial hearing and finding that the such reduced number advances the goals and purposes of the Ordinance and will be sufficient to satisfy the demand for parking expected for the use, based on the nature of the use, the number of trips generated, the times of day when the use generates the most trips, and the extent to which other establishments are located on the same property and may reduce the number of vehicle trips required between different establishments.

(b) The Zoning Board of Adjustment may allow a reduction of up to fifty (50) percent in the number of designated parking spaces for a development in the Town Center (TC) zoning district upon holding a quasi-judicial hearing and finding that such reduced number advances the goals and purposes of the Ordinance and will be sufficient to satisfy the demand for parking expected for the use, based on the following:

1. Nature of the use;
2. The number of trips generated;
3. The times of day when the use generates the most trips;
4. The extent to which other establishments are located on the same property and may reduce the number of vehicle trips required between different establishments; and
5. The availability of nearby on-street spaces or public parking facilities.
(3) In cases where no development plan is required, or where a previously approved plan remains in effect for the property, the Planning Director may grant a reduction of up to fifteen (15) percent of the requirements of subsection 7.8.2(D) above only if the reduced number of parking spaces will be sufficient to satisfy the demand for parking expected for the use, based on the nature of the use, the number of trips generated by the use, the times of day when the use generates the most trips, and the extent to which other establishments are located on the same property and may reduce the number of vehicle trips required between different establishments.

(I) Violation Resolution

In cases where no plan previously approved remains in effect for the property, the Planning Director may grant reductions from the requirements of subsection 7.8.2(D) above only upon finding that the reduced number of parking spaces will be sufficient to satisfy the demand for parking expected for the use, based on the nature of the use, the number of trips generated by the use, the times of day when the use generates the most trips, and the extent to which other establishments are located on the same property and may reduce the number of vehicle trips required between different establishments. This section shall apply only when reducing the required number of parking spaces is necessary to resolve a violation of this Ordinance or of the previously approved plan.

7.8.3 Parking Alternatives

The Planning Director shall be authorized to approve alternatives to providing the number of off-street parking spaces required by Table 7.8-1 in accordance with the following standards:

(A) Shared Parking

The Planning Director may approve shared parking facilities for developments or uses with different operating hours or different peak business periods if the shared parking complies with all of the following standards:

(1) Location

(a) Where the principal use is located in the Town Center Zoning District, shared parking facilities shall be located within one thousand two hundred (1,200) feet of the main entrance of the principal use for uses classified as Public/Institutional in Table 5.1-2, and eight hundred (800) feet from the main entrance of the principal use for all other uses in the Town Center unless remote parking shuttle bus service is provided.

(b) Where the principal use is located in any zoning district other than the Town Center District, shared parking facilities shall be located within five hundred (500) feet of the main entrance of the principal use unless remote parking shuttle bus service is provided. In addition, adequate and safe pedestrian access must be provided from and to the shared parking areas.

(2) Zoning Classification

Shared parking areas must be located on a site with the same or a more intensive zoning classification than required for the primary uses served.
§ 7.8.3 CARY LAND DEVELOPMENT ORDINANCE

(3) **Shared Parking Study**

Those wishing to use shared parking as a means of satisfying off-street parking requirements must submit a shared parking request to staff that justifies the feasibility of shared parking. Justification should include information on the size and type of the proposed development, the composition of tenants, the anticipated rate of parking turnover, and the anticipated peak parking and traffic loads for all uses that will be sharing off-street parking spaces.

(a) The maximum reduction in the number of parking spaces required for all uses sharing the parking area shall be thirty-five (35) percent.

(b) Directional signage which meets the requirements of this Ordinance must be added to direct the public to the shared parking spaces. It is preferable for the employees of an establishment to utilize these spaces.

(4) **Agreement for Shared Parking**

A shared parking plan will be enforced through written agreement among all owners of record. An attested copy of the agreement between the owners of record must be submitted to the Planning Director for recordation. Recordation of the agreement must take place before issuance of a building permit for any use to be served by the shared parking area. A shared parking agreement may be revoked only if all required off-street parking spaces will be provided in accordance with the requirements of Table 7.8-1.

(B) **Off-Site Parking**

If some or all of the off-street parking spaces required by this section cannot reasonably be located on the same lot as the principal use, then such spaces may be located on a separate parcel(s) as follows:

(1) **Location**

(a) Where the principal use is located in the Town Center Zoning District, off-site parking shall be located within one thousand two hundred (1,200) feet of the main entrance of the principal use for uses classified as Public/Institutional in Table 5.1-2, and eight hundred (800) feet from the main entrance of the principal use for all other uses in the Town Center.

(b) Where the principal use is located in any zoning district other than the Town Center District, off-site parking shall be located within five hundred (500) feet of the main entrance of the principal use.

(2) **Measurement**

The separation of the use from the parking shall be measured from the main entrance to the nearest parking lot space following a reasonable and safe walking route.

(3) **Approval Criteria**

(a) The land on which the parking facilities are provided shall be owned by the same person or persons as the principal use.
(b) Such land shall not be separated from the principal use by a thoroughfare or collector street unless both the use and the parking area shall be located within the Town Center District or are specifically approved by Council based on safe pedestrian crosswalks linking the parking with the principal use.

(c) Such land shall be located in a zoning district within which the principal use would be allowed as a permitted or special use.

(d) Such land shall be used for no other purpose than to provide parking for the principal use, unless a shared parking study is submitted per Section 7.8.3(A)(3) and a shared parking plan is approved and recorded per Section 7.8.3(A)(4).

(e) There shall be a pedestrian walkway or sidewalk connecting the parking area to the use it serves.

(f) The provision for off-site parking, whether the spaces are new or existing, shall be indicated and reviewed as part of the site plan approval process.

(C) Parking Structures

The off-street parking required by or provided under this section may be located in a parking structure, whether on the same or on a different lot than the uses which it serves. Ground floor parking provided in a parking structure shall be screened, insofar as practicable, from surrounding uses and from public view. In addition, for uses located on the same lot as the structure, the conditions required under subsection 7.8.3(A) above shall apply. For uses located on a different lot as the structure, the conditions required under subsection 7.8.3(B) shall apply.

(D) Valet and Tandem Parking

(1) The Planning Director may approve an off-street parking program utilizing limited tandem parking for commercial and industrial uses provided that the development requires seventy-five (75) or more parking spaces. No more than thirty (30) percent of the total number of spaces shall be designated as tandem. In addition, a valet parking attendant must be on duty during business hours.

(2) Tandem parking may be utilized for up to twenty (20) percent of the on-site or off-site fleet-parking component of a private transportation service use. Provisions of (D)(1) above shall not apply to such fleet-parking component.

(E) Other Eligible Alternatives

The Planning Director may approve any other alternative to providing off-street parking spaces on the site of the subject development if the applicant demonstrates that the proposed plan will protect surrounding neighborhoods, maintain traffic circulation patterns, and promote quality urban design to at least the same extent as would strict compliance with otherwise applicable off-street parking standards. The Planning Director may approve different parking requirements for mixed use projects. The different parking requirement must be based on studies and documentation validated by national studies and/or research and recommendations from nationally accredited institutions.
7.8.4 Dimensional Requirements for Parking Spaces and Aisles

(A) All parking spaces, aisles between parking spaces, and parking space modules shall meet the minimum dimensional requirements set forth in the Town's Standard Specifications and Details Manual.

(B) Compact parking spaces may be provided in addition to the required minimum number of spaces on a case-by-case basis. The design of such spaces shall be consistent with the requirements of the Town's Standard Specifications and Details Manual.

(C) Parking structures may be subject to dimensional adjustments based on utilization, but in no case shall the standard space width be less than eight and one-half (8 1/2) feet. Reduction in design standards shall be subject to approval by the Planning Director.

7.8.5 Use and Identification of Parking Areas

Where parking lots for more than five (5) cars are permitted or required under this Ordinance, the following requirements shall apply:

(A) The parking lot may be used only for parking and not for any type of loading, sales, dead storage, repair work, dismantling, or service of vehicles. Notwithstanding the above, the Planning Director may allow the use of a portion or portions of a parking lot for such uses on a case-by-case basis, provided that such spaces are not part of areas required for site ingress or egress.

(B) All entrances, exits, and drainage plans shall be reviewed and approved by the Town Director of Transportation and Facilities in accordance with the Town's Standard Specifications and Details Manual and shall be constructed before occupancy of the use.

7.8.6 Loading Space Requirements

(A) Number of Required Off-Street Loading Berths

At least the number of berths specified in Table 7.8-5 below, depending on the gross floor area of the land use, shall be provided on the property. The developer shall evaluate his or her own needs to determine if the use requires a greater number of spaces than those required by this section.

<table>
<thead>
<tr>
<th>Gross Floor Area (in square feet)</th>
<th>Minimum Number of Berths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 40,000</td>
<td>1</td>
</tr>
<tr>
<td>40,000-100,000</td>
<td>2</td>
</tr>
<tr>
<td>100,000-160,000</td>
<td>3</td>
</tr>
<tr>
<td>160,000-240,000</td>
<td>4</td>
</tr>
<tr>
<td>240,000-320,000</td>
<td>5</td>
</tr>
<tr>
<td>320,000-400,000</td>
<td>6</td>
</tr>
<tr>
<td>Above 400,000</td>
<td>1 per each 90,000 above 400,000 gsf of area</td>
</tr>
</tbody>
</table>
(B) **Minimum Dimensions**

Each loading berth required by this section shall be at least twelve (12) feet wide by twenty-five (25) feet long, with at least fourteen (14) feet of overhead clearance. Each required loading berth shall have adequate, unobstructed means for the ingress and egress of vehicles.

(C) **Waiver or Modification of Requirements**

As part of the review and approval of a site plan, the Planning Director may waive or modify the requirements of this section if the use does not require loading spaces of a number or size required by this section, given the particular operational characteristics of the use and its need or lack thereof for the delivery or shipments of goods to and from the site.

(D) **Location and Screening of Loading Areas**

To the maximum extent possible, all loading berths shall be located between the building and the rear lot line of the property, and/or shall be screened from the view of the street and adjacent properties. All loading areas shall meet the applicable landscaping, screening, and buffering requirements set forth in Section 7.2. The details of such location and screening shall be reviewed and approved as part of the site and/or subdivision plan.

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7.9 **EXTERIOR LIGHTING**

7.9.1 **General Requirement**

Detail standards and requirements for lighting are included within the Community Appearance Manual. All exterior lighting, such as that used in and around buildings, recreation areas, parking lots, and signs, shall be designed to meet the following general requirements:

(A) Protect against the spillover of light to adjacent properties;

(B) Protect against glare onto public rights-of-way thereby impairing the vision of motorists and adjoining properties;

(C) Shield adjacent properties by thick evergreen vegetated buffers, berms, walls, or fences, and/or the use of directional lighting, lighting shields, special fixtures, timing devices, appropriate light intensities, luminaries, and mountings at appropriate heights, in accordance with the Town's Community Appearance Manual and Design Guidelines Manual.

Single-family subdivisions and developments that do not require site plans are exempt from the requirements of this Section 7.9.

7.9.2 **Lighting Plan Required**

(A) A point-by-point lighting plan is required for site plan approval that indicates the foot-candles at grade grid points that cover the site. The Planning Director may waive this requirement for projects on less than an acre if the fixture types are specified on the plan and will comply with the Community Appearance Manual.
(B) Any changes to the lighting plan must be approved by the Planning Director through a site and/or subdivision plan revision.

7.9.3 Standards

All outdoor lighting shall conform to the standards and provisions found in the Community Appearance Manual and the Design Guidelines Manual, as well as the standards listed below:

(A) Maximum Lighting Height

Outdoor lighting shall be designed, located and mounted at heights no greater than:

(1) Eighteen (18) feet above grade for non-cut-off lights;

(2) Thirty-five (35) feet above grade for cut-off lights, unless a raised foundation is required to protect the poles, in which case the maximum height shall not exceed thirty-seven (37) feet above grade.

(B) Maximum Light Levels at the Property Line

All outdoor lighting and/or indoor lighting visible from outside shall be designed and located such that the maximum illumination measured in foot-candles at a property line shall not exceed the standards in the following table. Cut-off lighting shall be designed to direct light downward (e.g., shoe box style).

<table>
<thead>
<tr>
<th>Property Line</th>
<th>Maximum Illumination (in Foot-Candles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>0.5</td>
</tr>
<tr>
<td>Commercial</td>
<td>2.5</td>
</tr>
<tr>
<td>Industrial/Edge of right-of-way</td>
<td>2.5</td>
</tr>
</tbody>
</table>

*These standards may be modified only by the Town Council.

(C) Parking Lot Lighting Standards

For parking lots the minimum light level shall be no less than two-tenths (0.2) foot-candles. The average foot-candle maintained to the minimum foot-candles ratio shall be no greater than four to one (4:1) (upper to lower limits). All foot-candles are to be measured at ground level.

(D) Location and Separation Requirements

All outdoor lighting fixtures shall be located a minimum of ten (10) feet from a property or five (5) feet from a right-of-way line and should not be located within a required perimeter buffer or streetscape unless it is located at the interior edge. Where located within a streetscape or buffer, light poles shall be placed a minimum of twenty (20) feet from existing or proposed canopy trees.
(E) Lighting for Canopies

(1) Lighting for canopies shall be restricted to lighting fixtures (including lenses) that do not project below the bottom of the canopy. Lighting for canopies for service stations and other similar uses shall not exceed an average of twelve (12) foot-candles as measured at ground level at the inside of the outside edge of the canopy.

(2) Canopies used for building accents over doors, windows, etc. shall not be internally lit (i.e., from underneath or behind the canopy).

(F) Floodlights and Spotlights

Lighting fixtures shall be selected, located, aimed, and shielded so that direct illumination is focused exclusively on a portion of the building facade or other intended site feature and away from adjoining properties or the right-of-way. On-site lighting may be used to accent architectural elements but shall not be used to illuminate entire portions of building(s). Such lighting shall be installed in a fixture that is shielded such that no portion of the light bulb extends below the bottom edge of the shield, and that the main beam from the light source is not visible from adjacent properties of the adjacent right-of-way. Floodlights or other type of lighting attached to light poles that illuminate the site and/or building(s) are prohibited.

(G) Wall Pack Lights

Wall packs on buildings may be used at entrances to a building to light unsafe areas. They are not intended to draw attention to the building or provide general building or site lighting. "Wall Packs" on the exterior of the building shall be fully shielded (true cut-off type bulb or light source not visible from off-site) to direct the light vertically downward and be of low wattage (preferably one hundred (100) watts or lower).

(H) Illumination of Outdoor Sports Fields and Performance Areas

Lighting of outdoor sports fields and performance areas shall be installed in accordance with the Town's Community Appearance Manual and the following requirements:

(1) All such lighting fixtures shall be equipped with a glare control package (e.g., louvers, shields, or similar devices), and the fixtures shall be aimed so that their beams are directed and fall within the primary playing or performance area; and

(2) The hours of operation for the lighting system for any game or event shall not exceed one (1) hour after the end of the game or event.

(I) Sign Lighting

Lighting fixtures illuminating signs shall comply with the requirements of Chapter 9 of this Ordinance, and such fixtures shall be aimed and shielded so that direct illumination is focused exclusively on the sign face.

(J) Lights in Landscaping and Around Open Sales Area

Within the Town Center and Mixed Use Overlay Zoning Districts, strings or strands of non-blinking single-point white lights may be installed in landscaping. Perimeter down-lighting that is shielded to illuminate open sales areas, but no land outside those areas is also permitted.

7.10 CONNECTIVITY

7.10.1 Purpose and Scope

The purpose of this section is to support the creation of a highly connected transportation system within the Town in order to provide choices for drivers, bicyclists, public transit passengers, and pedestrians; promote walking, bicycling and public transit; connect neighborhoods to each other and to local destinations such as schools, parks, and shopping centers; reduce vehicle miles of travel and travel times; improve air quality; reduce emergency response times; increase effectiveness of municipal service delivery; and free up arterial capacity to better serve regional long distance travel needs. Any additional pedestrian connections required under this section do not have to address handicap accessibility standards.

7.10.2 Consistency with Other Documents

The design and evaluation of vehicular, bicycle, and pedestrian circulation systems built in conjunction with new residential and non-residential development shall adhere to applicable provisions of the plans, ordinances and manuals listed in Section 1.4, in addition to meeting the requirements of this section.

7.10.3 Standards for Streets/On-Site Vehicular Circulation

The following standards shall be met for all site and subdivision plans and for redevelopment of sites.

(A) Street Connectivity

(1) Any residential development shall be required to achieve a connectivity index of 1.2 or greater. In the event that this requirement is modified pursuant to Section 7.10.3(D)(2), a six (6)-foot pedestrian trail shall be provided to link any cul-de-sacs within a residential development in which the required connectivity index has been modified. A connectivity index is a ratio of the number of street links (road sections between intersections and cul-de-sacs) divided by the number of street nodes (intersections and cul-de-sac heads). The following illustration provides an example of how to calculate the index. Street links on existing adjacent streets that are not part of the proposed subdivision are not included in the connectivity index calculation.

(2) For non-residential, multi-family, or mixed used developments of greater than five (5) acres, an organized and complete street network must be provided with an emphasis on connectivity throughout the development and for future adjacent development. Sites, five (5) acres or less, must provide street connections with adjacent properties (i.e., taking into account the future development/redevelopment of these properties).

(a) All access points from public thoroughfares and collectors shown on the Comprehensive Transportation Plan shall be connected with each other through a continuous network of public or private streets. (Non-residential private streets are not required to meet public street standards.) Connections between thoroughfares and collectors shall be direct while maintaining a functional and
organized street network. Limited parking in front of buildings along these streets may be provided.

Primary circulation through a development shall meet the following standards:

1. Vehicular access spacing on the street is limited to no less than one hundred fifty (150) feet;
2. Intersections, driveway, or drive aisle connections with the streets shall be substantially perpendicular to the street;
3. Access points shall align with opposing access points on the street or shall be offset by at least one hundred fifty (150) feet; and
4. Adjacent lots or outparcels must share access drives.

Street Connectivity

Note: The measure of connectivity is the number of street links divided by the number of nodes. Nodes exist at street intersections as well as cul-de-sac heads. Links are the stretches of road that connect nodes. Stub outs shall also be considered as links. In this example, there are five (5) links (circles) and four (4) nodes (stars); therefore, the connectivity index is 1.25.

(B) Street Arrangement

(1) The proposed public or private street system shall be designed to provide vehicular and pedestrian interconnections to facilitate internal and external traffic movements in the area. In addition to the specific connectivity requirements described above, roadway interconnections shall be provided during the initial phase of any development.
plan between the development site and its adjacent properties with one (1) roadway interconnection every one thousand two hundred fifty (1,250) to one thousand five hundred (1,500) linear feet for each direction (north, south, east, west) in which the subject property abuts. If the common property boundary in any direction is less than one thousand two hundred fifty (1,250) linear feet, the subject property will be required to provide an interconnection if it is determined by the Planning Director that the interconnection in that direction can best be accomplished through the subject property due to physical site constraints, such as topography, presence of stream buffers or other natural features, or lot dimensions; or due to presence of existing development or infrastructure, on the subject property or other properties in the area. When the Planning Director deems a vehicular connection not practicable due to topographical and/or environmental constraints, he/she may increase the length requirement and/or require pedestrian connections. The Planning Director may delay the interconnection if such interconnection requires state approval. The intent of this standard is to improve access/egress for Town neighborhoods, provide faster response time for emergency vehicles, and improve the vehicular and pedestrian connections between neighborhoods.

(2) Any development of more than one hundred (100) residential units or additions to existing developments such that the total number of units exceeds one hundred (100) shall be required to provide for vehicular and pedestrian access to at least two (2) public streets unless such provision is modified pursuant to Section 3.19.1.

(3) Where new development is adjacent to vacant land likely to be subdivided or redeveloped in the future, or adjacent to property that is likely to be redeveloped in the future, all streets, bicycle paths, sidewalks or pedestrian pathways, and access ways in the development's proposed street system shall continue through to the boundary lines of the area under the same ownership as the subdivision, as determined by the Planning Director or the Director of Transportation and Facilities, to provide for the orderly subdivision of such adjacent land and/or the transportation and access needs of the community. In addition, all redevelopment and street improvement projects shall take advantage of opportunities for retrofitting existing streets to provide increased vehicular and pedestrian connectivity, such as sidewalks, crosswalks, and pedestrian signals.

(4) In general, permanent cul-de-sacs are discouraged in the design of street systems, and should only be used when topography, the presence of natural features, and/or vehicular safety factors make a vehicular connection impractical. Where cul-de-sacs are unavoidable, site and/or subdivision plans shall incorporate provisions for future vehicular and pedestrian connections to adjacent, undeveloped properties, and to existing adjacent development where existing connections are poor.

(5) Permanent cul-de-sacs shall comply with the length limits and design standards set forth in the Town's Standard Specifications and Details Manual, and shall be provided with a turnaround at the closed street end.

(C) Cross Access

All non-residential development shall be designed to allow for both vehicular and pedestrian cross-access to adjacent properties to encourage shared parking and shared access points on public or private streets. A minimum distance of one hundred (100) feet shall be required between a cross-access way and an intersection or driveway entrance. This requirement may be modified pursuant to Section 3.19.1 provided that appropriate bicycle and pedestrian connections are provided between adjacent developments or land uses. A cross access easement must be recorded prior to issuance of a Certificate of Occupancy for the development.
(D) Exceptions

New developments adjacent to existing neighborhoods classified as Tier 2 or Tier 3 Neighborhoods are exempt from portions of Section 7.10.3(A) - (C), as provided below:

(1) **Classification of Existing Neighborhood Adjacent to Proposed Development**

(a) **Tier 1 Neighborhood**

A Tier 1 neighborhood is defined as any residential neighborhood not otherwise classified as Tier 2 or Tier 3.

(b) **Tier 2 Neighborhood**

A Tier 2 neighborhood is defined as a residential neighborhood that meets all of the following criteria:

1. The neighborhood was developed pursuant to a subdivision or site plan approved at any time by a jurisdiction other than the Town of Cary, or approved by the Town of Cary prior to January 14, 1999; and

2. The neighborhood meets the following criteria:

   a) A public street right-of-way in the existing neighborhood extends to the common property line, however the street itself does not extend to the common property line; or, no existing right-of-way or street extends to the common property line; and

   b) There are no factors present to indicate the intent, at the time of approval or construction of the Tier 2 neighborhood, that a street would be connected at a later time, such as recordation of construction easements; or physical constraints such as stream buffers or topographic issues are present that would have made extension of the street to the property line infeasible at the time of construction of the neighborhood and

3. Potential public safety issues such as inadequate fire and police protection, are present, or are likely to be created in the future, if a proposed new development does not connect to the adjacent existing development. Potential safety issues may be indicated by factors including but not limited to, a single vehicular access point, and/or the major street serving the neighborhood exceeding one thousand (1,000) feet in length.

(c) **Tier 3 Neighborhood**

A Tier 3 neighborhood is defined as a residential neighborhood that meets all of the following criteria:

1. The neighborhood was developed pursuant to a subdivision or site plan approved at any time by a jurisdiction other than the Town of Cary, or approved by the Town of Cary prior to January 14, 1999; and

2. The neighborhood meets the following criteria:
a) A public street right-of-way in the existing neighborhood extends to the common property line, however the street itself does not extend to the common property line; or, no existing right-of-way or street extends to the common property line; and

b) There are no factors present to indicate the intent, at the time of approval or construction of the Tier 3 neighborhood, that a street would be connected at a later time, such as recordation of construction easements; or physical constraints such as stream buffers or topographic issues are present that would have made extension of the road to the property line infeasible at the time of construction of the neighborhood, and

3. There are no apparent public safety issues such as inadequate fire and police protection or response capability present, or likely to be created in the future, if a proposed new development does not connect to the adjacent existing development.

(d) Neighborhood Classification

The Director of the Transportation and Facilities Department shall determine the classification of existing neighborhoods.

(2) Exceptions to Connectivity Requirements for New Development

(a) Adjacent to a Tier 1 Neighborhood, all requirements of Section 7.10.3(A) - (C) shall apply.

(b) Adjacent to a Tier 2 Neighborhood, all requirements of Section 7.10.3(A) - (C) shall apply, with the following exceptions or modifications:

1. Construction of a road connection to the property line of the Tier 2 Neighborhood is allowed but not required. If no connection is made, a connectivity index less than 1.2 may be approved by the Planning Director if such reduction results from the lack of connection to the Tier 2 Neighborhood.

2. If no road connection is made, an emergency access connection to the Tier 2 neighborhood must be provided. Such connection may include a paved street connection with removable obstructions to prevent non-emergency access, raised curb treatment, turf stone with grass, or other methods approved by the Director of Transportation and Facilities and the Fire Chief.

3. Pedestrian and bicycle connections, and utility stubs and connections shall continue to be required.

(c) Adjacent to a Tier 3 Neighborhood, all requirements of Section 7.10.3(A) - (C) shall apply, with the following exceptions or modifications:

1. Construction of a road connection to the property line of the Tier 3 Neighborhood is allowed but not required. If no connection is made, a connectivity index less than 1.2 may be approved by the Planning Director if such reduction results from the lack of connection to the Tier 3 Neighborhood.
2. Pedestrian and bicycle connections, and utility stubs and connections shall continue to be required.

7.10.4 Standards for Pedestrian Facilities

All sidewalks, greenways and street-side trails shall be designed to comply with the standards provided in plans, ordinances and manuals listed in Section 1.4. In addition to the general provisions of Section 7.10.3 above, the following specific standards shall be met in designing and achieving a pedestrian circulation system:

(A) Sidewalks

(1) Sidewalks shall be installed on both sides of all thoroughfares and collector streets. In non-residential developments and property located within Mixed Use Overlay Districts, sidewalk shall also be provided on both sides of all local and private streets as well as along one (1) side of all primary travelways. Shifting the sidewalk to an adjacent linear island is permitted if it creates better pedestrian connectivity. The Planning Director may approve sidewalk on one (1) side of the street in cases where a street is single-loaded and the opposite side of the street is not expected to develop in the future. Sidewalk shall be required on one (1) side of all local and private streets in residential developments outside of a mixed-use center.

(2) Site design techniques such as shortening crosswalk distances with curb extensions, reducing sidewalk curb radii, and eliminating free right-turn lanes shall be used to improve pedestrian safety at pedestrian roadway crossings. Signals that allow longer crossing times in Mixed Use Overlay Districts, raised crosswalks, and pedestrian refuges in medians shall be provided as appropriate.

(3) Pedestrian access from the public right-of-way into a site shall be every nine hundred (900) feet along long block frontages.

(4) Within a development, sidewalks and/or greenways shall form an on-site circulation system that provides pedestrian access to all public building entrances, on-site amenities, and adjacent parks and greenways, minimizing conflict between pedestrians and vehicular traffic. Where building frontages exceed six hundred (600) feet in length, a building break or pedestrian pass-thru shall be provided to facilitate pedestrian circulation between areas in front of and behind the building mass. Such a break shall not be required if there is no current, proposed, or future development, pedestrian destination, or point of interest (e.g., a parking lot, greenway, plaza, etc.) located to the rear of the building. Sidewalks and/or greenways shall connect building entrances to one another and from building entrances to public sidewalk connections and existing or planned transit stops, street-side trails and/or greenways. Non-residential buildings located more than one hundred (100) feet from the public right-of-way shall provide for direct pedestrian access to buildings located on adjacent lots.

(5) Cul-de-sacs and dead-end streets shall be connected to the closest local or collector street and/or to cul-de-sacs in adjoining residential subdivisions, commercial development, or similar compatible land uses including schools, parks, recreation facilities, libraries, and greenways, via a sidewalk or street-side trail.
§ 7.10.4 CARY LAND DEVELOPMENT ORDINANCE

(6) A linear parking lot island containing a sidewalk shall be provided to align directly with the principal entrance. Additional sidewalk shall be provided in linear islands as necessary to provide adequate and convenient pedestrian access, but shall not be required in all such islands. Linear islands containing sidewalks shall be a minimum of fifteen (15) feet in width to allow adequate space for the sidewalk and plantings.

(B) Greenways

The Town of Cary's greenway trail system consists of a series of interconnected pedestrian trails located off-road and tied together by on-road street-side trails and sidewalk connectors. The plan for the townwide trail system is outlined, and trail types are defined, in the Parks, Recreation and Cultural Resources Facilities Master Plan.

(1) All public greenways shall be located based upon the Parks, Recreation and Cultural Resources Facilities Master Plan with final alignments to be determined during the development plan review process.

(2) Construction of all public greenway trails shall meet Town of Cary standards and specifications as provided by the Parks, Recreation and Cultural Resources Department.

(3) A Greenway Easement shall be dedicated to the Town of Cary in accordance with LDO Section 8.2.3(D)(3). The developer shall demonstrate that the easement to be conveyed is usable for trail construction to Town standards (in terms of topography, wetlands, buffers, etc. The width of easements may be reduced to twenty (20) feet where the developer is constructing the greenway trail.

(4) Development plans shall provide private, paved trail connections to existing and planned public greenways located within or adjacent to the development. Such private trail connections shall be constructed at least every nine hundred (900) feet along the adjacent greenway corridor with the details being determined by Town staff during the development plan review process. These connections shall meet the Town of Cary standards and specification as provided by the Parks, Recreation and Cultural Resources Department.

(5) Public greenways and dedication of easements shall be credited towards park land dedication and payment-in-lieu requirements in accordance with LDO Section 8.2.3.

(6) All trails shall be constructed as development occurs, and phasing must be approved by Parks, Recreation and Cultural Resources staff.

(7) Greenway trails located within required perimeter buffers shall meet the requirements of LDO Section 7.2.3(H)(3). Greenway easements may be required outside of the perimeter buffer in order to meet Town standards for both the buffer and greenway.

(8) In those cases where the Comprehensive Plan requires the use of greenways instead of sidewalks, the greenways shall be constructed in accordance with Town of Cary standards and specifications as provided by the Parks, Recreation and Cultural Resources Department, and shall meet the following criteria:

(a) these trail systems shall be designed to provide adequate pedestrian circulation internal to the development, as well as connections to existing or planned adjacent pedestrian systems and other developments, and alignments shall be approved by Town staff;
(b) these trails shall be privately maintained by the Homeowners' Association (HOA) and shall be open to the public, and this must be noted on the approved site and subdivision plans, as well as recorded plats;

(c) trails shall be eight (8) feet wide asphalt;

(d) a private pedestrian trail easement, minimum fourteen (14) feet in width, centered on the trail, shall be recorded on the subdivision plat.

(C) **Street-side Trails**

Street-side trails are pedestrian trails located adjacent to roadways (on-road) and provide supporting linkage to the off-road greenway system.

1. Where the Parks, Recreation and Cultural Resources Facilities Master Plan calls for a street-side trail, a street-side trail shall be constructed in lieu of sidewalk required in the same location. No park land dedication or payment-in-lieu credit will be granted for street-side trail construction or easements.

2. All street-side trails shall be designed and constructed according to Town of Cary standards and specifications as provided by the Transportation and Facilities Department.

3. A Town of Cary Greenway Easement, centered on the trail (easement width to be determined by Transportation and Facilities staff), shall be recorded. Street-side trail locations and the location of the required Town of Cary Greenway Easements relative to current road widths and rights-of-way, shall be determined by the Transportation and Facilities staff.

(D) **Community Gathering Spaces and Plazas**

Provide at least one (1) public gathering space such as a pedestrian plaza or park-like space for new development and redevelopment sites that are two (2) acres or greater in size. These spaces shall be centrally located and/or located so to encourage its use by pedestrians and patrons of the development. Minimum sizes for the community gathering space are as follows:

1. 2 to 5 acre site - 600 square feet

2. 5.1 to 10 acre site - 1,200 square feet

3. 10.1 to 15 acre site - 2,400 square feet

4. 15.1 to 20 acre site - 4,000 square feet

5. Greater than 20.1 acre site - 5,000 square feet

6. For developments fifteen (15) acres or greater, community gathering space shall include such things as a central plaza/green, outdoor dining areas, fountains/water features, and/or public art.
§ 7.10.5 Standards for Bicycle Facilities

(A) Wide outside lanes shall be incorporated into the design of all new and/or improved arterial streets. Bicycle lanes and/or wide outside lanes shall be incorporated in the design of all minor collectors. On local streets low traffic speeds and volumes allow bicyclists and motorists to safely share the road. Sidewalks are not acceptable as substitutes for bike lanes. Bike lanes shall be a minimum of four (4) feet in width (excluding adjacent curb and gutter).

(B) Consistent with the recommendations of the Cary Comprehensive Transportation Plan, development shall provide appropriate bicycle amenities to encourage cyclists. Signage indicating the presence and location of such amenities shall be scaled for easy reading by bicyclists and pedestrians as well as motorists. Bicycle parking shall be provided as part of all high density residential, commercial, retail, office, industrial, and mixed use development where appropriate (see bicycle parking requirements sections 7.8.2(D)).

7.10.6 Standards for Public Transit Access and Infrastructure

(A) Applicability

The requirements of this Section 7.10.6 apply to all development plans and reuse/redevelopment plans for sites with frontage along corridors identified in the Comprehensive Transportation Plan, Cary Community Plan, or Wake Transit Plan for current or planned transit service. Previously developed sites are exempt from these requirements unless the proposed redevelopment of the site consists of alterations of existing transit access locations. Regardless of whether the LDO requires transit improvements, all development must comply with Americans with Disabilities Act (ADA) requirements and other applicable federal, state and local regulations.

(B) Requirements

(1) Transit Infrastructure

All sites subject to the requirements of this Section shall install at least one (1) transit access location. All transit access locations shall meet the requirements of the Town’s Standard Specifications and Details Manual. When the transit access location is located outside of the right-of-way, a permanent transit easement is required.

(2) Exemption

A new transit access location shall not be required if there is a nearby alternate transit stop or facility that serves the same function as a transit access location and that satisfies a transit stop spacing pattern of approximately one thousand (1,000) feet along the same side of the street on the subject corridor. This exemption shall not apply to major transit trip generators.

7.11 TRANSPORTATION DEVELOPMENT FEES

7.11.1 Purpose

The purpose of this section is to establish a procedure to impose and collect fees to finance additional road improvements within the Town limits and extraterritorial jurisdiction as authorized by NC Session Law 1987-801. This road project fee, or transportation development fee, shall be imposed on all new construction within the Town limits and extraterritorial jurisdiction. It is not the intent of this section to require the developer to pay for all new road construction.

7.11.2 Authority

This section is adopted pursuant to the powers conferred by the General Assembly of North Carolina and set forth in NC Session Law 1987-801 and incorporated in Section 7.4 of the Charter of the Town of Cary.

7.11.3 Findings

(A) The Town continues to experience rapid population and employment growth, in part, because of its proximity to regional employment facilities such as the Research Triangle Park and Raleigh Durham International Airport.

(B) The anticipated population and employment growth in the Town creates demand for additional capital improvement funds for roadway facilities, which include but are not limited to, streets, intersection improvements, culverts and road-related drainage improvements, turn lanes, and signalization.

(C) The Town is committed to the provision of such road-related improvements at a level of service necessary to support anticipated residential and employment growth.

(D) The Town has adopted a Comprehensive Transportation Plan (CTP), which addresses long-term road improvements. The Planned Roadway Widths map of the CTP identifies additional road capital improvements necessary to serve new construction.
(E) The General Assembly of North Carolina has authorized the Town to impose a regulatory or development fee defined as a road project fee, and known within the Town as a transportation development fee, on new construction within the Town limits and extraterritorial jurisdiction.

(F) The transportation development fee herein established is roughly proportional to the need for new capacity-related road improvements generated by new construction and reasonably benefits the construction that pays the fee.

7.11.4 Applicability

This section shall apply to all new construction within the Town's corporate limits and extraterritorial jurisdiction.

7.11.5 Condition of Approval

No building permit shall be issued for construction within the Town's jurisdiction unless and until the required transportation development fee has been paid in full.

7.11.6 Transportation Zones

Two Transportation Zones have been established for the purpose of assessing transportation development fees. The purposes of the transportation zones are to help ensure that adequate funding is available in different areas of the Town to pay for road improvements needed to maintain adequate levels of service appropriate to each area. The transportation fees paid by new development in each zone represent the cost of replacing the roadway capacity that traffic from the new development will consume on the major roadway system. Fees collected must be used for road improvements within Cary's town limits and extraterritorial jurisdiction.

The Central Zone encompasses all land within the innermost right-of-way boundary of Maynard Loop and excluding Maynard Road itself. This includes all of the downtown area. This zone's primary focus is to encourage redevelopment and infill. The Level of Service standard is "F" based upon a ninety (90)-minute average peak. The Base Zone contains the remainder of the Town's corporate limits and extraterritorial jurisdiction not within the Central Zone. The Level of Service standard is "D" based upon the standard Institute for Transportation Engineers (ITE) average peak hour. Boundaries of the central zone are shown on the following map.
7.11.7 Fees

(A) Every person seeking a building permit for construction for which a transportation development fee is due but has not been paid shall pay such transportation development fee prior to the issuance of the building permit.

(B) The transportation development fee shall be computed by proposed building use and based on the construction plans submitted for approval, according to the schedule set forth in the annual Town of Cary operating budget (TDF Schedule), except for fees computed by an individual assessment in accordance with Section 7.11.8, Individual Assessments, below.

(C) The transportation development fee for proposed new commercial or industrial construction that is speculative construction shall be computed in conjunction with the application for a building permit for the expected use. An additional transportation development fee may be due for the fit-up to be constructed within the shell; however, no refunds will be given. This additional fee will be calculated as the difference in fees between what was paid at the time of speculative construction and what the new use would pay under the TDF Schedule, and shall be paid prior to issuance of the building permit for the fit-up.

(D) If the proposed new construction contains a mix of building uses, the transportation development fee shall be calculated separately for each use according to the TDF Schedule. If the building has a single primary use, the transportation development fee shall be calculated for a single use, according to the TDF Schedule.
(E) The transportation development fee shall be collected for additions to and remodeling of existing structures and shall be calculated based on that portion of the structure that represents an increase above the number of dwelling units or the floor area of the building, as it exists prior to the addition or remodeling. If the addition or remodeling results in a use change that increases trip generation, the transportation development fee will be calculated as the difference in fees between what the existing and new use would pay under the TDF Schedule. If the addition or remodeling results in a use change that decreases trip generation, no transportation development fee will be charged. No refunds will be given.

(F) The following shall be exempt from the terms of this Section 7.11.

1. Alteration or expansion of an existing building where no additional dwelling units are created, the use is not changed, and where no additional vehicle trips will be produced over and above that produced by the existing use.

2. The construction of accessory buildings or structures that will not produce additional vehicle trips over and above that produced by the principal building or use of the land.

3. The replacement of a destroyed or partially destroyed building or structure with a new building or structure of the same size and use, provided that no additional trips will be produced over and above that produced by the original use of the land.

4. Private recreational facilities provided that such facilities are restricted for use by residents and their guests without charge and no additional vehicle trips will be produced over and above that produced by the principal residential use.

7.11.8 Individual Assessments

(A) If any person believes that his or her proposed construction is unique in the traffic impacts that it will generate, such person may request that the Town perform an individual assessment of the traffic impacts of the proposed construction. Such person shall pay to the Town, in escrow, a sufficient fee to pay the cost of obtaining such assessment from a professional engineer selected and hired by the Town. The Town shall then obtain the services of the professional engineer to perform the assessment, paying the engineer from the escrow account and remitting the balance, if any, to the person requesting the assessment. The Zoning Board of Adjustment shall, at a quasi-judicial public hearing, consider the request of the applicant to pay the transportation development fee based on the individual assessment. The Town shall assess the transportation development fee based on the individual assessment if the Board finds that:

1. The proposed construction is in fact so unique that the application of the TDF Schedule adopted by the Town would result in the collection of a fee that is not proportionate to the traffic impact of the proposed construction; and

2. There is a difference between the fees computed under the TDF Schedule and the fees computed in accordance with the individual assessment of at least five thousand dollars ($5,000.00) or five (5) percent of the total fees, whichever amount is greater.

(B) The professional engineer to perform each individual assessment shall be selected by the Transportation and Facilities Director from a list of qualified engineers maintained by the Town. The list shall contain the names of at least three (3) engineers or engineering firms, and shall be updated regularly. The Zoning Board of Adjustment reserves the right to dispute
DEVELOPMENT AND DESIGN STANDARDS § 7.11.10

the assumptions, methodology, or conclusions of individual assessments. An individual assessment may take into consideration such factors as internal capture of trips in mixed use projects and higher rates of pass by trips than indicated by ITE if supported by reliable local data.

(C) Transportation development fees computed under this section shall be computed in dollars per dwelling unit (for residential uses) or typically dollars per one thousand (1,000) square feet of non-residential floor area (for non-residential uses), using the following consumption based system formula(e):

TRANSPORTATION DEVELOPMENT FEE FORMULA

\[
\text{FEE} = \text{VMT} \times \frac{\text{NET COST/VMT}}{
\text{VMT} = \text{TRIPS} \times \% \text{NEW} \times \text{LENGTH} \div 2}
\text{NET COST/VMT} = \text{COST/VMT} - \text{CREDIT/VMT}
\text{COST/VMT} = \text{COST/VMC} \times \frac{\text{VMC/VMT}}{\text{TDF SHARE}}
\text{CREDIT/VMT} = \text{Revenue credit per VMT}
\]

Where:

\[
\text{TRIPS} = \text{Trip ends during the evening peak-hour on a weekday}
\% \text{NEW} = \text{Percent of trips that are primary, as opposed to pass-by or diverted-link trips}
\text{LENGTH} = \text{Average length of a trip on the major roadway system}
\div 2 = \text{Avoids double-counting trips for origin and destination}
\text{COST/VMC} = \text{Average cost to add a new peak hour vehicle-mile of capacity}
\text{VMC/VMT} = \text{System-wide ratio of vehicle-miles of capacity to vehicle-miles of travel on major roadway system (assumed 1:1)}
\text{TDF SHARE} = \% \text{of cost not covered by developer frontage improvement requirements}
\]

7.11.9 [Reserved]

7.11.10 Fund Accounting

(A) The Town shall establish an account into which the transportation development fees collected shall be credited. Interest at the actual rate of return on invested funds of the Town shall be credited in accordance with the accounting policies of the Town.
7.11.11 Use of Funds

(A) The revenues from transportation development fees and accrued interest on such revenues shall be spent on qualifying road improvements.

(B) Qualifying road improvements include improvements to thoroughfares shown on the Planned Roadway Widths map of the Comprehensive Transportation Plan anywhere within the Town's corporate limits or extraterritorial jurisdiction.

(C) Transportation development fees may be used to finance direct project costs of qualifying road improvements, including:

(1) The acquisition cost of rights-of-way;

(2) The construction cost of improvements, and drainage improvements (excluding pedestrian facilities);

(3) Signalization and intersection improvements at major thoroughfare intersections; and

(4) The principal sum and interest and other financing costs on bonds, notes, or other obligations issued by or on behalf of the Town to finance qualifying road improvements.

(D) Transportation development fees shall not be used to pay for any of the following:

(1) Construction, acquisition, or expansion of public facilities other than road improvements;

(2) Repair, operation, or maintenance of existing or new road improvements.

(E) Up to thirty (30) percent of all transportation development fees collected shall be reserved for eligible cash reimbursement to developers for qualifying road improvements. An eligible cash reimbursement consists of eligible excess construction costs and excess costs of right of way, as defined below in Section 7.11.14, that exceed the value of offsets. Eligible cash reimbursements must be established through an approved TDF Agreement as described below in Section 7.11.16. At the end of each fiscal year, the amount of collected transportation development fees eligible for cash reimbursements shall be calculated, and if the total amount of reimbursements owed exceeds the amount of eligible fees available, the fees shall be remitted to developers in proportion to the amount of cash reimbursements owed.

7.11.12 Refunds

(A) Any transportation development fee or portion thereof which has not been expended within ten (10) years from the last day of the fiscal year in which it was paid, shall be refunded to the record owner of the property for which the transportation development fee was paid, upon written application by the record owner, with accrued interest at the rate of return on investments earned by the Town on such amount.

(B) The Town may charge a reasonable administrative fee, not to exceed five (5) percent of the refund due, for verifying and computing the refund.
7.11.13 Updates and Revisions

The Town shall evaluate the TDF Schedule as part of the annual budget process. The frequency of any updates to the TDF Schedule may be influenced based upon growth in residential and non-residential construction, road improvements actually constructed, changing levels of service, inflation, revised cost estimates for road improvements, changes in the availability of other funding sources, and such other factors as may be relevant.

7.11.14 Offsets; TDF Agreements

The Town shall grant offsets to transportation development fees for eligible qualifying road improvements that exceed the requirements for a collector road in accordance with this section. There shall be no other offsets to transportation development fees.

(A) Where a development includes an eligible qualifying road improvement, the Town and the developer, by mutual consent, may enter into a TDF Agreement regarding the terms of the participation of the developer in the construction or financing of such improvement. Such agreement may provide for cash reimbursements, offsets, or other appropriate compensation to the developer for his or her participation in the financing and/or construction of the road. The TDF Agreement shall be on a form approved by the Town Council and shall include:

(1) The estimated eligible excess costs of right-of-way acquisition and the estimated eligible excess construction costs;

(2) An estimated offset amount and cash reimbursement amount, if any;

(3) The land development project for which the offset may be used;

(4) A requirement that the developer must solicit bids in accordance with Article 8 of Chapter 143 of the N.C. General Statutes;

(5) A requirement that the qualifying road improvement be designed and completed to Town standards; and

(6) Such other terms and conditions as deemed necessary by the Town Council.

(B) The amount of any offset is calculated by adding the eligible excess costs of right-of-way acquisition and the eligible excess construction costs.

(1) Eligible excess costs of right-of-way means the value of the road right-of-way dedicated by the developer to the Town that is required by the Comprehensive Transportation Plan in excess of a collector street for a qualifying road improvement. The value of the road right-of-way to be used in this calculation shall be the actual sale value of the land, if the land has been sold within the last three (3) years before dedication; if the land has not sold within the last three (3) years before the dedication, the applicable value shall be determined by professional appraisal. The appraisal shall be performed in accordance with the Town's Standard Procedures.

(2) Eligible excess construction costs means the actual construction costs in excess of those for a collector street and equal to the lowest responsible, responsive bid amount plus or minus the cost of any change orders approved by the Town. Final eligible excess construction cost may not be determined until after acceptance of the qualifying road improvements by the Town.
7.11.14 CARY LAND DEVELOPMENT ORDINANCE

(C) Offsets will not be credited for any road construction that exceeds the standards of the Town's Standard Specifications and Details Manual.

7.11.15 Use of Offset

(A) The Transportation and Facilities Director shall compute the final amount of the offset credited to a developer.

(B) Any offset may be used by the registered owner of such offset against a transportation development fee imposed on construction of a building in the designated land development project. Offsets may not be used for payment of any other fees, taxes, or amounts due the Town, and shall not have any intrinsic value. The Town shall have no obligation to the holder of any offset who, for any reason, owes no development fees during the life of the offset and thus has no use for the offset.

(C) Each offset shall be valid from the date of issuance until ten (10) years after the effective date of the TDF Agreement, unless an extension not to exceed ten (10) years is granted by the Town Council prior to the termination of the earlier of these periods.

(D) An offset shall be credited in dollars against the applicable transportation development fees in effect on the date when such fees become due under this Section 7.11.

(E) When the TDF Schedule is revised, holders of active offsets may apply to the Transportation and Facilities Director for recalculation within one (1) year from the effective date of fee changes. The amount eligible for offset will be determined under the revised offset provisions in effect when the fees are modified. The applicant requesting recalculation shall be responsible for providing the information needed to recalculate the offset.

7.11.16 Reserved

7.11.17 Other Financing Methods

The Town may finance road improvements through the issuance of bonds, through the formation of assessment districts, or through any other authorized mechanism, in such manner and subject to such limitations as may be provided by law, in addition to the use of transportation development fees. Except as otherwise provided herein, the collection of a transportation development fee shall be additional and supplemental to, and not in substitution of, any other tax, fee, charge, or assessment which is imposed on and due against the property under the authority granted by the State of North Carolina.

7.11.18 Fee as Supplemental Regulation

The transportation development fee established by this chapter is additional and supplemental to, and not in substitution of, any other requirements imposed by the Town on the development of land or the issuance of building permits or certificates of occupancy. Such fee is intended to be consistent with and to further the policies of the Town's comprehensive plan, capital improvements plan, other chapters of this Ordinance, and other policies, ordinances, and resolutions.

7.11.19 Reserved
7.11.20 Relief Procedures

(A) The developer or owner of property for which a transportation development fee is owed may appeal the assessment of the fee to the Zoning Board of Adjustment. After a quasi-judicial hearing, the Board shall take one of the following actions:

(1) If the Board finds that there has been an error by the Town in assessing the transportation development fee, then the Board shall correct the error;

(2) The Board may modify or waive the requirements of this Section 7.11, but only upon finding that a strict application of such requirement would result in confiscation of the property, taken as a whole;

(3) The Board may, upon recommendation of the Town Manager, authorize the Town to pay, on behalf of the developer, the transportation development fee for a project of public interest, where the Board finds that such is in the best interest of the Town.

(B) Unless the Zoning Board of Adjustment makes one of the findings set forth in subsection (A) above, the Board shall confirm the transportation development fee assessed.

(C) If the Zoning Board of Adjustment modifies or waives the amount of the transportation development fee, the Town shall cause to be appropriated from other Town funds the amount of the reduction in the transportation development fee.

7.11.21 Hearings

(A) The hearings described in Sections 7.11.8 and 7.11.20 shall be governed by the procedure of this section.

(B) The date of the hearing may be set by the Town Manager or his or her designee without prior action by Council.

(C) The hearing shall not take place without prior notice, given in accordance with LDO Section 3.1.6(A), (B), (C)(2), and (D).

(Ord. No. 05-006, adopted 5-12-05, eff. 7-1-05; Ord. No. 2008-07, adopted 5-8-08, eff. 7-1-08; Ord. No. 2009-LDO-05, adopted 7-23-09, eff. 7-23-09; Ord. No. 2011-LDO-01, 1-11-11; Ord. No. 2014-LDO-03, 8-14-14; Ord. No. 2015-LDO-002, 6-25-15; Ord. No. 2019-LDO-01, 9-26-19)