

**BRUNSWICK COUNTY BOARD OF COMMISSIONERS  
WORKSHOP**

**August 16, 2010  
4:00 PM**

**AGENDA**

- 1. Call to Order**
- 2. Review of Proposed Text Amendments to the Brunswick County Unified Development Ordinance**
- 3. Engineering Responsibilities in the Development Review Process**
- 4. Discussion of Organizational Alternatives for Department of Engineering**
- 5. Other Business**
- 6. Adjourn**

# SUMMARY OF PROPOSED UDO COMMITTEE CHANGES (Post Planning Board Public Hearing)

## 6.5. BUILDING FAÇADE DESIGN

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### 6.5.2. Applicability

The requirements of this section shall apply in the following circumstances:

- A. Construction of any new use classified as Commercial or Office (see Section 5.1, Use Interpretation).
- A. Construction of any new use classified as Industrial where total square footage of building is 30,000 square feet or more and when located within 100 feet of a public roadway.
- B. Expansion or modification across the front of the building of an existing Commercial or Office use that increases the total enclosed floor area by at least 50% or 5,000 square feet, whichever is greater.
- C. Where compliance with these standards is explicitly required in other portions of this Ordinance.

### 6.5.4. Standards

- A. All facades that are visible from a public roadway or abutting a residential district or use shall be constructed of one or a combination of the following materials: concrete aggregate, stucco, brick, stone, glass or wood, faced concrete block, powder-coated painted metal panels. Artificial materials which closely resemble these materials shall also be allowed.
- B. No portion of building constructed of unadorned (unfaced) concrete masonry units or unfinished corrugated and/or sheet metal may be visible from a public roadway.
- C. Long continuous building walls are discouraged and no single façade extending unbroken more than 35 100 feet in a horizontal plane may be visible from a public roadway. Compliance may be obtained through one of the following:
  - 1. The use of projections or recesses (articulation); ~~When used, each projection or recess shall have a projection (or depth) dimension of no less than 18 inches and a width of no less than 36 inches; or~~
  - 2. The use of columns or other architectural detail to provide visual interest. Where used, columns should be harmonious with the general design of the structure.
- D. A minimum of At least 25% of the first floor of the street facade of a business or mercantile use must be transparent ~~(churches are excluded)~~. **[Churches removed at Planning Board's Public Hearing]**
- E. The use of pitched roofs and roof overhangs shall be required within 1500 feet of a Planned Unit Development (as measured from either side of the subject property). Recommended roofing materials include slate shingles, asphalt and fiberglass shingles, metal standing seam or tiles. Partial (occupying less than three sides) mansard roofs are ~~discouraged~~ not allowed.

## 6.6. OUTDOOR LIGHTING

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### 6.6.2. Applicability

The requirements of this Section shall apply to:

- A. All nonresidential or multifamily development; and
- B. All residential subdivision development;

- C. Modification of an existing lighted area where the lamp color will change or where the number of light fixtures or foot-candles (fc) are increased; and
- D. Expansion of areas that are increasing in size and in doing so will exceed the illumination levels in Section 6.6.6.

### 6.6.3. Exempt

- A. The following activities are exempt from the requirements of this Section.
  - 1. Outdoor lights used for a temporary event; permitted through a Temporary Use Permit.
  - 2. Outdoor lights used exclusively for recreational activities, concerts, plays or other outdoor events that are open to the public, provided that the event or function meets all other applicable Ordinance requirements. Such lighting shall be located at least 50 feet from any adjoining residential district or use.
  - 3. Fixtures may be replaced with like fixtures that meet requirements of Section 6.6.5.A.
  - 4. Maintenance and repairs (excluding replacement of fixtures, modifications or expansions as defined in Section 6.6.2.C and D) with like parts such as lamps, photo controls, lens and ballast may be performed.
  - 5. Nonconforming Outdoor Lighting damaged by fire or other causes consistent with the following requirements.
    - a. In the event of damage by fire or other causes to an extent exceeding 75% of its value, reconstruction of a nonconforming structure shall be permitted only in compliance with the dimensional provisions of this Ordinance.
    - b. In the event of damage by fire or other causes to an extent of between 25% and 75% of its value, reconstruction of a nonconforming structure shall be permitted with the issuance of a variance by the Board of Adjustment.
    - c. In the event of damage by fire or other causes to an extent of below 25% of its value, reconstruction of a nonconforming structure shall be permitted provided it is:
      - i. In the same location and up to the same dimensions as originally existed; or
      - ii. In compliance with the current dimensional requirements. [Added at Planning Board's Public Hearing]

### 6.6.5. Site Lighting Design Requirements

#### A. Fixture (Luminaire)

- 1. The light source shall be completely concealed behind an opaque surface and recessed within an opaque housing and shall not be visible from any street right-of-way or adjoining properties. Overhead lighting fixtures shall be designed to prevent light from emitting upwards towards the sky.
- 2. Under canopy lighting fixtures should be completely recessed within the canopy.

#### B. Fixture Height

- 1. Lighting fixtures may not exceed shall be a maximum of 40 feet in height and illumination levels shall comply with Section 6.6.6.B. within the parking lot and shall be a maximum of 15 feet in height within non-vehicular pedestrian areas. All light fixtures located within 50 feet of any residential use or residential property boundary shall not exceed 15 feet in height.

#### C. Light Source (Lamp)

- 1. Incandescent, florescent, metal halide, or color corrected high-pressure sodium are preferred. The Planning Director shall have the authority to approve other lamp types (including Light Emitting Diodes (LEDs) and fiber optics may be used provided the color emitted is similar to the preferred types. Non color-corrected high pressure sodium lamps are prohibited.
- 2. The same light source type must be used for the same or similar types of lighting on any one site throughout any development.

**D. Mounting**

Fixtures shall be mounted in such a manner that the cone of light is contained on-site and maximum illumination levels off-site does not ~~cross any property line of the site~~ exceed those found in Section 6.6.6.C. and not conflict with excessive illumination requirements found in Section 6.6.7.

**6.6.6. Illumination Levels**

A. To ensure uniform light distribution, all site lighting shall be designed so that the level of illumination as measured in foot-candles (fc) at any one point meets the standards in the table below with minimum and maximum levels measured on the pavement within the lighted area and average level (the overall generalized ambient light level), measured as a not-to-exceed value calculated using only the area of the site intended to receive illumination.

LIGHT LEVEL (foot-candles)			
Type of Lighting	Minimum	Average	Maximum
Architectural Lighting	0.0	1.0 - 1.5	5.0
Canopy Area Lighting	2.0	10.0 - 20.0	20.0
Multifamily Parking Lot	0.2	1.0 - 1.5	8.0
Nonresidential and Multifamily Entrances	1.0	2.5 - 5.0	15.0
Nonresidential Parking Lot	0.2	1.5 - 2.0	10.0
Storage Area (security lighting)	0.2	1.0 - 1.5	10.0
Vehicle Sales and Display	0.2	3.0	15.0
Walkways, Landscape or Decorative Lighting	0.2	0.8 - 1 - 1.5	5.0

- B. The maximum level of illumination at the outer perimeter of the site or project shall be 0.5 foot candles when abutting a residential zoning district and 5.0 foot-candles when abutting all other districts and/or streets.
- C. All outdoor lighting shall be designed and located such that maximum illumination measured in foot-candles comply with those in the following table:

MAXIMUM ILLUMINATION LEVELS (foot-candles)	
Lighting Measured at:	Maximum Illumination (foot-candles)
Street	5
Property Line Next to Residential Use or Residential District	2
Property Line Next to Commercial Use or Commercial District	5

**6.6.7. Excessive Illumination**

- A. Lighting within any lot that unnecessarily illuminates and substantially interferes with the use or enjoyment of any other property is prohibited. Lighting unnecessarily illuminates another lot if it exceeds the requirements of this Section.
- B. ~~All outdoor lighting shall be designed and located such that the maximum illumination measured in footcandles at the property line does not exceed 0.2 on neighboring residential uses, and 0.5 on neighboring commercial sites and public rights of way.~~

- B. Lighting shall not be oriented so as to direct glare or excessive illumination onto streets in a manner that may distract or interfere with the vision of drivers on such streets.
- C. Fixtures used to accent architectural features, landscaping or art shall be located, aimed or shielded to minimize light spill into the night sky.
- D. Blinking or flashing lights shall be prohibited unless the lights are required as a safety feature (e.g. beacons on towers) or shall be permitted as part of a sign in accordance with Article 10, Signs.

**4.12.5. CDS-1 and CDS-2: Corridor Development Standards 1 and 2 Overlay**

**2. ~~Sign Height~~**

~~No sign erected after May 1, 2007 may exceed 25 feet in height.~~

- 3. Off-street parking areas containing ~~ten~~ twenty or more spaces shall be landscaped in accordance with Section 6.1.10 Vehicular Use Area Landscaping.

**I. Landscaping and Buffering**

**1. Intent**

The CDS is intended to preserve as much of the subject property as possible in an undisturbed or enhanced state of vegetation, and ensure that sufficient areas of natural vegetation remain so that the proposed use will be visually in harmony with the natural beauty and wooded character along the highway. ~~and within the NC DOT Right-of-way.~~

iv. Required project boundary buffers shall be installed in compliance with Section 7.2.9, Project Boundary Buffers. However, where a tract or parcel being developed directly abuts a residential zoning district, a buffer with a minimum opacity of ~~.8~~ .4 (within one year of planting)...

v. In lieu of the street buffer requirement (Section 7.2.8) for CDS Overlay, ~~In addition to the required street buffers and project boundary buffers,~~ a planting area running directly adjoining to the lot frontage with a maximum depth of ~~eight~~ ten feet shall be provided immediately adjoining to the right-of-way line. ~~These required plantings may count towards the street buffer planting requirements on a one-to-one basis.~~ For every 50 feet of roadway frontage, the planting area shall contain six shrubs 18" in height and:

- (a) One tree eight feet in height; or
- (b) Three flowering trees five feet in height.

**J. Alternative Means of Compliance**

It is recognized that strict interpretation and application of these standards may create particular hardships in areas of unusual topographic condition, or in retrofitting existing developed properties which are expanded. The Planning ~~Board~~ Department Director, ~~by majority vote,~~ may approve a site plan for any proposed development which does not meet any specific standard of this Section as an alternate means of compliance...

**Commentary:** The Planning Director will make the Planning Board aware of the alternate means of compliance approvals in the form of periodic reviews of the UDO in order to determine if trends suggest the need for a future text amendment. **[Added at Planning Board's Public Hearing]**

**6.1.10. Vehicular Use Area Landscaping**

- 3. All landscaped areas shall be protected from vehicular encroachment by curbs, wheel stops or other similar devices. ~~All landscape islands shall be curbed.~~ Openings may be built into the curbs to allow surface drainage to enter the landscape islands.

- i. Each off-street parking facility with 20 spaces or more shall provide one

- landscaped island for each twenty 20 spaces. ~~or fraction thereof.~~
- ii. For off-site parking facilities/lots with 20 or more parking spaces, at least one landscaped island must be located within 150 feet of every parking space. ~~Only required for parking spaces of for 20 or more parking spaces.~~
  - iii. Each island shall consist of not less than 144 square feet of unpaved area and have a minimum internal dimension of at least ~~ten~~ eight feet measured in all directions. Each island shall be planted with a tree at least five feet in height (see Section 7.1.6.D for a listing of approved trees). The remaining area within a landscaped island shall be surfaced with shrubs, ground cover, grass, or other landscape material (excluding rock).

## **6.10 SCREENING**

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### **A. Rooftop Equipment**

Mechanical, HVAC, or other equipment located on ~~the~~ a flat roof of a building or structure shall be screened by a permanent wall to the height of the equipment plus six inches. This may be accomplished by a parapet wall or other enclosure to obscure view of the equipment. If located on a sloped roof, equipment should be painted the same color as the roof to blend in and ~~no~~ ~~screening is required.~~

### **B. All Other Uses**

3. One upright shrub shall be installed per four linear feet of any screen wall or fence that faces off-site. These plantings shall be placed such that they obscure the screen wall or fence and ~~may~~ shall be credited toward any plantings required elsewhere in this Ordinance.

## **7.1.3. Tree Survey Required**

### **A. Heritage Tree Survey**

2. For purposes of this Ordinance, a heritage tree shall be defined as follows:
  - i. ~~An american holly with a trunk caliper measurement of 8" or greater measured at 4.5 feet above ground;~~ A flowering dogwood with a trunk caliper measurement of 4" or greater measured at 4.5 feet above ground;
  - ii. ~~A redbud with a trunk caliper measurement of 4" or greater measured at 4.5 feet above ground;~~ A live oak with a trunk caliper measurement of 4" or greater measured at 4.5 feet above ground; and
  - iii. Any tree species included in the planting table (see Section 7.6.D.) with a trunk caliper measurement of 18" or greater measured at 4.5 feet above ground.

## **7.1.4. Landscape Plan Required**

- B. A ~~registered~~ Landscape Architect or ~~other expert with experience in landscape design~~ other person with landscape design knowledge (this could include the land owner) shall prepare all landscape plans, except where expressly exempted by the Planning Director. The landscape plan shall adequately detail the requirements of this Section.
- C. ~~On a case-by-case basis, the Planning Director may approve alternative planting materials in consultation with the North Carolina Cooperative Extension. Alternative planting materials may be substituted if a letter of approval is provided from the N.C. Cooperative Extension. The plants approved for substitution shall be added to the standard plant list.~~

### 7.1.5. Credit for Existing Vegetation

#### A. General

The retention of "existing vegetation" shall be maximized within the proposed landscaping, parking and buffer areas. When retaining existing vegetation within the buffer area, only clearing methods that do not disturb the root structure shall be allowed within the dripline of tree canopies. Existing native habitat or plant material located within the proposed landscaping or buffer area that meets the percent opacity requirements (See Section 7.2.9.B., Buffer Alternatives Table [Required Opacity]) of these regulations may ~~shall~~ be counted toward the total buffer required between adjoining land uses, or toward total landscaping requirements. If the existing vegetation has been counted toward the total required buffer or landscaping and is subsequently removed or dies it shall be replaced with the appropriate buffer or landscaping material.

#### C. Credit for Existing Vegetation

In order to encourage the preservation of established vegetation, credit shall be given for preservation within the proposed buffer or other required landscaping areas on a one-for-one basis. In limited cases, the Planning Director may ~~shall~~ allow the applicant to count established vegetation located outside of the required planting area towards the landscaping requirement.

### 3. During Development

Properties shall not be clear cut while undertaking development activities. The preservation of the maximum amount of existing vegetation and selective removal of existing trees throughout the site is strongly encouraged during project design and construction. In order to encourage such preservation, the Planning Director may ~~shall~~ count established vegetation preserved during development towards the landscaping requirement (see paragraph C, above) where the percent opacity requirement is met (See Section 7.2.9.B., Buffer Alternatives Table [Required Opacity]).

### 7.1.6. DESIGN OF LANDSCAPING AND BUFFERS

2. Plant material should be chosen from the lists of recommended plant species contained within this Section, and shall adhere to the minimum specifications therein. Plant materials shall be reviewed for variety and suitability with regard to the eventual size and spread, susceptibility to diseases and pests, and appropriateness to existing soil, climate and site conditions.

#### C. ~~Cold Hardy and Drought Tolerant Plants~~

~~Required trees and shrubs shall be cold hardy for the specific location where they are to be planted. Trees and shrubs shall be drought tolerant and able to survive on natural rainfall once established with no loss of health.~~

##### i. Canopy Trees

~~Canopy trees shall be of a species having an average minimum height of 15 feet and a minimum mature crown spread of 20 feet. At the time of planting, the tree shall have a minimum caliper of two inches measured at ~~four~~ 4.5 feet above ground. [Changed from 4 feet to 4.5 feet for consistency – See Section 7.1.3.A.2 at Planning Board's Public Hearing]~~

##### ii. Understory Trees

~~Understory trees shall be of a species having an average minimum height of eight feet and a minimum mature crown spread of 12 feet. At the time of planting, the tree shall have a minimum caliper of two inches measured at ~~four~~ 4.5 feet above ground. [Changed from 4 feet to 4.5 feet for consistency – See Section 7.1.3.A.2 at Planning Board's Public Hearing]~~

**E. Minimum Planting Areas**

1. Canopy trees shall have a planting ~~radius diameter~~ area no less than 40 ~~8~~ feet wide. in all dimensions ~~radius~~. [Changed from radius to diameter at Planning Board's Public Hearing]
2. Understory trees shall have a planting ~~radius diameter~~ area no less than eight feet wide. in all dimensions ~~radius~~. [Changed from radius to diameter at Planning Board's Public Hearing]
3. When planted as a hedge, the maximum spacing for 20-inch high shrubs shall be 40 inches on center.
4. These minimum planting areas requirements may be ~~modified~~ reduced administratively by the Planning Director.

**7.2.8. Street Buffers**

**B. Collector or Thoroughfare Street Buffers**

All development located along either a collector or thoroughfare street shall be required to provide one of the following buffers along the entire street frontage.

1. ~~Three~~ One canopy trees per 100 linear feet of property frontage, located within a twenty-foot landscape buffer; OR
2. ~~Two canopy trees and~~ Two understory trees per 100 linear feet of property frontage, located within a twenty-foot landscape buffer; OR
3. Under utility lines only, ~~four~~ two understory trees per 100 linear feet of property frontage, located within a 20-foot landscape buffer. No trees under utility lines shall have a natural height over 25 feet.

**7.2.9. Project Boundary Buffers**

		ZONING DISTRICT of ADJOINING PROPERTY <sup>1</sup>					
		Rural Low Density Residential	R-7500, R-6000, and SBR-6000	MR-3200 and N-C	C-1	C-LD and RU-I	I-G
ZONING DISTRICT of SUBJECT PROPERTY <sup>1</sup>	Rural Residential	0/0	.2/2	.4/6	.2/8	.2/8	.2/1.0
	R-7500, R-6000, and SBR-6000	.2/2	0/0	.2/4	.2/6	.2/6	.2/1.0
	MR-3200 and N-C (including residential development in the N-C)	.4/6	.2/4	0/0	.2/6	.2/6	.2/1.0
	C-1 (including residential development)	.6/8	.4/6	.4/6	.2/4 <sup>0</sup>	.2/4	.2/1.0
	C-LD and RU-I (including residential development)	.6/8	.4/6	.4/6	.2/4	0/0 <sup>+</sup>	.2/1.0
	I-G	.8/1.0	.8/1.0	.6/1.0	.6/1.0	.4/6	.2/20/0
<b>Note:</b>		<sup>1</sup> When located in the C-LD or RU-I zoning district, the development of commercial projects shall trump the development of residential projects. In the C-LD or RU-I districts, a residential project shall be required to provide a buffer of 0.2 if adjoining vacant property with C-LD or RU-I district zoning, or 0.6 if abutting developed property.					

# [SEE BUFFER ALTERNATIVES TABLE]

## B. Buffer Alternatives

MINIMUM REQUIRED PROJECT BOUNDARY BUFFER				
Buffer Depth and Plants Required Per 100 Linear Feet				
Required Opacity <sup>(1)</sup>	Alternative 1 Plantings	Alternative 2 Plantings	Alternative 3 Plantings + 6-Foot (Height) Fence <sup>(2)</sup>	Alternative 4 Plantings + 6-Foot (Height) Wall <sup>(3)</sup>
0.2	10 feet 1 canopy 1 understory 7 shrubs	10 feet 1 canopy 2 understory 3 shrubs	Not available	Not available
0.4	20 feet 2 canopy 4 understory 25 shrubs	20 feet 2 canopy 6 understory 9 shrubs	Not available	Not available
0.6	30 feet 3 canopy 6 understory 34 shrubs	30 feet 3 canopy 8 understory 13 shrubs	20 feet width 0 canopy 3 understory 3 shrubs	15 feet width 0 canopy 3 understory 3 shrubs
0.8	50 feet 5 canopy 7 understory 43 shrubs	50 feet 4 canopy 10 understory 17 shrubs	35 feet width 0 canopy 5 understory 7 shrubs	25 feet width 0 canopy 5 understory 7 shrubs
1.0	80 feet 5 canopy 8 understory 49 shrubs	80 feet 4 canopy 11 understory 19 shrubs	60 feet width 0 canopy 5 understory 7 shrubs	40 feet width 0 canopy 5 understory 7 shrubs
<p><b>Note:</b></p> <p><sup>(1)</sup> Required Opacity x 100 = % Required Opacity (e.g., .2 times 100 = 20% Required Opacity).</p> <p><sup>(2)</sup> When Alternative 3 is selected, the fence type must be 100% opaque and comprised of either wooden or vinyl material.</p> <p><sup>(3)</sup> When Alternative 4 is selected, the wall must be designed in conformance with Section 6.8.5, Walls, and Section 7.2.10, Walls, Berms, and Fences within Buffers.</p>				

22. In lieu of a project boundary buffer, the Street Buffer applies (see Section 7.2.8, if street is not a CDS1 or CDS2) when both a 1) recorded easement for ingress and egress or a right-of-way exists (whether developed or undeveloped) and 2) a zoning district designation of the adjacent parcel(s) is different than that of the subject parcel (see illustration below).
23. When proposed residential units adjoin an existing bona fide farming activity in a Voluntary Agricultural District, the minimum buffer depth shall be 50 feet, with a minimum opacity of 0.2.

## 7.2.10. Walls, Berms and Fences in Buffers

### A. Walls

- ~~1.~~ All walls, when located within a buffer, shall be planted along the exterior face of the wall with at least one upright shrub for every six feet of linear wall length. These shrubs may be counted towards meeting the opacity requirement for the buffer.
- ~~3-1.~~ A finished side of the wall shall face off site.
2. Where established and/or natural vegetation of which at least 50% of the plantings are of an evergreen species exist along the adjacent property line with the subject property, all required plantings may be located along the interior face (side facing the subject property) of the wall.
3. Where no established and/or natural vegetation of which at least 50% of the plantings are of an evergreen species is present along the adjacent property line with the subject property, the owner/developer has the option of either 1) Providing the required minimum number of plantings to the adjacent property owner(s) for planting at the adjacent property owner(s) discretion along the adjacent property line (Notarized letter signed by the adjacent property owner and witnessed should be submitted with site plan indicating a voluntary agreement between property owner(s) that plantings have been provided in accordance with the Brunswick County Unified Development Ordinance and adjacent property owner(s) will install plantings at his/her discretion) for purposes of buffering from adjacent use(s) and meeting the buffer requirements as prescribed in Section 7; or 2) Opting to plant the required plantings between the exterior of the wall and property line.
- ~~24.~~ Where shrubs are planted adjacent to a wall, in instances where there is no voluntary agreement between both the adjacent property owner(s) and subject property owner(s) regarding the required plantings on the property of the adjacent property owner(s), the minimum distance between the wall and the property line shall be four feet to accommodate plantings between wall and subject property line, and the applicant shall be required to demonstrate provision(s) for access and maintenance of landscaping at the time of landscape approval.
45. The applicant shall be required to demonstrate provision for access and maintenance of landscaping and the wall structure at the time of landscape plan approval.

### B. Fences

- ~~4-1.~~ A finished side of the fence shall face off site and see Note 2 in Buffer Alternatives Table (Section 7.2.9.B.1) for allowed fence types.
- ~~4-2.~~ Fencing shall be between six to ten feet in height. ~~2.~~ No reduction in buffer width shall be provided based on the provision of a fence.
3. Where existing and/or natural vegetation of which at least 50% of the plantings are of an evergreen species exist along the adjacent property line with the subject property all required plantings may be located along the interior face (side facing the subject property) of the fence.
- ~~3-4.~~ If fencing is used, required shrubs shall have a minimum height of three feet at initial planting, and shall be placed along the interior face of the fence (facing the subject property). At least one upright shrub shall be required for every six linear feet of fence length. Where no established and/or natural vegetation of which at least 50% of the plantings are of an evergreen species is present along the adjacent property line with the subject property, the owner/developer has the option of either 1) Providing the required minimum number of plantings to the adjacent property owner(s) for planting at the adjacent property owner(s) discretion along the adjacent property line (Notarized letter signed by the adjacent property owner and witnessed should be submitted with site plan indicating a voluntary agreement between property owner(s) that plantings have been provided in accordance with the Brunswick County Unified Development Ordinance and adjacent property owner(s) will

install plantings at his/her discretion) for purposes of buffering from adjacent use(s) and meeting the buffer requirements as prescribed in Section 7; or 2) Opting to plant the required plantings between the exterior of the fence and property line.

5. In instances where there is no voluntary agreement between the adjacent property owner(s) and subject property owner(s) regarding the required plantings on the property of the adjacent property owner, the minimum distance between the fence and the property line shall be four feet to accommodate planting between fence and subject property line, and the applicant shall be required to demonstrate provision(s) for access and maintenance of landscaping at the time of landscape approval.
6. The applicant shall be required to demonstrate provision for ~~access and~~ maintenance of landscaping ~~and~~ the fence at the time of landscape plan approval.
57. Fences shall be maintained in a structurally safe and attractive condition and with finished faces and plantings located towards the adjoining property.

## TABLED AT PLANNING BOARD'S PUBLIC HEARING

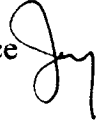
### 4.6 MEASUREMENT AND COMPUTATION

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#### 4.6.2. Height

- A. Height shall be measured from the average of the finished ground level to bearing point the highest point of the roof of structure. No habitable space shall be allowed above the roof structure bearing point.

**INTEROFFICE MEMORANDUM  
PUBLIC UTILITIES DEPARTMENT**

**MEMORANDUM TO:** Marty Lawing  
**FROM:** Jerry W. Pierce   
**DATE:** July 26, 2010  
**SUBJECT:** **Engineering Responsibilities in the Development Review Process**

As a result of the recent meeting with Leslie Bell, Jana Berg, John Nichols, and me to discuss the Unified Development Ordinance and the role that the Engineering Department has in the review of new subdivisions, planned unit developments, multi-family projects, and commercial projects, we have developed the following recommended changes for the Board's consideration. The changes are designed to address deficiencies identified in the procedures and timing that the Engineering staff used in reviewing information submitted to meet the requirements of the UDO. The new procedures are designed to make sure that the developers and engineers meet the requirements of the UDO and that the Planning Board is given timely information to assist them in reviewing and approving development projects. The recommendations will also allow the County to limit its liabilities in the approval of final plats and receipt of financial guarantees for uncompleted required improvements.


**RECOMMENDATIONS**

1. The preapplication process would be formalized and the developer or engineer would meet with all applicable departments at one time. This would allow the developer or engineer to get all requirements at one time and eliminate the potential of conflicting comments from two departments. Preapplication conferences would be held immediately after the Technical Review Committee.
2. After the preapplication conference, the developer or engineer would be required to submit the plans specifications, and calculations for all of the required improvements for their project. The County Departments would review the plans, specifications, and calculations and provide comments to the developer or engineer at the Technical Review Committee meeting. The developer or engineer would be able to clarify any comments received prior to having to address the comments and submit revised plans. This would also eliminate the potential for receiving conflicting comments from two departments.
3. The required improvement plans and specifications must include all offsite improvements needed to make the development meet the UDO requirements.

4. The Engineering Department staff would continue to not review the pavement design and on site drainage for its conformance with NC DOT standards. The design engineer would have to submit a certification to the Engineering Department and Planning Board that all roadways are designed in accordance with minimum NC DOT standards as required by the UDO.
5. All significant comments on the required plans, specifications, and calculations must be resolved before the development is submitted to the Planning Board for approval. The Planning Board would still approve the development subject to resolution of the minor issues and receipt of all required permits.
6. The cost estimate prepared by the engineer for the developer must be based upon the County- approved plans and specifications for the development. The cost estimate must be independently reviewed by Engineering Department staff and written and signed approval of the cost estimate must be submitted to the County Attorney.
7. The Engineering Department staff will review the final plat to make sure that all required easements for water, sewer, drainage and roadways are shown. Any required off site easements must be obtained and recorded prior to approval of the final plat.
8. The Engineering Department must sign the final plat indicating that the plans and specifications for the required improvements have been reviewed and approved. The approved plans and specifications will be stamped and signed by all reviewing departments and any significant amendments to the approved plans must be submitted and reviewed by applicable departments.
9. The County Attorney will establish criteria for bonding companies and the maximum limit that they are allowed to bond based upon Federal guidelines.
10. After final plat approval and receipt of a financial guarantee in conformance with the UDO requirements, developer would be able to sell lots in their development.
11. During construction, the developer would be allowed to reduce their financial guarantee on a quarterly basis. The engineer for the developer must submit a cost estimate indicating the cost to complete the remaining work.
12. Upon completion of the required improvements in the development, the design engineer would have to certify that all roads and onsite drainage have been constructed in conformance with the minimum NC DOT standards.

All of the recommendations except for the bonding company guidelines do not require amendments to the UDO. If approved the existing checklist would be revised to reflect the new procedures and information about the changes would be provided to the developers. The goals of these changes are to reduce the liability of the County and to assure that the development approved by the Planning Board meet the UDO requirements.

**INTEROFFICE MEMORANDUM  
PUBLIC UTILITIES DEPARTMENT**

**MEMORANDUM TO:** Marty Lawing  
**FROM:** Jerry W. Pierce   
**DATE:** July 26, 2010  
**SUBJECT:** **Replacement of Director of Engineering**

With the retirement of Jeff Phillips as Director of Engineering Services, the County has the option to make changes to the County's Departmental Structure.

**OPTION 1 CONTINUE AS STAND-ALONE DEPARTMENT**

Under this option, the Engineering Department would continue as a stand-alone department and the Director of Engineering Services would report directly to the County Manager. The duties of the staff would remain as they are with implementation of the proposed recommendations.

**OPTION 2 OPERATE AS A DIVISION WITHIN THE UTILITIES DEPARTMENT**

Under this option, the Engineering Department would become the Engineering Division within the Public Utilities Department. The person hired to replace Jeff would be a Division Director within the Public Utilities Department and report to the Director of Public Utilities. The duties of the staff would remain as they are with implementation of the proposed recommendations. The current staff would be relocated to the Public Utilities Operations Center. Drainage-related responsibilities could remain in Engineering or be shifted to Operation Services or Planning.

The job description for the position would be slightly different depending on the option selected. The director of a stand-alone department would need more management experience and a broader range of civil engineering experiences. The director of an Engineering Division within Public Utilities would need more water and sewer engineering experience.