

**JOHNSTON COUNTY**  
LAND DEVELOPMENT  
DESIGN MANUAL





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## LIST OF REVISIONS

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## **INTRODUCTION**

### **A. PURPOSE**

These standards are meant to interpret, clarify, and provide supplement information regarding the Zoning Ordinance; Subdivision Ordinance; and other ordinances, guidelines and policies of Johnston County related to the development of land.

The County's land use goals and objectives emphasize the existing character of the County's various areas and neighborhoods; strives to maintain safety, welfare, and quality of life for its residents and patrons. The Zoning and Subdivision Ordinances deal with specific concepts such as types of use, development densities, infrastructure requirements and the like.

Specific design criteria set forth herein, provide a ready reference of those practices and techniques acceptable to the County. We also encourage design professionals to consider site characteristics closely in their design and to seek new and better practices and techniques for complying with County development policies and regulations. If, in response to the characteristics of a particular site, innovative practices, and/or technological changes, a designer can make a valid case for application of standards that modify or substitute for the design standards contained herein, he or she is encouraged to do so, where alternative standards can be shown to conform with applicable policies and regulations.

### **B. COMPLIANCE**

Compliance with these standards shall be required at the time property is developed or whenever an increase in the intensity or change of use is created as determined by the Planning Director.

The following shall be exempted from these requirements:

- a) Any development or detailed plan pursuant to an approved Special Use Permit, Site Plan, or other Land Use Permit in which no expansion or change of use has occurred since adoption of this manual;
- b) Any development that, in the opinion of the Planning Director, does not significantly affect traffic, circulation, drainage, relationship of buildings to each other, landscaping, buffering, or lighting, or
- c) Bona Fide Farm and Agricultural uses.

The Planning Director may exempt modifications to existing developments from individual provisions of these standards where, in the opinion of the Planning Director, compliance with those provisions would create a practical hardship upon the property and where the modification does not increase the nonconformity.

The Design Manual, its specifications, and details, will be updated as necessary, and corrected pages will be available from the Johnston County Planning Department. Major changes to the Design Manual will be made only after public notification and review, and approval by the Planning Board or Board of County Commissioners, where appropriate.





## **SECTION 1 - ACCESS AND CIRCULATION**

### **A. INTENT**

The intent of the Section is to provide guidelines for driveway(s), road(s), rights-of-way and easements; to insure orderly design of current and future developments. Development in pursuit of this Section shall comply with all applicable County and State regulations.

### **B. DEFINITIONS**

Easement: an entitlement for ingress and egress for the purpose of accessing real property.

Single ownership: owned by an individual or party/group.

Access way: a street public/private or an easement public/private.

### **C. REQUIRED ACCESS**

All development shall be located on a lot that has vehicular access that abuts or has easement access to a street that is approved by the County as being in compliance with County standards and/or is currently maintained by the State of North Carolina (NCDOT). All commercial development shall have direct access to public/private right-of-way.

Nothing in the above definition of access shall be deemed to preclude the County's authority to require improvement of substandard access ways to applicable standards.

### **D. GENERAL STANDARDS**

1) Relationship to County Plans: Streets shall be arranged, designed and located in conformance with County, and State transportation plans and development policies, such as the Western Johnston County Comprehensive Transportation Plan (CTP).

2) Relationship to Adjoining Properties: New streets shall be appropriately related to and coordinated with existing and proposed roadways, transportation patterns and adjoining properties where a compelling public need is deemed necessary for orderly development of these adjoining properties. Roadways shall connect where necessary to permit the convenient, efficient and safe movement of traffic. Local streets shall be designed to minimize their use by major through traffic.

The proposed subdivision will be looked at in an area-wide context to determine the feasibility of an overall road network system for the specific area around the proposed subdivision. The following general criteria shall be used in considering when streets may be connected to adjoining properties:

- a) Local streets shall be designed to discourage their use by major through traffic. Specifically, the function of a local street is to interconnect neighborhoods and provide additional means of access within a general area.
- b) The interconnecting street shall not be located where the immediate extension of the street would be impeded by such natural/physical conditions as to inhibit future use.

All roadways that extend to adjoining properties shall be designated as public/private roads. All street extensions shall be constructed to the property/phase boundary and designed as not to create a "spite strip". The Planning Director may determine that such natural/ physical conditions exist as to limit construction of the street and require only dedication of right-of-way to the property/phase boundary. However, no street can be extended until the street is petitioned for NCDOT State Road Maintenance or a Private Road Maintenance Agreement is recorded.

If the scale of new improvements is small in relation to the amount of surrounding existing development, new improvements should be designed to blend with existing conditions wherever possible unless existing improvements are inadequate.

3) Relationship to Arterial or Collector Roads: Where a development is proposed adjacent to an arterial or collector road, left-turn storage or right-turn deceleration lanes may be required according to NCDOT standards.

Where a development is proposed adjacent to an arterial or collector road that has an inadequate right-of-way, the property owner shall dedicate such right-of-way along his property as is necessary to bring the right-of-way up to standard, as



determined by the CTP. (Note: In most circumstances, it is customary that along the subject property, one-half of the total right-of-way width, measured from the center line, is required for meeting this standard).

4) Arrangement of Streets: Principal vehicular access points to the development shall be designed to encourage smooth traffic flow and minimize hazards to vehicular traffic, pedestrian and bicycle traffic. Accommodation of controlled turning movements into and out of the development and improvement of the approach street should be considered.

Safe and convenient vehicular access and traffic flow shall be provided for emergency, school bus and service vehicles.

Subdivisions located on an arterial or collector road, shall be designed so that no subdivided lot shall have a direct driveway access onto an arterial or collector street unless it can be demonstrated that the proposed subdivision cannot be feasibly designed, or that no reasonable alternative exists, to prohibit direct driveway access onto an arterial or collector road.

5) Roadway Design: The arrangement, character, extent, width, grade and location of all roadways should be designed in relation to existing and proposed transportation patterns, topographical and other natural features, public convenience and safety, proposed uses of lands to be served by such roadways, and existing or potential uses in adjoining areas.

6) Horizontal Alignment: Streets should be designed to provide long curves and to avoid sharp curves at the end(s) of straight sections or flat curves. Compound curves and "S" curves should be avoided.

7) Intersections: Intersections of streets should be designed to minimize the number of potential conflicts among vehicular movements; give preference to the heaviest and fastest traffic flows; coordinate the location and alignment of roadways and/or driveways on opposite sides of the intersected street; discourage dangerous vehicular movements; avoid multiple and compound merging and diverging maneuvers; and provide adequate sight distances.

Intersections shall be designed as follows:

- a) All roads should intersect at right angles whenever possible. However, no road shall intersect another at an angle of less than sixty (60) degrees. Other arrangements may be approved only if they will reduce traffic hazards and provide smooth traffic flow at an intersection;
- b) When a centerline offset occurs at an intersection, the distance between the centerlines of intersecting roads shall not be less than five hundred (500) feet, unless it can be shown that no possible alternative or that no public benefit exist.

8) Sight Line Triangles at Intersections: Sight line triangles at intersections should be designed to assure adequate visibility for vehicles using the intersection. Signs, trees, shrubs, fences, etc. should not interfere with these sight lines. The property owner shall indicate sight lines on site plans and/or subdivision plats, and dedicate sight line easements as necessary.

9) Dead End Streets: Streets designed to be permanently dead-ended shall terminate in a turnaround of adequate size to accommodate vehicles expected to use the street. Streets designed to be dead-ended temporarily (such as where a street is extended to an adjoining property, or where a subsequent phase of development will not be built within three years), can terminate in a temporary turnaround consistent with NCDOT standards.

*NOTE: All improvements proposed within a public right-of-way must be approved by NCDOT.*

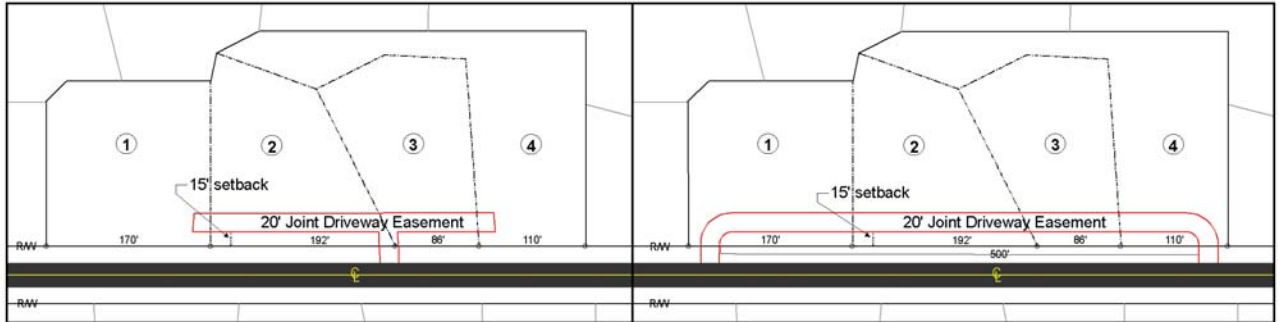
10) Driveways: Any driveway connection, commercial or residential, to a state maintained street shall apply for a driveway permit with NCDOT.

- a) Commercial Driveways: All commercial drives shall meet all County and State requirements, to include the NC Fire Code design requirements. The following shall apply:
  - (1) Minimum width of drive shall be 20 feet.
  - (2) The driveway apron shall be improved to meet NCDOT Standards.
  - (3) The drive shall have a driving surface capable of supporting the imposed load of a fire apparatus weighing at least 75,000 pounds.
  - (4) An updated driveway permit shall be required for any change of use.
- b) Residential Driveways: The following shall apply:
  - (1) Minimum width of an individual residential driveway shall be 16 feet.
  - (2) Minimum width of a joint residential driveway shall be 20 feet.
  - (3) Joint residential driveways shall have a 15 foot setback from the right-of-way as the drive traverses a lot.
  - (4) Corner lots shall not have a driveway located within fifty (50) feet of a street intersection.





- (5) For Major Subdivisions:
- i. Subdivision lots shall not have direct driveway access onto an Arterial or Collector road unless it can be demonstrated that the proposed subdivision cannot be feasibly designed, or that no reasonable alternative exists, to prohibit direct driveway access onto an Arterial or Collector road.
  - ii. Subdivision lots located along local roads shall be so designed that there shall be no more than one driveway connection per 500 feet along the same side of the road, unless the subdivision cannot be physically designed, or no reasonable alternative exist.



## E. PUBLIC & PRIVATE RIGHTS-OF-WAY

1) Public Rights-of-Way: Public rights-of-way are streets and roads located within publicly dedicated rights-of-way which may/may not be currently accepted for maintenance by the NCDOT. Public rights-of-way shall be petitioned for state maintenance, these rights-of-way will not be accepted for state maintenance unless they meet all applicable state standards.

Designation of any road on a plat as public shall be conclusively presumed to be an offer of dedication to the public. Public roads shall be dedicated to the property line, no “spite strip” shall be allowed.

2) Private Rights-of-Way: Private rights-of-way are streets and roads within privately dedicated rights-of-way, which shall meet all applicable state road design and construction standards. Provision for their continued maintenance shall be recorded with the County Register of Deeds in a legally valid and binding instrument that describes the method of maintenance, whom will be responsible for maintenance, and the properties which the private road serves. It shall contain a provision that at any such time that the private road way is no longer maintained to applicable standards, NCDOT, upon petition, may provide such maintenance.

## F. EASEMENTS

1) Easement: An easement, as applied to this Section, is defined as an entitlement for ingress and egress for the purpose of accessing real property. Maintenance shall be the joint responsibility of property owners accessing the easement.

2) Design of Easements: Easements may be created/extended for the purpose of new development. The following shall apply:

- a) Minimum width of any easement shall be 20 feet
- b) Recommended width of an easement is be 30-50 feet
- c) It is recommended that easements be designed as to allow for dedication to right-of-way for future development.

3) Easements as part of a Major Subdivision: Where developments propose the creations of lots to access easements the following design guidelines shall apply:

- a) Road Front Lots: Lots created along existing Local roads shall have driveways no less than 500 feet apart. If a driveway is used to access more the one lot then a minimum 20 foot joint driveway easement shall be required. The easement shall be no closer than 15 feet to the right-of-way, as it traverses any lot. The Planning Board may waive the 500 foot distance based on the hardships listed in the LDC.
- b) 1-3 Lots: Developments creating 1-3 lots, from a parent tract(s), along a new or existing easement, the easements shall meet the design requirements of this Section. Where situations exist with several existing dwelling units accessing the



easement, the easement may need to be improved. This may include the dedication to a right-of-way, and petition for state maintenance.

- c) 4 (+) Lots: Developments creating 4 or more lots:
- (1) Where no easement exists, and where the parent tract(s) have direct road frontage, an easement shall not be allowed. The development must dedicate a right-of-way meeting the requirements of this Section.
  - (2) Where a development is created along an existing easement, in which the easement is in single ownership, the easement shall be dedicated as a right-of-way meeting the requirements of this Section.
  - (3) Where a development is created along an easement, in which the easement is in multiple ownerships, the developer shall evaluate improving the easement to meet the right-of-way requirements of this Section, prior to submittal.
  - (4) A waiver may be allowed if determined by the Planning Board that, in pursuit of this Section, a hardship is created upon the property that provides no benefit to the safety, welfare, and quality of life of the public.

4) Compliance: Compliance with these standards shall involve the recordation of a plat. Where situations exist in which adjacent property owner(s) will not allow for the expansion of an easement, or dedication to right-of-way, the Planning Board/Planning Director may allow the continuance of development. The applicant must provide notarized documentation, specific to the procedures taken, that all possible measures have resulted in failure to receive the additional rights as required by this Section.

## **G. STRUCTURAL STANDARDS**

- 1) Public Streets: All streets shall be constructed in conformance with NCDOT standards and regulations.
- 2) Private Roads: All private roads shall meet the following standards:
  - a) The width of the right-of-way of a private road shall be fifty (50) feet. Additional width may be required as necessary for drainage, grading activity, or installation and service of utilities. The driving surface shall have a width of at least eighteen (18) feet in width and conform to County and NCDOT design standards.
  - b) Unpaved Private Roads shall only be allowed for developments created through the Minor Subdivision Regulations, and meet the following:
    - (1) Roads shall be constructed to meet design and sub-base standards as set by NCDOT, including proper storm drainage facilities, and a driving surface of 18 feet and constructed of a minimum of 4" stone base-compacted;
    - (2) Have a letter of certification by a N.C. Professional Engineer that the road meets NCDOT standards;
    - (3) A Home Owners Association, or a private road maintenance agreement, must be established for the maintenance of the road;
    - (4) Unpaved private roads shall be limited to non-through roads.
  - c) All paved private roads shall meet the Minimum Design Criteria for local subdivision roads as required by NCDOT Subdivision Roads Minimum Construction Standards Manual. Storm drainage pipes must be sized to pass a 10-year flood without flowing over the road.
  - d) The design, location and improvement of private roads shall provide for safe intersection with a public road, allow safe passage of emergency, school bus and service vehicles.
- 3) Completion of Streets: The developer shall complete all street improvements prior to recordation of the development. A performance guarantee and description thereof, including sufficient means and procedures, to ensure satisfactory completion of any uncompleted improvements shall be required.

## **H. TRAFFIC CONTROL DEVICES**

Where warranted to ensure motorist, pedestrian safety, and/or to control traffic, traffic signals, signs and markings shall be provided in accord with the standards set forth in the manual of Uniform Traffic Control Devices for Streets and Highways. Installation of all traffic control devices shall be approved by NCDOT.

## **I. EXTENSION AND COMPLETION OF ACCESS WAYS**

- 1) Extension to Boundaries: Streets that are to be extended onto adjacent properties or into subsequent approved phases(s) of a single development shall be constructed to the common property line or phase boundary. Where necessary to facilitate traffic flow or accommodate emergency vehicles, a temporary turnaround shall be required at the end of a street pending its



extension. No extension of a public street can be made until existing sections are petitioned for state road maintenance. All extensions of private roads shall require a Private Road Maintenance Agreement.

*NOTE: The turnaround can be placed immediately inside of the next development phase so that no part of the turnaround will be on a recorded lot of the immediate phase of development.*

2) **Improvement of Substandard Access Ways:** Where a development impacts, abuts, or contains an existing street that provides the required access but does not meet the standards contained herein, improvement(s) of such access way to applicable standards may be required if the development is expected to increase traffic volume and/or affect the capacity of the existing facility. This may involve improvement of the access way off-site. Partial width access ways shall be prohibited and abutting existing partial width access ways shall be completed to applicable standards.

## **J. STREET CLASSIFICATIONS**

Classifications regarding existing streets are referenced in Appendix V - Street Classifications.

1) **Street Classifications:** All Streets in Johnston County's jurisdiction are classified primarily by their functional and/or operational characteristics within Johnston County, rather than by specific geometric criteria. The relationship between functional street classifications is a continuous one, without specific clear-cut boundaries. Streets are classified by the Planning Director based on technical judgment and observed function of the street.

The three street classifications for Johnston County are:

- a) **Arterial:** Arterial streets function primarily to serve through-traffic movement. Limited land-access service may be accommodated. Traffic controls and street design are intended to provide efficient through-traffic movement. All U.S. and some N.C. numbered highways are examples of arterial streets.
- b) **Collector:** Collector streets penetrate areas, neighborhoods, public service areas, and districts. They are intended to provide both through-traffic and land-access services in relatively equal proportions, often linking the local street system to the arterial street system. Examples of a collector street include some N.C. and S.R. numbered streets.
- c) **Local:** Local streets primarily serve land-access functions. They are intended to accommodate land parcel ingress and egress. Through-traffic movement is difficult and discouraged by traffic controls and street design. Examples of a local street include streets internal to subdivisions and rural areas.

## **SECTION 2- PARKING AND OFF-STREET LOADING**

### **A. INTENT**

The intent of this Section is to provide guidance on the design of parking for development, to include a change in use or intensity of an existing use/development.

### **B. DEFINITIONS**

**Driveway:** shall mean any access point to a street or road.

**Floor Area:** shall mean the gross floor area of all above and below ground floors.

**Sales Floor Area:** shall mean the gross floor area in which goods are displayed for sell and area of use by the public, or area of uses other than storage.

### **C. PROVIDING OFF-STREET PARKING AND LOADING**

Off-Street parking areas shall be provided for all uses of land, structures, and buildings as well as for any expansion of such uses or increases in intensity of uses in accord with the requirements of this Section.

Where appropriate, an off-street loading space shall be provided for all retail business, wholesale, and industrial uses as well as for any expansion of such uses or change in use requiring the regular delivery or shipping of goods, merchandise or equipment to site by semi-trailer trucks, in accord with the requirements of this Section.



In the case of developments containing a mix of uses, the total requirements for off-street parking or loading space can be the sum of the requirements for the various uses computed separately. Off-street parking requirements may be reduced if uses, located on the same site, can utilize the same parking spaces during different times. (For example, a theater that uses spaces at night could share spaces with a store that spaces during the day.)

#### **D. METHODS OF PROVIDING PARKING AND LOADING SPACES**

All parking or loading spaces shall be located on the same zoning lot as the principal use(s) it serves, except as provided below.

In lieu of actual construction of required on-site parking spaces, all or any portion of the off-street parking may be provided by the following means:

- 1) Off-site Parking: Required parking for a use on a zoning lot may be located on another zoning lot, either by itself or combined with the parking for other uses, subject to certification by the Planning Director that the following requirements have been met:
  - a) The use being served by the off-site parking shall be a permitted principal use in the zoning district within which the zoning lot is containing such parking is located;
  - b) The off-street parking spaces shall be located within five hundred (500) feet walking distance of a public entrance to the structure or land area containing the use for which such spaces are required. A safe, direct, attractive, lighted and convenient pedestrian route shall exist or be provided between off-street parking and the use being served; and,
  - c) The continued availability of off-site parking spaces necessary to meet the requirements of this Section shall be ensured by an appropriate restriction on the title to the land providing the off-street parking spaces, in the form of a declaration, covenant, or contract.
  
- 2) Combined Parking: Up to one-half (½) of the parking spaces required for any one use may be used to satisfy the parking requirements of a second use on the same zoning lot, subject to certification by the Planning Director that such joint use of parking spaces complies with the following provisions:
  - a) The peak usage of the parking facility by one use will be at night, or on Sundays (such as with theaters, assembly halls, or places of worship), and the peak usage of the parking facility by the second use will be at other times; or
  - b) The second use is an ancillary use to the first use, such as restaurants and meeting rooms to hotels and motels.

#### **E. USE OF REQUIRED PARKING AND LOADING SPACES USE**

Required parking areas shall be available for the parking of operable vehicles of residents, customers, and employees, and shall not be used for the storage of vehicles or materials, or for the parking of vehicles used for loading or unloading, or in conducting the use.

Required loading spaces shall be available for the loading and unloading of vehicles, and shall not be used for the storage of vehicles and materials, or to meet off-street parking requirements, or in conducting the use.

#### **F. PARKING DESIGN STANDARDS**

- 1) All parking areas (except for single or two-family dwellings) shall meet the following minimum design requirements:
  - a) All driveway and parking areas shall be designed to meet all applicable NC Fire and Building Codes and Statutes. Which shall include the following:
    - (1) All driveways, drive aisles and fire lanes shall meet minimum design criteria for aisle widths, turn radius and load weight capacities as established by NC Fire Code and Building Code for accessibility.
  - b) Ingress and egress for parking areas shall conform to County and NCDOT design standards.
  - c) All parking spaces and maneuvering space shall be surfaced with an all-weather material, which shall be maintained in a safe, sanitary, and neat condition.
  - d) The driveway apron within NCDOT right-of-way shall be improved and surfaced in accordance with NCDOT standards.
  - e) No parking area or maneuvering space shall be located within a public right-of-way. Parked vehicles in off-street parking spaces shall be prevented from intruding onto travel lanes, walkways, public streets, or adjacent properties by means of walls, curbs, wheel stops, or other appropriate means.
  - f) Each parking area shall be arranged so that any vehicle may be parked and unparked without moving another vehicle.



- g) Parking areas shall be provided with adequate aisles or turnaround areas so that all vehicles may enter streets in a forward manner.
- h) The size of parking spaces shall be a minimum 9' by 18', or 8' x 22' for parallel spaces, and shall be adequate for the safe parking of vehicles and maneuvering space shall be provided so that parking and unparking can be accomplished in one continuous maneuver.
- i) All ground level parking areas, accessory to the use, shall be setback the depth of the required landscape buffer depth found in the landscaping standards. The Planning Director may allow for some modification on parking setbacks due to shared facilities for parking, stormwater or other such situations.
- j) A parking structure, accessory to the use, shall be setback the minimum building setback. A parking structure shall not exceed the maximum building height of the district.
- k) All parking facilities, which parking is the principal use, shall be setback the minimum building setback for the district. A parking structure shall not exceed the maximum building height of the district.
- l) Landscaped islands shall be required at the ends of or between parking aisles where necessary for traffic control or drainage control.
- m) Parking areas that accommodate fifty (50) or more vehicles shall provide landscaped islands. (see Parking Area Landscape Standards in this Section)
- n) Parking areas shall be design to interconnect with parking areas on adjacent zoning lots where appropriate to eliminate the need to use the abutting street(s) for cross movements.
- o) All off-street parking facilities shall be provided with a drainage system meeting the County Stormwater Management Standards.
- p) Parking facilities designed to accommodate twenty-five (25) or more vehicles shall provide, as part of the required number of parking spaces, one handicapped parking space for every fifty (50) standard parking spaces, or major fraction thereof. Such spaces shall meet all applicable standards as set for by NC Building Code for accessibility.
- q) Parking areas greater than 1,499 spaces shall submit for a NC Air Quality Permit.
- r) Parking areas greater than 750 spaces shall design parking areas with landscape islands, as to prevent a motorist from traversing the parking area without the use of a designed drive aisle.

2) Parking Areas Landscape Standards: It is the intent of this subsection to protect and promote the public health, safety, and general welfare by requiring the landscaping of parking areas which will serve to reduce radiant heat from parking surfaces, to reduce wind and air turbulence, to reduce noise, to reduce the glare of automobile lights, to ameliorate stormwater drainage problems, and to protect and preserve the appearance, character and value of adjacent properties.

Except for single or two-family dwellings, all parking areas, unless located entirely underground, shall meet the following minimum landscaping requirements:

- a) Ground level parking areas shall be setback the depth of the required landscape buffer from adjacent streets and/or adjacent properties The Planning Director may approve some modification on parking setbacks between commercial developments due to shared parking, stormwater or other such situations.
- b) Parking areas that accommodate fifty (50) or more vehicles shall provide landscaped islands within the parking lot to be landscaped in accord with County landscape standards. (see Section 6 for requirements)
- c) When providing the landscaping required above, the retention of existing significant vegetation shall be encouraged.
- d) 1 large tree and 4 shrubs per 2000 sf of parking area shall be included in the landscape plan within a landscape island or 10' of the parking area edge. (see Section 6 for requirements)



## G. MINIMUM OFF-STREET PARKING SPACE REQUIREMENTS

The following minimum parking requirements are provided as a general guide to complement the parking requirements as set forth in the County Zoning Ordinance.

<u>Use</u>	<u>Parking Spaces</u>	<u>Use</u>	<u>Parking Spaces</u>
Bank	1 per 350 sf.	Recreation Facilities (public/private)	
Business - Retail/General	1 per 250 sf. sales floor area	Indoor	1 per 200 sf. floor area
Business - Restaurant	1 per 4 seats	Outdoor – Play Fields	50 per field
Business - Office Type	1 per 350 sf. floor area	Outdoor – Play Courts	4 per court
Business - Sales/Rental	1 per 500 sf. enclosed exhibit / sales area	Outdoor - Other	5 spaces per use
Group Care Facility	1 per 2 beds	Residential - Single Fam.	2 per unit
Health Clinic	1 per 250 sf. floor area	Residential - Duplex	2 per unit
Hotel/Motel	1.5 per lodging unit	Residential - Multi-Fam.	
Hotel/Motel w/ Restaurant	1.5 per lodging unit, plus 1 per 5 seats in restaurant	2 or less bedrooms	1.5 per unit
Maintenance/Storage Facility	1 per 2 employees (largest shift)	3 or more bedrooms	2 per unit
Manufacturing/Industrial	1 per 2 employees (largest shift)	Residential - Mobile Home Park	1 per unit
Parking, as principle use	50 space minimum	Residential - Recreation Facility	
Personal Services	1 per 250 sf. floor area	Pool House Only	1 per 300 sf. pool/apron area
Place of Worship	1 per 4 seats in sanctuary	Exercise/Athletic Club	1 per 250 sf. floor area
Public Use Facility	1 per 350 sf. floor area	Play Fields/Courts	3 per play area (field, court, playground)
Research Activities	1 per 350 sf. floor area	Residential Support Facility	1 per 500 sf. of floor area
		School – Elementary/Middle	1 per staff member
		School - High	1 per 4 students

Where situations exist that the use is not listed in the categories above, or the minimum required parking does not enhance the use of the development, the minimum parking space requirement may be determined by the Planning Director. In making such determinations, the Planning Director shall be guided by the requirements for similar uses, the number and kind of vehicles likely to be attracted to the use, and studies and references of minimum parking space requirements for such use in other jurisdictions.

## H. LOADING SPACE DESIGN STANDARDS

All loading spaces, where required, shall meet the following minimum design requirements:

- 1) Off-street loading spaces shall be located and arranged so that a semi-trailer truck (WB 40 class) shall be able to gain access to and use such spaces by means of one continuous parking maneuver.
- 2) Loading spaces shall observe the minimum street and interior setbacks established for structures in the County Zoning Ordinance.
- 3) All loading space and maneuvering space shall be surfaced with an all-weather material, which shall be maintained in a safe, sanitary, and neat condition.
- 4) No loading space shall be located so that a vehicle using such space intrudes on travel lanes, walkways, public or private streets, or adjacent properties.



- 5) Each required off-street loading space shall have a minimum width of twelve (12) feet, a minimum depth of fifty-five (55) feet, and a vertical clearance of fourteen (14) feet above finished grade of the space.
- 6) Loading spaces shall be screened from adjacent streets and adjacent residential properties by an effective screening device at least six (6) feet in height above the finished grade of the loading space. Appropriate screening devices may include solid walls, fences, earth berms, tight evergreen hedges, or any combination of the above.

**I. MINIMUM OFF-STREET LOADING REQUIREMENTS**

The following minimum loading space requirements shall apply when appropriate:

Use	Loading Spaces
Business – Retail/general, Sales/Rental	1 per 10,000 - 29,999 sf. floor area
	2 per 30,000(+) sf. floor area
Industrial uses	1 per 10,000 sf. floor area, may limit to 3 spaces

**SECTION 3 - TRAFFIC IMPACT ANALYSIS GUIDELINES**

**A. INTENT**

The intent of this Section is to provide specific guidelines for the completion of a Traffic Impact Analysis (TIA).

**B. STANDARDS**

- 1) Prior to beginning a TIA, the preparer must meet with Planning staff to determine the scope of the analysis including the appropriate intersections to study, surrounding factors and future developments to consider, proposed NCDOT road projects and any other concerns which may need to be addressed.
- 2) An executive summary shall be provided with the TIA noting the following:
  - a) Name of Development and township location,
  - b) Property owner and developer names,
  - c) Description of uses proposed,
  - d) Number of lots proposed,
  - e) Number of access points proposed and studied,
  - f) Intersections and streets studied,
  - g) Existing traffic count for road(s) and intersection(s) studied and dates/times counts were conducted,
  - h) Existing and future Level of Service for studied intersections,
  - i) AM and PM Peak Hour Trips,
  - j) Average Daily Trips created by the development at build-out,
  - k) Existing Traffic Accident Counts, and
  - l) Any recommended improvements.
- 3) Studied roads and intersections shall be determined based on 10% contribution by the development to the total traffic counts.
- 4) Studied road segments, intersections, and development access points shall be evaluated based on current traffic counts, projected traffic generated by the development at time of build-out, projected background traffic at time of build-out, and projected traffic counts two years beyond build-out.
- 5) The TIA shall take into account the existing background traffic and growth of such traffic at time of build-out and two years beyond build-out with an annual background traffic growth rate based on townships as follows:
  - a) Clayton, Cleveland, Pleasant Grove, Wilders: 9% annual growth rate.
  - b) Banner, Beulah, Elevation, Ingrams, Micro, O’Neals, Pine Level, Selma, Smithfield, Wilson Mills: 5% annual growth rate
  - c) Bentonville, Boon Hill, Meadow: 3% annual growth rate



- 6) Traffic counts no older than one year must be provided for all studied intersections, road segments, and development access points and shall be based on the AM and PM peak hour.
- 7) Number of Daily Trips generated by the proposed development along with AM and PM peak hour trips shall be evaluated by the TIA.
- 8) Studied intersections shall be evaluated based on AM and PM peak hour traffic with Level of Service provided at time of build-out and two years beyond build-out.
- 9) Provide trip distribution for access points and studied intersections.
- 10) TIA shall evaluate sight distances at all proposed access points based on the existing speed limit.
- 11) Evaluate the offset of the proposed access points with existing driveways or streets to ensure the reduction of conflicting movements.
- 12) Traffic accident counts for studied intersections and road segments shall be evaluated based on the latest records obtained from NCDOT, local law enforcement, and/or the Highway Patrol Office.
- 13) TIA shall take into consideration proposed/planned NCDOT roadway improvement projects, future County Thoroughfare Plan recommendations, and proposed development projects potentially affecting the road network and traffic generation.
- 14) Recommended improvements within the TIA shall take into account the County's *Improvement Requirements* listed in Section 14-366(5) of the Land Development Code. Additional recommended improvements not addressed in the Land Development Code shall be provided to ensure that all the Guidelines within this Section have been addressed.

## **SECTION 4 - STORMWATER MANAGEMENT**

For the minimum design criteria and standards to address the requirements of the Johnston County Stormwater Management Ordinance, please refer to the Johnston County Stormwater Design Manual. Copies of this manual are available at the Johnston County Department of Public Utilities.

## **SECTION 5 - UTILITIES AND EASEMENTS**

### **A. WATER AND SEWER SYSTEMS**

1) Water and Sewer Systems-General: Water and/or sewer service shall be provided in accordance with *Johnston County's Water and Sewer Policies*. If a water or sewer system is to be installed in a development in the County's jurisdiction, two complete sets of construction plans must be provided to the Johnston County Department of Utilities for the proposed system. The plans shall be prepared by a registered professional engineer and shall meet the County's utility standards and the requirements of North Carolina Department of Environment and Natural Resources (NCDENR) Division of Environmental Health - Public Water Supply and Division of Water Quality. The plans shall be approved by the Director of Utilities and Engineering after being submitted for review and recommendation. Installation of the system in accordance with the approved plans and specifications shall be certified to the County by the registered engineer retained by the developer or owner. The engineer shall provide detailed as-built drawings with the system certification.

**Water and sewer utility plans, details, and specifications shall be in accordance with the Johnston County Water Distribution and Wastewater Collection Design and Construction Standards.**

*NOTE: Copies of the Johnston County Water Distribution and Sewer Collection Design and Construction Standards are available at the County's Department of Utilities or on the County's website.*





2) Sewage Collection System: A sanitary sewage collection system, together with all necessary interceptors, pumping stations and appurtenances, that are provided to serve all parcels of a subdivision or principal building(s) of the development shall be designed to accommodate all reasonably anticipated future construction and occupancies. The collection system shall conduct the sewage in sewers of adequate capacity to an approved treatment facility.

Upsizing of mains, special main extensions and upsizing of pumping stations to accommodate off-site or future development shall be funded by the County or a reimbursement agreement shall be negotiated between the County and the developer.

- a) Provisions for Future Service Areas: Where adjacent property is in the same drainage basin as the property being developed, lines with the potential to be used by adjacent properties shall be designed to accommodate development of other properties in the same drainage basin. Easements or other rights-of-way should be consistent with the potential needs for future extensions as well as the project under consideration.
- b) Design and Construction Standards: The sewage collection system shall conform to all requirements and standards of Johnston County Utilities and State regulatory agencies, unless more stringent standards are provide herein.

3) Water Distribution System: A water distribution system, providing potable water from an approved supply source, that are provided to all parcels of a subdivision or principal building(s) of the development shall be designed to accommodate all reasonably anticipated construction and occupancies. The pipes shall be sized to provide fire protection and an adequate supply of domestic water for all reasonably anticipated construction and occupancies.

- a) Provisions for Future Service Areas: In developments that connect to an existing public water line, developers may be required to install additional linear footage of water mains and/or larger sized mains to provide for public water service to property owners outside the project under consideration. Easements and rights-of-way should be provided for lines installed by the developer and provisions shall be available for extensions to other adjacent properties.

Upsized mains and special main extensions required for offsite or future development shall be funded by the County or a reimbursement agreement shall be negotiated between the developer and the County.

- b) Design and Construction Standards: The water distribution system shall conform to all requirements and minimum standards of the applicable County and State regulatory agencies, unless more stringent standards are established herein.

Piping systems shall be designed to meet peak domestic, commercial or industrial demands and provide a minimum residual pressure of at least 30 psi.

All intersections of lines shall be adequately valved as determined by the County.

The piping system design for fire protection shall provide a minimum residual pressure of at least 20 psi when fire flow is withdrawn from any hydrant.

Final determination of required fire flow rate(s) will be determined by the County Fire Marshall based on size, type, location, use, etc. of each proposed development, but shall not be less than 500 gpm.

If the developer cannot obtain these flows from the existing systems, it is his responsibility, where feasible and consistent with the County's Fire Flow Policy, to make improvements to the system, with County approval, as necessary to comply with County fire flow requirements.

Fire hydrants shall be placed on lines six inches (6") or larger in diameter unless approved otherwise by the Johnston County Director of Utilities and Engineering. They shall also be spaced so that the furthest portion of all principal buildings, divisions, thereof of dwelling unit therein, and all building areas of residential development parcels are within five hundred feet (500'), as a fire hose would normally be deployed, of a hydrant. Fire hydrants shall be spaced for commercial development in accordance with direction from the Johnston County Fire Marshall.

Fire hydrants shall be located on loop main line systems with two (2) sources of flow when reasonably possible as determined by the Director of Utilities and Engineering.

All hydrants shall be AWWA approved and shall have a 2-2 1/2" connection with threads of the type used by the Fire Department serving the area where installed.



4) Individual Septic Tank and/or Well: If a public or community water supply and/or sewage system is not available or is not to be provided, a written statement from the Johnston County Department of Health shall be provided indicating that each lot has adequate land area and soil conditions suitable to accommodate the proposed methods of water supply and sewage disposal.

5) Underground Lines: Where underground utility lines are to be provided beneath street roadways, sidewalks, or other paved access ways, all such lines shall be consolidated, where practical, in a contiguous area so as to optimize excavation for installation consistent with good operations and maintenance. Where underground utility lines are to be located within street right-of-way, lateral lines shall be provided from the trunk lines to the right-of-way line for all lots and/or development sites along such street, and shall be installed concurrent with the installation of the trunk line to minimize cutting and repairing of street sub-surfaces, base courses, and paving.

6) Surface Appurtenances: Surface appurtenances, such as pump stations, transformer boxes, pedestal mounted thermal boxes, and meter cabinets shall be located so as to minimize safety hazards, visual impact, and noise effects.

## **B. UTILITY EASEMENTS**

Design Standards for Easements.

1) Easements for underground or aboveground public utilities shall be provided where appropriate. Such easements shall be sufficiently wide to provide for the installation of utilities and access for maintenance, and shall be of an appropriate width to allow for the installation and future maintenance of such utility(s).

2) Easements for streams or drainage ways shall be located where appropriate (generally along rear or side lot line). Utilities may be permitted in drainage easements only upon the approval of the Planning Director or Director of Utilities and Engineering.

3) Within Major Subdivisions, at a minimum, the following utility and drainage easements must be provided:

- Drainage and utility easement 10' in width on the lot side and along the entire length of the road right-of-way.
- Drainage and public utility easement 7.5' in width or width of required minimum setback as described in subsections (1) and (2) of Section 14-75 of the Johnston County Land Development Code, whichever is less restrictive, along all interior property lines and exterior boundary lines.

## **SECTION 6- LANDSCAPING**

### **A. INTENT**

The intent for this Section is to provide specific guidelines and requirements for the design and maintenance of landscape areas.

### **B. PURPOSE OF LANDSCAPE AREAS**

Landscape areas shall be required to separate a proposed development from adjacent streets and different land uses or zoning designations in order to minimize potential nuisances such as the transmission of noise, dust, odor, litter, and glare of lights; to reduce the visual impact of unsightly aspects of adjacent development; to provide for the separation of spaces; and to establish a sense of privacy.

1) Landscape Areas Required: A landscape area is a strip of land together with the landscaping or screening required thereon. Except as otherwise specifically provided in this chapter, the type of landscape area required for proposed development, expansion of a use, or a change of use are specified below in the Schedule of Required Landscape Areas.

Width and screening specifications for each landscape area is intended to provide separation of spaces without necessarily eliminating visual contact between spaces. Landscape areas may consist of existing vegetation, planted vegetation, planted vegetation with the use of a landscaped earth berm, a decorative wall, or opaque fence, or a combination of the above.



2) Location of Landscape Areas: Required landscape areas shall be located along the interior property lot line, zoning lot line, or street nearest the adjacent streets, land uses, or zoning designations except where such lot lines are intersected by crossing access ways or utility easements, or by a joint parking area. Required landscape areas shall not be located on any portion of an existing or proposed street right-of-way or easement.

3) Use of Landscape Area: Provided the required landscape area width and screening is maintained, a landscape area may contain utilities, pedestrian paths, and other minor or passive uses compatible with the general separation of land uses.

**C. DESIGN STANDARDS**

1) Landscape Requirements: The following indicates the minimum landscape planting requirements for a development site. The arrangement of plants within each landscaped area should be integral to the design concept of the project as a whole, as well as responsive to the landscapes of adjacent properties. The room required for plants to develop their natural form, especially large trees, should also be considered when determining plant spacing. Allowing greater than minimum planting widths can therefore provide more landscape design flexibility.

The Planning Director may allow for some modification of the requirements of this Section based on existing natural terrain, location of utilities, stormwater facilities, and use of shared facilities.

a) Schedule of Required Landscape Areas

Proposed Use	Landscape Area Type			
	Adjacent Use/Zoning			
	Residential	O&I	Business	Industrial
Major Residential Subdivision	n/a	A*	A*	A*
O&I, Multi-Family	A	A	A	B
Business	B	A	A	B
Industrial	C	B	B	A

\*Landscape areas shall be established if no existing buffers exist

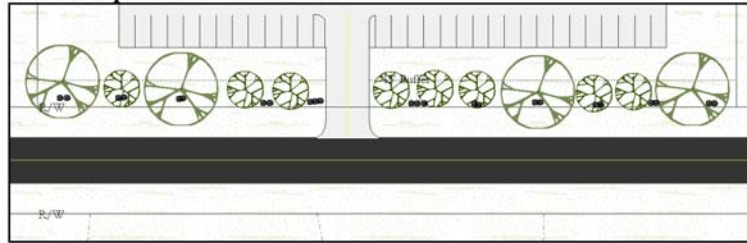
The landscape area locations shown in the following chart refer to whether the landscape areas are adjacent to a street or adjacent to an internal zoning/property lot line.

**Plants Requirement per 100 linear feet**

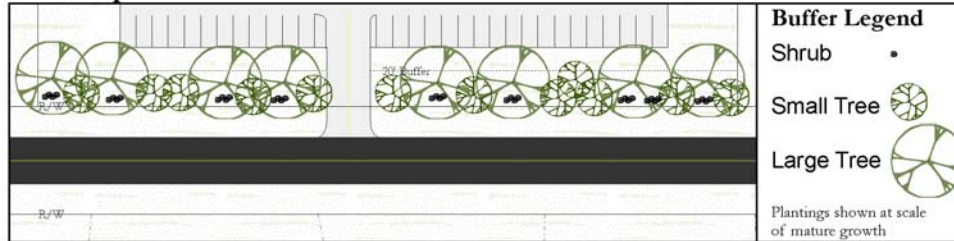
Landscape Area Type	Landscape Area Width	Plant Material Requirement		
		Large Trees	Small Trees	Shrubs
A	15' Street	1	2	6
	10' Internal	1	2	6
B	20' Street	2	3	9
	10' Internal	2	3	9
C	30' Street	3	4	12
	15' Internal	3	4	12



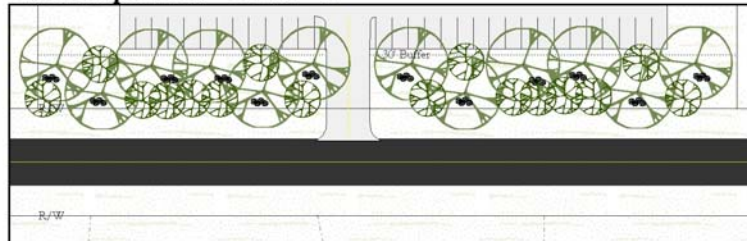
### Landscape Area - Class "A"



### Landscape Area - Class "B"



### Landscape Area - Class "C"



- b) Combined Use of Architectural Treatments and Plant Material: The Planning Director may allow a reduction of the required plant material with the use of a landscaped earth berm, a decorative wall, or an opaque fence. The architectural treatment shall be designed to enhance the landscape area.
- (1) Landscape Area "B" with the use of a 4-6 foot berm, 6 foot wall, or 6 foot opaque fence would reduce the required plant material to an "A" requirement.
  - (2) Landscape Area "C" with the use of an 8 foot wall, or 8 foot opaque fence would reduce the required plant material to a "B" requirement.
  - (3) Landscape Area "C" with the use of a 6-8 foot berm would reduce the required plant material to an "A" requirement.
- c) Architectural Treatments: The design of berms, decorative walls, and opaque fences shall be as follows:
- 1) Berms:
    - i. Shall have a maximum side slope of 2:1
    - ii. Shall have a minimum base width of 4 feet
    - iii. Shall have a minimum crown width of 2 feet for berms greater than 6 feet high
    - iv. Shall be landscaped
    - v. Shall have sufficient ground cover (plant material, grass, mulch, etc.) to prevent erosion
    - vi. As part of a required landscape area no less than 60% of required plant material shall be planted on the crown, and no more than 10% at the toe of the slope. Large trees shall be the only plant material allowed on the interior slope as part of the minimum planting requirements.
  - (2) Fences or Walls
    - i. Shall be 6- 8 feet high
    - ii. Shall be built of materials compatible with the principal building or existing adjacent fences or walls.
    - iii. Shall be maintained in good condition
    - iv. As part of a required landscape area all planting material shall be on the exterior of the fence to minimize the visual impact of the fences or wall. Plantings may include climbing plants such as vines, rose or other suitable varieties in lieu of shrubbery.



- d) Maintenance of Landscape Area: Shall include weeding, edging, watering, removal of dead/unattractive plant materials, and general clean up of the grounds.

As part of a required landscape area 85% of the required plant material shall be maintained in good condition or be reestablished. In the event plant material is dead/damaged, it shall be replaced within 6 months of damage.

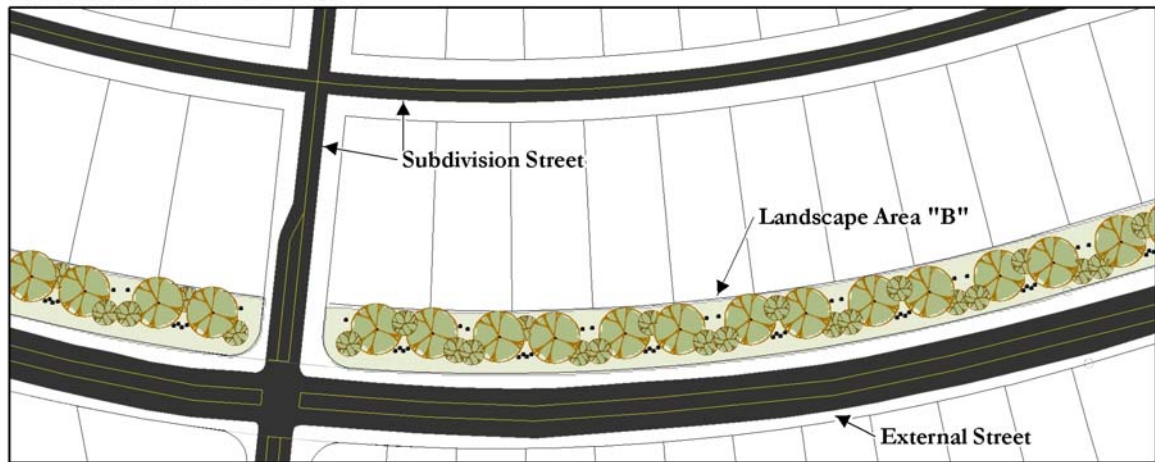
- e) Landscape Area Establishment: As part of a new development, expansion, or change in use the landscape area must be installed/upgraded before the use is operational.

Where situations exist of unfavorable weather conditions that are expected over a significant period of time, the Planning Director may allow no less than 50% of the required plant material to be installed, for the use to become operational. The developer must submit a plan to show the initial planting design, the second planting integration, and a schedule for planting the remaining plant material.

- 2) **Reverse Frontage Residential Lots:** For residential developments designed to have the dwelling units face an internal subdivision street and the rear of the dwelling units partially or completely face the exterior road, the following may be required:

- a) Landscape area "A" with the use of up to an 8 foot landscape berm, 6 foot decorative wall, or 6 foot opaque fence; excluding a wooden fence
- b) Landscape area "B" with the use of only plant material
- c) The natural existing vegetation may be used if the density meets or exceeds the landscape area "B" requirements and remains undisturbed

**Reverse Front Lot Buffer**



The landscape area shall be 30 feet deep, and shall be dedicated as open space or as an easement which must be shown on the final plat. The landscape area must meet the standards of Section 6.

A landscape area may not be necessary where the existing topography or natural area exist and provide adequate screening of the residential development. Areas in which the elevation of exterior road is significantly higher than final elevation of the development and the intent of the buffer can be accomplished, a buffer may not be necessary.

- 3) **Parking Area Shading Standards:** In addition to the buffer planting requirements, all parking lots are required to be landscaped and shall provide vegetation to achieve shading of a portion of the parking lot surface.

To satisfy this requirement, 1 large tree and 4 shrubs per 2000 sf of parking area shall be included in the landscape plan within a landscape island or 10' of the parking area edge.

Trees and shrubs required for shading can be planted within required property line planting areas. These plants, however, cannot be counted to meet both property line and shading requirements.

If plantings are to be installed in landscaped islands, as part of this requirement (not within a public right-of-way), these islands shall be designed and constructed to County standards. (See Landscaped Island and Median Requirements below)



- 4) Planting Material Heights: The minimum height of plants shall be 2' above the existing grade of the parking lot edge for landscaping adjacent to right-of-ways and 3' above the existing grade for areas adjacent to residential use or zoning. Plants sizes for the initial installation shall be selected so that these minimum heights should be reached within 3 years of planting when vegetation is included to meet the landscaping requirement(s).
- 5) Hedges: For hedge planting, meeting screening requirements, there should be no gaps in the hedges greater than 6'.
- 6) Plant Screening Materials: Plant materials used for screening in lieu of fences or walls shall be evergreen and have a minimum height of 2' when planted. Individual plants shall be spaced so that a continuous vegetative screen is established within 2 years.
- 7) Loading Area Requirements: All loading areas shall have a minimum width of 12' and be screened from public right-of-ways and all adjacent properties.

All standards applicable to landscaping parking lots shall be required of loading area screening, and the screening height shall be a minimum of 6' above existing grade.

- 8) Utility Service Area Requirements: All utility service areas, adjacent to, or affixed to buildings, shall be screened from public right-of ways and all adjacent properties.

All standards applicable to landscaping parking lots shall be required of utility service areas, and the screening height shall be equal to or greater than the structure to be screened.

Landscaping shall be located to provide adequate access and work space for the utility structure.

The installation of plants with thorns or pointed leaves is discouraged adjacent to the service area.

- 9) Landscaped Island and Median Requirements: Landscaped islands in parking lots, and medians separating lanes of traffic on public streets and on internal drives, shall be a minimum of 4' in width measured from the back of curb/paved roadway. Islands and medians within a public-right-of way shall be approved by NCDOT.

If large trees are to be planted in landscape islands or medians, these islands or medians shall be a minimum of 8' in width measured from the back of curb/paved roadway, and include a minimum of 160 sf of soil surface area per large tree.

All landscaped islands and medians should receive a minimum of 6' of topsoil after compaction over finished sub-grade.

Subsurface drainage shall be provided for all landscaped islands and medians.

- 10) Automotive Display Lots: Where automotive and/or other vehicular display lots are located on, or have frontage on, an arterial or collector road, a wall, fence or chain link fence shall be installed at the inner most edge of the required landscape area and the automotive display area. This wall, fence or chain link fence shall be a minimum height of thirty (30) inches and be maintained in good condition.
- 11) Existing Vegetation: Tree preservation is encouraged within all required landscape areas. When it is acceptable to the County, existing vegetation can be used to satisfy some or all of the landscaping requirements. In these cases, the existing vegetation shall be in good health and be protected during the development process.
  - a) Existing trees or group of trees within required landscape areas with a diameter of at least 12 inches should be preserved when feasible to meet minimum landscaping requirements unless removal is necessary for specific development purposes.
  - b) Credit will be given at one large tree for every 4" caliper of an existing tree, measured at four feet above grade.

#### **D. LANDSCAPE INSTALLATION AND MAINTENANCE SPECIFICATIONS**

- 1) Materials Requirements:
  - a) Plant Materials: The American Standard for Nursery Stock published by the American Society of Nurserymen shall be used for determining caliper, heights, widths and ball sizes, unless otherwise specified for all plants.

Plant material shall be free of any diseases, funguses or insect infestations.



Minimum planting sizes are listed below. Larger sizes may be required, however, for specific screening or landscaping applications:

- (1) Ground Cover: 2" pots
- (2) Shrubs: 18" in height
- (3) Small Trees: 5' in height
- (4) Large Trees: 2" caliper Trees planted 8' in height

2) Landscape Maintenance Schedule: Plant material should be maintained to include weeding, edging, watering, removal of dead/unattractive plant materials, and general clean up of the grounds.

Landscaping shall be maintained in such a method as to allow plant material to reach a health mature growth.

## E. TREE PLACEMENT REQUIREMENTS

- 1) Large Trees: Are trees reaching a mature height of thirty five (35) feet or more and shall be planted a minimum of:
  - a) 3-½ feet from back of curb, or edge of street pavement and driveways (allow for any proposed future street widening);
  - b) 3-½ feet from sidewalks and other paved pedestrian surfaces 10 feet from all buildings;
  - c) 15 feet from streetlights, utility poles and aboveground utility wire;
  - d) 10 feet from all underground utilities; and
  - e) 10 feet from utility vaults and ground level utility surfaces
  
- 2) Small Trees: Are trees reaching a mature height of less than 35 feet and shall be planted a minimum of:
  - a) 3-½ feet from back of curb, or edge of street pavement, and driveways (allow for any proposed future street widening);
  - b) 2-½ feet from sidewalks and other paved pedestrian surfaces 5 feet from all buildings;
  - c) 10 feet from streetlights and utility poles;
  - d) 5 feet from all underground utilities; and
  - e) 5 feet from utility vaults and ground level utility structures (10 feet from door side).
  
- 3) Tree Species Restrictions
  - a) Above Ground Utility Wire: The following tree species, due to the brittleness of their wood, shall not be planted within 25 feet of any existing or proposed above-ground utility line:

Acer saccharinum - Silver Maple	Catalpa speciosa - Northern Catalpa
Populus alba - White Poplar	Paulownia tomentosa- Royal
Ulmus pumila - Siberian Elm	Pawlownia
  
  - b) Public Right-of-Ways: No trees, which by the nature of their fruit, root system, brittleness of wood or susceptibility to disease are deemed undesirable by the County, shall be planted on any public right-of-way. Those trees included in the preceding list along with the following represent the majority of restricted trees:

Asimina triloba - Pawpaw	Carya illinoensis - Pecan
Diospyros virginiana - Persimmon	Ginkgo biloba - Ginkgo (female)
Juglans nigra - Black Walnut	Liquidambar styraciflua - Sweetgum
Salix babylonica - Weeping Willow	
  
  - c) Sewer Lines: The following tree species shall not be planted within 25 feet of any wastewater sewer line:

Acer spp. - Maples
Salix spp. - Willows
Ulmus spp. - Elms

## F. RECOMMENDED SPECIES

The following list includes trees and shrubs hardy in Johnston County. However, because of the large number of site specific variables (exposure, moisture, soils, etc.), all plants on this list may not prosper on any given site. The County recommends that applicants contact a landscape professional for assistance with plant selection. In addition, there are many plants not included in this list that are suitable for Johnston County landscapes if they are appropriately sited, and the County encourages their use. Whatever plants are selected, sources for the plants should be located during the site/development design process to assure that when a plan is approved it can be realized.



The list is broken down into three sections; 1) large trees; 2) small trees; and 3) shrubs, which correlate with the categories found in the County’s landscape requirements. Small trees are particularly well suited for planting where there are space limitations (such as under utility lines, near buildings, and in undersized planters). In the list of shrubs, those plants preceded with an asterisk (\*) are evergreens that routinely will reach six feet in height within two growing seasons if properly sited, and therefore are for fulfilling the County’s landscaping requirements, such as between parking lots and residential properties, and around loading zones.

Shrubs listed with two asterisks (\*\*) are typically somewhat smaller and are not generally appropriate components of a planting plan to fulfill the County’s landscaping requirement between parking lots and public right-of-ways. Most un-designated shrubs need to be used with fences or on earth berms to satisfy specific landscaping requirements, but can be considered as a part of required landscape areas when planted along with larger materials.

### LARGE TREES

Acer rubrum Red Maple	Gleditsia tricanthos inermis Thornless Honey Locust	Platanus x acerifolia London Plane tree	Quercus rubra Red Oak
Acer saccharum Sugar Maple	Ilex opaca American holly	Platanus occidentalis Sycamore	Quercus virginiana Live Oak
Cedrus deodora Deodora Cedar	Juniperus virginiana Eastern Red Cedar	Quercus acutissima Sawtooth Oak	Sophora japonica Scholar Tree
Cercidiphyllum japonicum Katsura Tree	Liriodendron tulipifera Tulip Tree	Quercus alba White Oak	Taxodium distichum Bald Cypress Tilia cordata Little-leaf Linden
Cryptomeria Japonica Cryptomeria	Magnolia grandiflora Southern Magnolia	Quercus coccinea Scarlet Oak	Tsuga canadensis Canadian Hemlock
Fraxinus Americana White Ash	Nyssa sylvatica Black Gum	Quercus laurifolia Laurel Oak	Ulmus parviflora Chinese Elm
Fraxinus pennsylvanica Green Ash	Pinus taeda Loblolly Pine	Quercus palustris Pin Oak	Zelkova serrata Zelkova
Gingko biloba (male only) Gingko	Pinus virginiana Virginia Pine	Quercus phellos Willow Oak	

### SMALL TREES

Acer campestre Hedge Maple	Halesia carolina Carolina Silverbell	Lagerstromia x fauriei Hybrid Crepe Myrtle	Prunus caroliniana Carolina Cherry laurel
Acer palmatum Japanese Maple	Ilex x attenuata “Fosteri” Foster’s Holly	Magnolia x soulangiana Loebner Magnolia	Prunus serrulata Japanese Flowering Cherry
Amelanchier arborea Serviceberry	Ilex x cassine Dahoon Holly	Magnolia x soulangiana Saucer Magnolia	Prunus subhirtella Higan Cherry
Carpinus caroliniana Ironwood	Ilex decidua Possumhaw	Magnolia virginiana Sweet bay	Prunus x yedoensis Yoshino Cherry
Cercis Canadensis Eastern Redbud	Ilex latifolia Lusterleaf Holly	Ostrya virginiana American Hophornbeam	Stewartia psuedocamellia Japanese Stewartia
Chionanthus virginicus White Fringetree	Ilex x “Nellie R. Stevens” Nellie Stevens Holly	Oxydendrum arboreum Sourwood	Styrax japonicus Japanese Snowbell
Cornus florida Flowering Dogwood	Ilex vomitoria Yaupon	Parrotia persica Persian Parrotia	Vitex agnus-castus Chastetree
Cornus kousa Kousa Dogwood	Koelreuteria paniculata Golden Raintree	Persea bourbonia Red Bay	
Cornus mas Cornelian Cherry	Lagerstroemia indica Common Myrtle	Pinus thunbergiana Japanese Black Pine	





## SHRUBS

**Abelia grandiflora Glossy Abelia	Deutzia gracilis Slender Deutzia	*Illicium parviflora Anise	*Prunus laurocerasus Common Cherry laurel
**Aucuba japonica Japanese Aucuba	Euonymus alatus Burning Bush	Itea virginica Virginia Sweetspire	**Raphiolepis umbellata Indian Hawthorn
Aesulus parviflora Bottlebrush Buckeye	*Euonymus japonicus Evergreen Euonymus	Jasminum nudiflorum Winter Jasmine	Rhododendron x Hybrid Rhododendrons
**Berberis julianae Wintergreen Barberry	Exochorda racemosa Common Pearlbrush	Juniperus chinensis Chinese juniper (cultivars)	Spiraea bumalda Bumald Spiraea
Berberis thunbergii Japanese Barberry	Forsythia intermedia Border Forsythia	Kerria japonica Japanese Kerria	Spiraea cantoniensis Double Reeve's Spiraea
Buddleia davidii Butterfly Bush	Forsythia suspensa Weeping Forsythia	Kalkwizia amabilis Beauty Bush	Spiraea prunifolia plena Bridalwreath Spiraea
Buxus sempervirens Common Box	Gardenia jasminoides Gardenia	*Ligustrum japonicum Japanese Privet	Spiraea thunbergii Thunberg spiraea
Calycanthus floridus Carolina Allspice	Hammamelis vernalis Early Witchhazel	*Lonicera fragrantissima Winter Honeysuckle	Spiraea vanhouttei Vanhoutte Spiraea
Callicarpa dichotoma Beautyberry	Hammamelis virginiana Common Witchhazel	**Loropetalum chinense Loropetalum	**Thuja occidentalis Arborvitae (cultivars)
*Camellia japonica Common Camellia	Hibiscus syriacus Rose-of-Sharon	Magnolia stellata Star Magnolia	Viburnum burkwoodii Burkwood Viburnum
*Camellia sasanqua Sasanqua Camellia	Hydrangea quercifolia Oakleaf Hydrangea	Mahonia bealei Oregon Grape Holly	Viburnum carlesii Korean Spicebush
Chaenomeles speciosa Com. Flowering Quince	Hypericum calycinum Aaronsbeard St. Johnswort	*Myrica cerifera Southern Wax myrtle	Viburnum dentatum Arrowwood Viburnum
Chimonanthus praecox Wintersweet	**Ilex cornuta "Rotunda" Dwarf Horned Holly	**Nandina domestica Nandina	Viburnum plicatum tomentosum Doublefile Viburnum
Clethra alnifolia Summersweet	**Ilex crenat Japanese Holly	*Osmanthus x fortunei Fortunes's Tea Olive	*Viburnum rhytidophyllum Leatherleaf Viburnum
*Cleyera japonica Cleyera	*Ilex cornuta "Burfordii" Buford Holly	Philadelphus coronarius Sweet Mock Orange	Weigela florida Weigela
Cornus sericea Redosier Dogwood	**Ilex glabra "nana" Dwarf inkberry	Pieris japonica Japanese Pieris	
Cotinum coggygria Common Smokebush	**Illicium floridanum Florida Anise-tree	Punica granatum Common Pomegranate	



## **SECTION 7 - SUBDIVISION DESIGN STANDARDS**

### **A. INTENT**

The intent of this section is to provide guidelines and information on the orderly division of land.

### **B. LOT DESIGN**

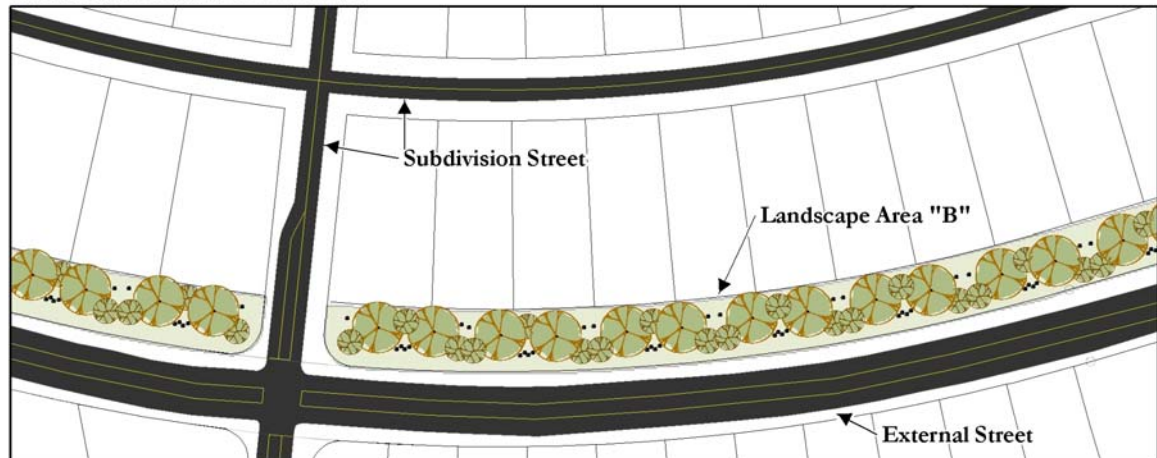
1) Design Standards for Lots: Lots designed for commercial or industrial purposes shall be adequate to provide for the off-street service and parking facilities required by the type of use and development contemplated. For Planned Unit Developments see item G. *Planned Unit Developments* in this Section.

- a) Lot Size: Lots for residential use shall comply with Article 3 of the Johnston County Land Development Code and the following requirements:
  - (1) Lots shall be designed so the lot area and shape is sufficient for a dwelling unit to meet the minimum building setback, provide off-street parking, and allow for sufficient access to the street.
  - (2) All singlewide mobile/manufactured homes shall have a lot size no less than 1 acre, within the AR District, unless located within an approved mobile home park or R-MHP District.
- b) Lot Lines: Lot lines for a residential subdivision shall comply with the following:
  - (1) Every subdivided lot shall front on, or have direct driveway access or dedicated easement to, a public or private street.
  - (2) Where land is subdivided into larger parcels than ordinary building lots, such parcels should be arranged to allow for the opening of future streets and logical further subdivision.
  - (3) Corner lots shall not have a driveway located within fifty (50) feet of a street intersection.
- c) Flag Lots:
  - (1) A *flag lot* means an irregularly shaped lot where the buildable portion of the lot is connected to its street frontage by an arm, or flagpole; or where the buildable area/structure is located partially or completely behind another dwelling unit, or is not generally in line with other structures along a segment of a street.
  - (2) Flag lots and easement access lots shall be permitted only if it can be demonstrated by the applicant that the subdivision cannot be physically designed, that no reasonable alternative exists, or it would create an unreasonable hardship without a corresponding public benefit to prohibit flagpole lots. Hardships shall include the following:
    - i. Topographic constraints or irregularly shaped land in which no alternative exists;
    - ii. Natural features such as ponds, streams, wetlands, or buffers exist which would limit street construction and/or lot design;
    - iii. A long narrow parent parcel which would limit alternative designs;
    - iv. A parent parcel that has limited or no direct road frontage which would require the use of a flagpole or easement with no alternative design available;
    - v. No alternative access is available or feasible such as a paved subdivision street or cul-de-sac street constructed to NCDOT standards.
  - (3) It is the responsibility of the applicant to present evidence to the Planning Board that one or more of the hardships in subsection (1) exist.
  - (4) Any decision of the waiver described in subsection (1) may be appealed to the Johnston County Board of Adjustment as described in Section 14-592 of the Land Development Code.
  - (5) All flag lots or easement access lots within a major subdivision shall meet the following requirements:
    - i. A flag lot shall serve only one single-family dwelling and its uninhabited accessory structures;
    - ii. The minimum flagpole width shall be 30 feet;
    - iii. The minimum separation between the flagpole portion of the lot and that of another flag lot shall be 100 feet;
    - iv. Where public water is available, the occupied building on the flag lot shall be within 500 feet of a fire hydrant. This distance shall be measured along the street, then along the flagpole, then in a straight line to the building thereon;
    - v. Where public sewer is available, the occupied building on the lot shall have a gravity service line, or the sewer pump requirements shall be noted on the recorded plat;
    - vi. Use of a single driveway to serve the flag lot and an adjoining conventional lot is permitted and encouraged. In the case of a shared driveway, the location of the driveway shall be on the flagpole portion of the flag lot, with the conventional lot granted an access easement over the flagpole; and



- vii. Designate the building footprint and orientation of the house on the preliminary plat.
- (6) The flagpole portion of a lot shall not be used to calculate the area, width, or setbacks of the lot for the zoning district in which the lot is located.
- d) **Reverse Frontage Residential Lots:** For residential developments designed to have the dwelling units face an internal subdivision street and the rear of the dwelling units partially or completely face the exterior road, the following may be required:
  - (1) Landscape area "A" with the use of up to an 8 foot landscape berm, 6 foot decorative wall, or 6 foot opaque fence; excluding a wooden fence
  - (2) Landscape area "B" with the use of only plant material
  - (3) The natural existing vegetation may be used if the density meets or exceeds the landscape area "B" requirements and remains undisturbed

**Reverse Front Lot Buffer**



The landscape area shall be 30 feet deep, and shall be dedicated as open space or as an easement which must be shown on the final plat. The landscape area must meet the standards of Section 6.

A landscape area may not be necessary where the existing topography or natural area exist and provide adequate screening of the residential development. Areas in which the elevation of exterior road is significantly higher than final elevation of the development and the intent of the buffer can be accomplished, a buffer may not be necessary.

- e) **Reserve Strips:** Reserve strips or non-access reservations that control access to roads, waterways, parks or the like, and other reserved strips shall be prohibited.
- f) **Cul-de-sac Lot Frontage:** Cul-de-sac lots shall have a minimum frontage at the road right-of-way of forty (40) feet in width

**C. BUILDING SETBACKS**

- 1) **Residential Building Setback Lines:** The minimum building setback distance from property lines for a residential use shall be consistent with the zoning district in which the building or structure is located, to include porches, decks, and attached garages.
  - a) **Accessory Structures:** All accessory structures to include detached garages, pools, pool aprons and decks, storage buildings, and other structures shall be setback 10 feet from any interior lot line and the minimum street setback for the district.
- 2) **Commercial Building Setback Lines:** The minimum building setback distance from property/zoning lines for a commercial use shall be consistent with the zoning district in which the building or structure is located.



## D. ROADS

1) Roads: Each road within a subdivision shall be designated as either public or private. The arrangement, character, extent, width, grade, and location of all roads shall be reviewed in relation to existing and proposed transportation patterns, topographical and other natural features, public convenience and safety, and proposed uses of lands to be served by such roads and existing or potential land uses in adjoining areas. All roads shall meet the standards of Section 1, and NCDOT standards, as appropriate.

2) Subdivision Access: A second full-service access built to County standards for the purpose of ingress and egress or emergency access easement will be required when meeting or exceeding the following thresholds:

For subdivisions proposing between 100 and 200 lots, the developer has the option of providing a second full-service access built to County standards for the purpose of ingress and egress or a dedicated "emergency vehicle access." This "emergency vehicle access" is to be constructed of any all-weather surface and kept cleared at all times in case the main entrance is blocked and emergency vehicles need to access the development.

For subdivisions proposing 201 lots or more, a second full-service access built to County standards for the purpose of ingress and egress will be required. *Note: For determining when a second access is required, the count will be cumulative.*

3) Cul-de-sac Roads: Permanent cul-de-sac roads shall be provided at the closed end with a circular turn around having a right-of-way diameter of one hundred (100) feet and a driving surface diameter of seventy (70) feet.

4) Arterial or Collector Roads - Driveway Access: Where a tract of land to be subdivided borders on an arterial or collector road, the subdivision shall be so designed that no subdivided lot shall have a direct driveway access onto an arterial or collector road; unless it can be demonstrated that the proposed subdivision cannot be physically designed, no reasonable alternative exist, or it would create an unreasonable hardship without a corresponding public benefit. The following represent some acceptable design solutions:

- a) Abutting rear or side yards toward the arterial or collector road, with the front or side yards abutting an existing parallel local road;
- b) Creating a parallel local road internal to the subdivision the rear or side yards of the lot abutting the arterial or collector road;
- c) Creating a joint residential driveway that is parallel to and separated 15 feet from the arterial or collector road. This joint residential driveway may have access to the arterial or collector road at suitable points and shall serve as the principal access to the subdivision;
- d) That other acceptable access designs be used to achieve the intent of this regulation

5) Local Roads – Driveway Access: Driveways shall be limited to 500 foot separations along all local streets, unless it can be demonstrated that the proposed subdivision cannot be physically designed, no reasonable alternative exist, or it would create an unreasonable hardship without a corresponding public benefit.

6) Stubout Street Signage: All stubout streets shall be posted with a sign at least 24" x 36" in area but no greater than 36" x 48" with a minimum height of 3' and a maximum height of 5' stating "Road subject to future extension for additional lots". The sign shall be maintained by the developer or a Home Owner's Association.

## E. EASEMENTS

1) Easement: An easement, as applied to this Section, is defined as an entitlement for ingress and egress for the purpose of accessing real property. Maintenance shall be the joint responsibility of property owners accessing the easement.

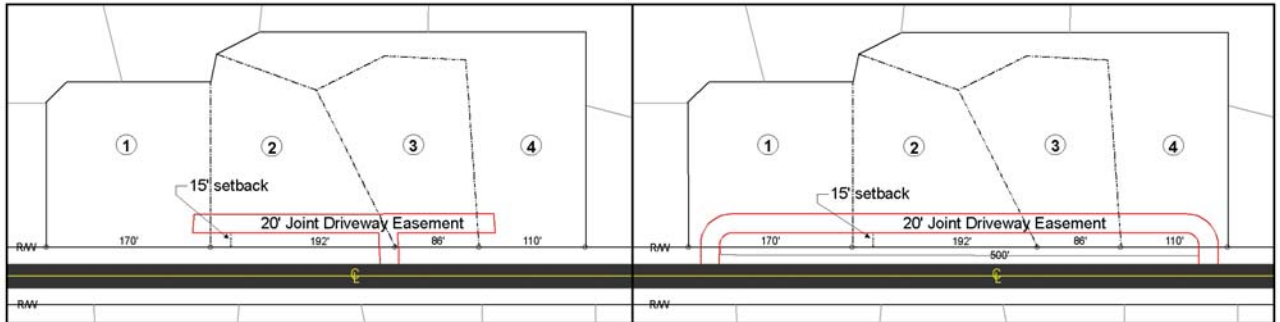
2) Design of Easements: Easements may be created/extended for the purpose of new development. The following shall apply:

- a) Minimum width of any easement shall be 20 feet
- b) Recommended width of an easement is 30-50 feet
- c) It is recommended that easements be designed as to allow for dedication to right-of-way for future development.

3) Easements as part of a Major Subdivision: Where developments propose the creation of lots to be approved by the Planning Board the following design guidelines shall apply:



- a) **Road Front Lots:** Lots created along existing Local roads shall have driveways no less than 500 feet apart. If a driveway is used to access more than one lot then a minimum 20 foot joint driveway easement shall be required. The easement shall be no closer than 15 feet to the right-of-way, as it traverses any lot. The Planning Board may waive the 500 foot distance between driveways to a shorter distance.



- b) **1-3 Lots:** Development creating 1-3 lots, from a parent tract(s), along a new or existing easement, the easements shall meet the design requirements of this section. Where situations exist with several existing dwelling units accessing the easement, the Planning Board may determine the easement may need to be improved. This may include the dedication to a right-of-way, and petition for state maintenance.
- c) **4 (+) Lots:** Developments creating 4 or more lots:
- (1) Where no easement exists, and where the parent tract(s) have direct road frontage, an easement shall not be allowed. The development must dedicate a right-of-way meeting the requirements of this section.
  - (2) Where a development is created along an existing easement, in which the easement is in single ownership, the easement shall be dedicated as a right-of-way meeting the requirements of this section.
  - (3) Where a development is created along an easement, in which the easement is in multiple ownerships, the developer shall evaluate improving the easement to meet the right-of-way requirements of this section, prior to submittal.
- d) A waiver may be allowed if determined by the Planning Board that, in pursuit of this section, a hardship is created upon the property that provides no benefit to the safety, welfare, and quality of life of the public.

4) **Compliance:** Compliance with these standards shall involve the recordation of a plat. Where situations exist in which adjacent property owner(s) will not allow for the expansion of an easement, or dedication to right-of-way, the Planning Board/Planning Director may allow the continuance of development. The applicant must provide notarized documentation, specific to the procedures taken, that all possible measures have resulted in failure to receive the additional rights as required by this section.

## F. DRIVEWAYS

- 1) Any driveway connection, commercial or residential, to a state maintained road shall apply for a driveway permit with NCDOT.
- a) **Commercial Driveways:** All commercial drives shall meet all County and State requirements, to include the NC Fire Code design requirements. The following shall apply:
- (1) Minimum width of drive shall be 20 feet.
  - (2) The driveway apron shall be improved to meet NCDOT Standards.
  - (3) The drive shall have a driving surface capable of supporting the imposed load of a fire apparatus weighing at least 75,000 pounds.
  - (4) An updated driveway permit shall be required for any change of use.
- b) **Residential Driveways:** The following shall apply:
- (1) Minimum width of an individual residence driveway shall be 16 feet.
  - (2) Minimum width of a joint residential driveway shall be 20 feet.
  - (3) Joint residential driveways shall have a 15 foot setback from the right-of-way as the drive traverses a lot.
  - (4) Joint residential driveways serving 4 or more dwelling units shall have an improved apron meeting NCDOT Standards
  - (5) Corner lots shall not have a driveway located within fifty (50) feet of a street intersection.



## G. OPEN SPACE DESIGN

- 1) Intent: All residential subdivisions shall provide or dedicate common open space for active or passive recreation, conservation of natural resources, and reservation of environmental sensitive areas.
- 2) Open Space and Common Open Space and Recreation Area: Mean any space or area characterized by great natural scenic beauty or whose openness, natural condition, or present state of use, if retained, would enhance the present or potential value of abutting or surrounding development, or would maintain or enhance the conservation of natural or scenic resources; or any undeveloped or predominately undeveloped land that has value for one or more of the following purposes:
  - a) Park and recreational uses;
  - b) Conservation of land and other natural resources; or
  - c) Historic or scenic purposes.

Passive open space or recreation areas include scenic resources, any undeveloped or predominately undeveloped land used for informal walking trails, picnic areas or similar uses. Active recreation areas include playfields, toddler lots, tennis courts, swimming pools and similar active play uses. The following land uses or land areas cannot be used to meet open space requirements of this Chapter:

- a) Roads, road rights-of-way, driveways, or parking areas.
  - b) Open areas within individual subdivision lots.
  - c) Small, narrow strips of land, or other unusual land configurations that are not consistent with the objectives of this Section.
- 3) Dedication and Recordation of Common Open Space and Recreation Area:
    - a) Land provided or dedicated for common open space or recreation area shall be designated on a final plat duly recorded with the County Register of Deeds.
    - b) Recreation Facilities/Amenities shall be designated on the final plat and shall be specific as to type of amenity/use.
    - c) For developments in which amenities are approved, 50% of the amenities required shall be provided at 50% dwelling unit construction, and 75% of the amenities at 75% dwelling unit construction.
  - 4) Maintenance of Common Open Space and Recreation Area: All open space and recreation areas shall be maintained free of trash and debris. All areas should be maintained to ensure safety of the residents and the general public.
  - 5) Minimum Area and Design Criteria Required: Wherever possible open space and recreation areas should be located as to abut existing open space in adjacent developments or phases.
    - a) Unimproved Open Space:
      - (1) Areas for the conservation of natural resources and reservation of environmental sensitive areas.
      - (2) Required Open Space: Minimum 15% total gross land area or 2 acres which ever is greater, within developments with no active recreation facilities/amenities.
      - (3) Contiguous area, generally non-linear
      - (4) Wooded or cleared, generally unmaintained
      - (5) Minimum 20' fee simple access from subdivision street
      - (6) Minimum area shall be outside of riparian buffer, wetlands, permanent BMPs, transmission line and gas line easements
    - b) Improved Open Space (small scale):
      - (1) Areas for active recreation, conservation of natural resources, and/or reservation of environmental sensitive areas.
      - (2) Required Open Space: Minimum 10% total gross land area, where active recreation facilities comprise a minimum of 2 acres. Slopes within recreation areas no greater than 10%.
      - (3) Integrated within the dwelling areas, contiguous area or multiple areas of no less than 20,000 sq. ft.
      - (4) Wooded or cleared, little maintenance
      - (5) Recreation Facilities/Amenities:
        - Walking trails 1,320 - 2,640 linear feet (1/4 - 1/2 mile) to include sidewalks if constructed
        - Playfields, toddler lots
        - Tennis/basketball/volleyball court
        - Pool house and club house
        - Picnic/sitting areas



- (6) Minimum 20' fee simple access from subdivision street
- (7) Minimum area may include some area of riparian buffer, wetlands, permanent BMPs, transmission line and gas line easements if approved for the use of amenities.
- c) Improved Open Space (large scale):
  - (1) Areas for active recreation, conservation of natural resources, and/or reservation of environmental sensitive areas.
  - (2) Required Open Space: Minimum 5% total gross land area, where active recreation facilities comprise a minimum of 10 acres. Slopes within recreation areas no greater than 10%.
  - (3) Integrated within the dwelling areas, contiguous area or multiple areas of no less than 20,000
  - (4) Wooded or cleared, active maintenance
  - (5) Recreation Facilities/Amenities:
    - Walking trails more than 3,960 linear feet (3/4 mile) to include sidewalks if constructed
    - Toddler lots and playgrounds with equipment structures
    - Tennis/basketball/volleyball court
    - Multipurpose fields for football, soccer, softball, and baseball
    - Golf courses
    - Pool houses and club houses
    - Picnic/sitting areas
  - (6) 20' fee simple access from subdivision street
  - (7) Minimum area may include some area of riparian buffer, wetlands, permanent BMPs, transmission line and gas line easements if approved for the use of amenities.
- 6) Recreation Facility Design Criteria: Recreation Facilities/Amenities shall be of a type which enhances the use of the open space. These types shall include: playgrounds; parks with shelters, benches, managed turf fields; walking/running trails; clubhouses; pools; tennis/ball courts; golf courses; and other like improvements. Recreation Facilities/Amenities shall require a formal site plan review and approval in accordance with LDC Article 5 – Site Plans.

**Suggested Recreation Facility Design Standards**

<b>Activity</b>	<b>Recommended Size and Dimensions</b>	<b>Recommended Space Requirements</b>	<b>Recommended Orientation</b>
<b>Badminton</b> Recommend 2 courts	Singles- 17' x 44' Doubles-20' x 44' 5 ft. unobstructed area on all sides.	1,200 sq. ft	Long axis North- South
<b>Baseball</b> 1. Official  2. Little League	Baselines – 90' Pitching Dist. – 60.5' Foul Lines – 320' Center Field – 400+  Baselines – 60' Pitching Dist. – 46' Foul Lines – 200' Center Field – 200-250	3 ac.  1.2 ac.	Locate home plate so pitcher is not throwing across sun, and batter not facing sun. Line from home plate through pitchers mound run east-northeast.
<b>Basketball Courts</b> 1. Youth 2. High School 3. Collegiate Recommend 2 courts	46' - 50' x 84' 50' x 84' 50' x 94' 5 ft. unobstructed area on all sides.	4,000-5,040 sq. ft. 5,040-7,280 sq. ft. 5,600-7,980 sq. ft.	Long axis North-South
<b>Football Field</b>	160' x 360' 6 ft. unobstructed area on all sides.	1.5 ac.	Long axis North-South
<b>Playground w/ Equipment</b>	50' x 50' fenced	3,000 sq. ft. <2% Slopes	
<b>Pool w/ Pool House</b>	1,000 sq. ft. pool and apron area 20' x 20' pool house	1 ac.	
<b>Soccer</b> 1. Official	225' x 360'	2 ac.	Long axis North-South



2. Youth	195' x 330'	1.7 ac.	
<b>Softball Field</b>	Baselines – 60' Pitching Dist. – 46' Foul Lines – 250' Center Field – 250'	1.5 ac.	Locate home plate so pitcher is not throwing across sun, and batter not facing sun. Line from home plate through pitchers mound run east-northeast.
<b>Tennis Courts</b> Recommend 2 – 4 courts	36' x 78' 12 ft. unobstructed area on all sides.	5,500 sq. ft. single court area	Long axis North-South
<b>Toddler Lots</b>	30' x 30' fenced	1,200 sq. ft. <2% Slopes	
<b>Volleyball Courts</b> Recommend 2 courts	30' x 60'. 6 ft. unobstructed area on all sides.	4,000 sq. ft. single court area	Long axis North-South
<b>Walking Trails</b>	5' trail width 25' trail corridor	1,320 linear ft. minimum <10% Slopes	

## H. PLANNED UNIT DEVELOPMENTS

### 1) Design Standards for Commercial Lots:

- a) Lot Size: Lots designed for commercial or industrial purposes shall be adequate to provide for the off-street service and parking facilities required by the type of use and development contemplated.
- b) Building Setbacks: Commercial lots shall have a minimum setback in accordance with those established by CB Zoning District setbacks, except where LDC Section 14-257 (j) & (l) perimeter and street setback applies.

### 2) Design Standards for Single Family Residential Lots:

- a) Lot Size: Lots for residential use shall comply with Article 3 of the Johnston County Land Development Code and the following requirements:
  - (1) Single Family: Lots shall be designed so the lot area and shape is sufficient for a dwelling unit to meet the minimum building setback, provide off-street parking, and allow for sufficient access to the street.
- b) Building Setbacks: Building setbacks may be modified as part of Planned Unit Development if a building setback plan is approved as part of the PUD application, except where regulated by the LDC Section 14-257 (j)-(l). Otherwise, the AR District setbacks and those of LDC Section 14-257 (j)-(l) will be applied for residential areas.
- c) Lot Lines: Lot lines for a residential subdivision shall comply with the following:
  - (1) Every subdivided lot shall front on, or have direct driveway access or dedicated easement to, a public or private street.
  - (2) Where land is subdivided into larger parcels than ordinary building lots, such parcels should be arranged to allow for the opening of future streets and logical further subdivision.
  - (3) Corner lots shall not have a driveway located within fifty (50) feet of a street intersection.

### 3) Design Standards for Townhouses:

- a) Townhouse Blocks: Townhouses shall not exceed more than 6 attached dwelling units in a block. Townhouse blocks shall be separated a minimum of 20' from another block or dwelling. ½ acre of open space shall be immediately adjacent or around each Townhouse block
- b) Lot Size: Lots for residential use shall comply with Article 3 of the Johnston County Land Development Code and the following requirements:
  - (1) Townhouse: Lots shall be designed so the lot area and shape is sufficient for a dwelling unit to meet the minimum building setback, and provide off-street parking.
- c) Building Setbacks: Building setbacks may be modified as part of Planned Unit Development if a building setback plan is approved as part of the PUD application, except where regulated by the LDC Section 14-257 (j)-(l). Otherwise, the setbacks shall be 20' street, zero lot line with a 10' non-buildable easement around each block, and those of LDC Section 14-257 (j)-(l) will be applied.
- d) Lot Lines: Lot lines for a residential subdivision shall comply with the following:
  - (1) Every subdivided lot shall front on and have direct driveway access or dedicated easement to, a public or private street.





4) Design Standards for Residential Lots and Areas:

a) Flag Lots:

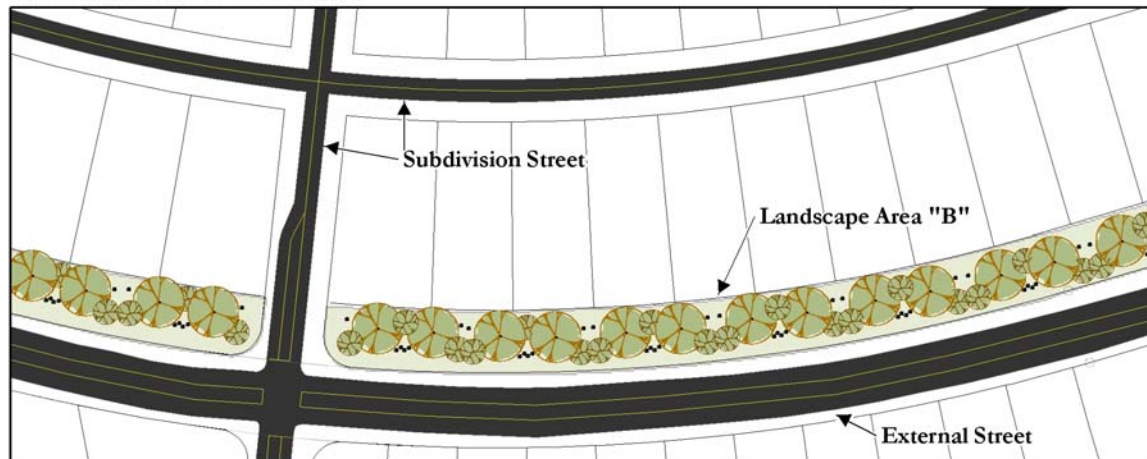
- (1) Flag Lot means an irregularly shaped lot where the buildable portion of the lot is connected to its street frontage by an arm, or flagpole; or where the buildable area/structure is located partially or completely behind another dwelling unit, or is not generally in line with other structures along a segment of a street.
- (2) Flag lots and easement access lots shall be permitted only if it can be demonstrated by the applicant that the subdivision cannot be physically designed, that no reasonable alternative exists, or it would create an unreasonable hardship without a corresponding public benefit to prohibit flagpole lots. Hardships shall include the following:
  - i. Topographic constraints or irregularly shaped land in which no alternative exists;
  - ii. Natural features such as ponds, streams, wetlands, or buffers exist which would limit street construction and/or lot design;
  - iii. A long narrow parent parcel which would limit alternative designs;
  - iv. A parent parcel that has limited or no direct road frontage which would require the use of a flagpole or easement with no alternative design available;
  - v. No alternative access is available or feasible such as a paved subdivision street or cul-de-sac street constructed to NCDOT standards.
- (3) It is the responsibility of the applicant to present evidence to the Planning Board that one or more of the hardships in subsection (1) exist.
- (4) Any decision of the waiver described in subsection (1) may be appealed to the Johnston County Board of Adjustment as described in Section 14-592 of the Land Development Code.
- (5) All flag lots or easement access lots within a major subdivision shall meet the following requirements:
  - i. A flag lot shall serve only one single-family dwelling and its uninhabited accessory structures;
  - ii. The minimum flagpole width shall be 30 feet;
  - iii. The minimum separation between the flagpole portion of the lot and that of another flag lot shall be 100 feet;
  - iv. Where public water is available, the occupied building on the flag lot shall be within 500 feet of a fire hydrant. This distance shall be measured along the street, then along the flagpole, then in a straight line to the building thereon;
  - v. Where public sewer is available, the occupied building on the lot shall have a gravity service line, or the sewer pump requirements shall be noted on the recorded plat;
  - vi. Use of a single driveway to serve the flag lot and an adjoining conventional lot is permitted and encouraged. In the case of a shared driveway, the location of the driveway shall be on the flagpole portion of the flag lot, with the conventional lot granted an access easement over the flagpole; and
  - vii. Designate the building footprint and orientation of the house on the preliminary plat.
- (6) The flagpole portion of a lot shall not be used to calculate the area, width, or setbacks of the lot for the zoning district in which the lot is located.

b) Reverse Frontage Residential Lots: For residential developments designed to have the dwelling units face an internal subdivision street and the rear of the dwelling units partially or completely face the exterior road, the following may be required:

- (1) Landscape area "A" with the use of up to an 8 foot landscape berm, 6 foot decorative wall, or 6 foot opaque fence; excluding a wooden fence
- (2) Landscape area "B" with the use of only plant material
- (3) The natural existing vegetation may be used if the density meets or exceeds the landscape area "B" requirements and remains undisturbed



## Reverse Front Lot Buffer



The landscape area shall be 30 feet deep, and shall be dedicated as open space or as an easement which must be shown on the final plat. The landscape area must meet the standards of Section 6.

A landscape area may not be necessary where the existing topography or natural area exist and provide adequate screening of the residential development. Areas in which the elevation of exterior road is significantly higher than final elevation of the development and the intent of the buffer cannot be accomplished, a buffer may not be necessary.

- c) **Reserve Strips:** Reserve strips or non-access reservations that control access to roads, waterways, parks or the like, and other reserved strips shall be prohibited.
- d) **Cul-de-sac Lot Frontage:** Cul-de-sac lots shall have a minimum frontage at the road right-of-way of twenty (20) feet in width

## I. RESUBDIVISION

1) **Resubdivision Procedures:** For any further subdivision of developments, approved since the adoption of the Land Development Code Subdivision Article dated September 1, 2000, must be reviewed as an extension of the development. The same original conditions and some additional regulations shall apply.

The rear portions of the lots shall not be subdivided from the front part unless in conformance with the design standards as set out in Article 3 Division 5 of the Land Development Code and/or Section 7 of this manual.

**Resubdivision-Exemptions:** The resubdivision procedures and regulations above do not apply to division of heirs maps, minor subdivisions, or divisions of land not subject to the Johnston County Subdivision Regulations as defined in Section 14-134 of the Land Development Code Ordinance.

## J. PRELIMINARY PLAT REQUIREMENTS

1) **General:** The preliminary plat must be prepared by a registered surveyor, engineer, architect, land planner, or landscape architect and shall be drawn in ink at a scale no less than one (1) inch to one hundred (100) feet.

2) **Number of Copies:** The applicant shall submit (5) folded – 24x36 and (10) folded – 11x17 copies of the preliminary plat

3) **Required Information:** Required Information: The preliminary plat shall depict or contain the following information; plats not illustrating or containing the following data shall be returned to the sub-divider, or his authorized agent, for completion and re-submission.

- a) The proposed name of the subdivision.
- b) A sketch vicinity map showing the relationship between the proposed subdivision and the surrounding area.
- c) The boundaries of the tract to be subdivided distinctly show all lengths.
- d) Scale denoted both graphically and numerically.



- e) North arrow and declination and date of plat preparation.
  - f) Proposed streets, street names, notation as to whether public or private street, existing and proposed streets on adjoining properties
  - g) Existing and proposed property lines on the tract to be subdivided and on adjoining properties, buildings and other structures, waterways, railroads, bridges, culverts, storm drains on the land, and corporate limits such as township boundaries and county lines.
  - h) The name of the Township, County, and State in which the subdivision is located.
  - i) Proposed lot lines, lot numbers (numbered consecutively), approximate dimensions, and area.
  - j) Wooded areas, marshes, swamps, rocky outcrops, ponds, streams, wetlands, or any other natural feature.
  - k) The name, address, and telephone number of the owner, mortgagee, registered surveyor, land planner, architect, landscape architect, and engineer responsible for the subdivision.
  - l) Stormwater Management Statement
- 4) Future Development Notes: For any oversized lots, or large areas that the owner/developer intends to develop with additional lots in the future, the preliminary plat shall contain a note to that effect of “Future Development”.

## **K. FINAL PLAT REQUIREMENTS**

- 1) The Final Plat: The final plat shall constitute only the portion of the preliminary plat which the subdivider proposes to record and develop at this time; such portion shall conform to all the requirements of these regulations and shall provide all information required on the preliminary plat.
- 2) Plat Submitted: The final plat, for the first phase or entire development, shall not be submitted more than twenty-four (24) months after the date on which the preliminary plat was approved, otherwise such approval shall be null and void, unless a written extension of this time limit is granted by the Planning Director on or before the two-year anniversary date of approval.
- 3) Plat Prepared: The final plat shall be prepared by a surveyor or engineer licensed and registered to practice in North Carolina. The final plat shall conform to the preliminary plat as it was approved.
- 4) Number of Copies: The original plat and two blueprints shall be submitted to the Planning Director.
- 5) Size of Plat: Final plats shall have an outside marginal size of not more than eighteen (18) inches by twenty-four (24) inches. Where size of land areas or suitable scale, to assure legibility, maps may be placed on two or more sheets with appropriate match lines.
- 6) Required Certification: All appropriate certificates, as stipulated in Section 14-231 of the Johnston County Land Development Code, shall be placed on the final plat.
- 7) Contents Required: This final plat shall depict or contain the following information. Plats not containing the following data shall be returned to the sub-divider for completion or re-submission. The Final Plan shall meet all requirements of N.C. General Statute 47-30, and shall include:
  - a) The name of the subdivision.
  - b) The exact boundary lines of the tract to be subdivided fully dimensioned by lengths and bearings, and the location of intersecting boundary lines of adjoining land.
  - c) Scale denoted both graphically and numerically.
  - d) Street names, designated public or private.
  - e) The location, purpose, and dimensions of areas to be used for purposes other than residential.
  - f) The names of owners of adjoining properties and any adjoining subdivisions.
  - g) The locations and dimensions of all rights-of-way, pavement widths of all streets and the location and width of all adjacent streets, all utility or other easements, all easements on adjoining properties, riding trails, natural buffers, paths and areas to be dedicated to public use with the purpose of each stated
  - h) Property lines, buildings and other structures, water courses, railroads, bridges, culverts, storm drains, corporate limits, township, and county boundaries.
  - i) Engineering data sufficient to determine on the ground every straight or curved boundary line, street line, lot line, right-of-way line, easement line, and setback line, including dimensions, bearings, radii, central angles and tangent distances for the center line of curved streets and curved property lines that are not the boundary of curved streets. All dimensions shall be measured to the nearest one hundredth (100th) of a foot.
  - j) Accurate locations and descriptions of all monuments, markers, and control points.
  - k) Lots numbered consecutively throughout the subdivision and lots numbered consecutively throughout each block.



- l) Date of survey, plat preparation, north arrow and declination.
- m) All certifications as required by Section 14-231 of the Johnston County Land Development Code.
- n) If private roads are used, a notation is required on the final plat as to the Book and Page Number of the recorded Private Road Maintenance Agreement.

**L. CERTIFICATES AND ENDORSEMENTS ON FINAL PLAT**

**1. CERTIFICATE OF SURVEY AND ACCURACY**

(Major Subdivisions Only)

I, \_\_\_\_\_, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION FROM A (DEED DESCRIPTION RECORDED IN BOOK \_\_\_\_\_, PAGE \_\_\_\_\_, PLAT RECORDED IN BOOK \_\_\_\_\_, PAGE \_\_\_\_\_, OR OTHER); THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN DEED/PLAT BOOK \_\_\_\_\_, PAGE \_\_\_\_\_; THAT THE RATIO OF PRECISION AS CALCULATED IS 1:\_\_\_\_\_; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G. S. 47-30 AS AMENDED. WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER AND SEAL THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, A.D., 20\_\_\_\_.

ALL OBLIGATIONS AND REQUIREMENTS FOR THE UTILITIES TO SERVE \_\_\_\_\_ SUBDIVISION, SECTION \_\_\_\_\_, LOTS \_\_\_\_\_, AS SET FORTH BY JOHNSTON COUNTY PUBLIC UTILITIES DEPARTMENT, HAVE BEEN MET AND ARE SATISFACTORY FOR THE PURPOSE OF RECORDING THE SUBDIVISION MAP.

\_\_\_\_\_  
DATE DIRECTOR OF INFRASTRUCTURE

NOTE: NO STRUCTURES TO BE BUILT INSIDE ANY UTILITY EASEMENT.

\_\_\_\_\_  
SURVEYOR LICENSE NUMBER

**2. CERTIFICATE OF FLOODWAY INFORMATION**

PROPERTY SHOWN HEREON \_\_\_\_\_ IS \_\_\_\_\_ IS NOT LOCATED IN A FEMA DESIGNATED FLOOD ZONE.

FLOOD HAZARD PANEL NO. \_\_\_\_\_

EFFECTIVE DATE: \_\_\_\_\_

\_\_\_\_\_  
DATE SURVEYOR

**6. CERTIFICATION FOR WATER SUPPLY AND SEWAGE DISPOSAL SYSTEMS**

CERTIFICATE OF PRELIMINARY APPROVAL OF WATER SUPPLY AND SEWAGE DISPOSAL SYSTEMS INSTALLED FOR INSTALLATION IN \_\_\_\_\_ SUBDIVISION

MEET PUBLIC HEALTH REQUIREMENTS AS DESCRIBED IN APPENDIX II JOHNSTON COUNTY SUBDIVISION REGULATIONS. FINAL APPROVAL FOR INDIVIDUAL LOTS WITHIN THIS SUBDIVISION WILL BE BASED ON DETAILED LOT EVALUATION UPON APPLICATION AND SUBMISSION OF PLAN FOR PROPOSED USE. THIS PRELIMINARY CERTIFICATION IS ADVISORY ONLY AND CONFERS NO GUARANTEE.

\_\_\_\_\_  
DATE HEALTH REPRESENTATIVE

**NOTE:** EACH LOT SHOWN HEREON MAY REQUIRE THE USE OF SEWAGE PUMPS, LOW PRESSURE PIPE SYSTEMS, FILL SYSTEMS, INNOVATIVE SYSTEMS OR ANY OTHER ALTERNATIVE SYSTEM TYPE AND SITE MODIFICATIONS SPECIFIED IN THE NORTH CAROLINA LAWS AND RULES FOR SEWAGE TREATMENT AND DISPOSAL SYSTEMS, 15A NCAC 18A SECTION 1900. THE ACTUAL SYSTEM TYPE, DESIGN AND SITE MODIFICATIONS WILL BE DETERMINED AT THE TIME OF PERMITTING.

**3. CERTIFICATE OF OWNERSHIP AND DEDICATION**

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON, WHICH IS LOCATED IN THE SUBDIVISION JURISDICTION OF JOHNSTON COUNTY AND THAT I HEREBY ADOPT THIS SUBDIVISION PLAN WITH MY FREE CONSENT, ESTABLISH MINIMUM SETBACK LINES, AND DEDICATE ALL STREETS, ALLEYS, PARKS AND OTHER SITES AND EASEMENTS TO PUBLIC OR PRIVATE USE AS NOTED.

\_\_\_\_\_  
DATE OWNER

**4. NOTICE TO CONNECT TO PUBLIC UTILITY SYSTEM (Major Subdivisions Only)**

HOMEOWNER IS REQUIRED TO CONNECT TO PUBLIC WATER (AND SEWER, WHERE AVAILABLE) BEFORE CERTIFICATE OF OCCUPANCY IS ISSUED FOR THE PRINCIPAL STRUCTURE.

**5. CERTIFICATE OF PUBLIC UTILITIES**



**7. DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS CERTIFICATION**

PROPOSED SUBDIVISION ROAD CONSTRUCTION  
STANDARDS CERTIFICATION

APPROVED: \_\_\_\_\_  
DATE DISTRICT ENGINEER

**NOTE:** ONLY NORTH CAROLINA DEPARTMENT  
OF TRANSPORTATION APPROVED STRUCTURES ARE  
TO BE CONSTRUCTED ON PUBLIC RIGHT-OF-WAY.

**NOTE:** SITE TRIANGLE TAKES PRECEDENT  
OVER ANY SIGN EASEMENT

**NOTE:** OWNER, DEVELOPER, OR CONTRACTOR  
SHALL SET THE CENTERLINE OF THE EXISTING  
ROADWAY DITCH BACK TO A MINIMUM OF 12 FEET  
FROM THE EXISTING/PROPOSED EDGE OF  
PAVEMENT ALONG ALL ROAD FRONT LOTS.

**NOTE:** ALL DRAINAGE EASEMENTS SHALL BE  
DEDICATED AS PUBLIC AND IT SHALL BE THE  
RESPONSIBILITY OF THE PROPERTY OWNERS TO  
MAINTAIN THE DRAINAGE EASEMENTS AND ANY  
DRAINAGE STRUCTURES THERE IN, SO AS TO  
MAINTAIN THE INTEGRITY OF THE DRAINAGE  
SYSTEM AND INSURE POSITIVE DRAINAGE.

**8. ROAD MAINTENANCE STATEMENT OF  
UNDERSTANDING**

I, \_\_\_\_\_ AM RESPONSIBLE  
FOR THE CONSTRUCTION, MAINTENANCE AND  
REQUIRED ROAD IMPROVEMENTS OF SUBDIVISION  
STREETS UNTIL:

- a) APPROVED/TAKEN OVER BY NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION FOR PUBLIC  
ROADS, OR
- b) APPROVED/TAKEN OVER BY HOMEOWNERS  
ASSOCIATION FOR PRIVATE ROADS  
MAINTENANCE, OR
- c) PRIVATE ROAD MAINTENANCE AGREEMENT IS  
SIGNED AND RECORDED BY OWNERS OF EACH  
LOT.

\_\_\_\_\_  
DATE DEVELOPER/OWNER

**9. SUBDIVISION ADMINISTRATOR'S  
CERTIFICATE**

I HEREBY CERTIFY THAT THIS RECORD PLAT HAS  
BEEN FOUND TO COMPLY WITH THE SUBDIVISION  
ORDINANCE OF JOHNSTON COUNTY, NORTH  
CAROLINA, AND THAT THIS PLAT HAS BEEN  
APPROVED FOR RECORDING IN THE REGISTER OF  
DEEDS OF JOHNSTON COUNTY.

\_\_\_\_\_  
DATE SUBDIVISION ADMINISTRATOR

**10. SUBDIVISION ADMINISTRATOR'S  
CERTIFICATE**

THIS PLAT IS EXEMPT FROM SUBDIVISION  
REGULATION WITHIN THE JOHNSTON COUNTY  
PLANNING JURISDICTION.

\_\_\_\_\_  
DATE SUBDIVISION ADMINISTRATOR

**11. REVIEW OFFICER'S CERTIFICATE**

STATE OF NORTH CAROLINA  
COUNTY OF JOHNSTON

I, \_\_\_\_\_, REVIEW OFFICER OF  
JOHNSTON COUNTY, CERTIFY THAT THE MAP OR  
PLAT TO WHICH THIS CERTIFICATION IS AFFIXED  
MEETS ALL STATUTORY REQUIREMENTS FOR  
RECORDING.

\_\_\_\_\_  
DATE REVIEW OFFICER

**12. JOHNSTON COUNTY REGISTER OF DEEDS**

STATE OF NORTH CAROLINA, JOHNSTON COUNTY

THIS INSTRUMENT WAS PRESENTED FOR  
REGISTRATION AND RECORDING THIS \_\_\_\_\_ DAY  
OF \_\_\_\_\_ 20\_\_ AT \_\_\_\_\_  
BY \_\_\_\_\_  
REG. OF DEEDS ASST. REG. OF DEEDS



## **SECTION 8 - WIRELESS TELECOMMUNICATIONS FACILITIES**

### **A. DEFINITION**

For the purpose of defining medium and high density residential areas for the employment of stealth and/or camouflage techniques, the following standards apply:

- a) High Density Area: Inside of or within ½ mile of the Municipal Transition Zoning District, Planned Unit Development Districts.
- b) Medium Density Area: Within ½ mile of a major residential subdivision or development consisting of at least 1 residential unit per acre.

### **B. STANDARDS**

Telecommunications Facilities are subject to Section 14-554 of the Land Development Code if a nonconforming feature exists. Based on this code, a nonconforming tower cannot be expanded, which includes, but is not limited to, additional generators, antennae (colocations), and height. However, in an attempt to promote colocations, even on nonconforming towers, the County will consider the allowance for additional antennae as long as another nonconforming feature is corrected. The County envisions that the addition of antennae for the removal of a nonconforming feature would aid in bringing nonconforming towers into compliance with current code.

## **SECTION 9 - APPEALS**

Any decision by the Planning Director made in the administration of the provisions of this manual may be appealed to the Board of Adjustment within 30 days, in accord with the provisions of Section 14-592 of the Land Development Code.

## **SECTION 10 – SITE PLAN DESIGN/DRAWING CRITERIA**

All site plans shall be drawn to scale by a registered land surveyor, certified engineer, or licensed architect unless it can be drawn by the applicant in a detailed and legible manner. All lines must be scaled with no freehand drawing as acceptable for submittal. Site plans that do not provide necessary detail and quality for the staff and/or Board to determine compliance with design standards may result in the delay and denial of the request. The following items must be displayed on the site plan:

1. Must be drawn to scale with the actual scale used shown on the site plan.
2. Lot lines and the length of each line. A survey of the property boundaries can be used.
3. Location of the driveway.
4. Location of the parking areas with each parking space shown and scaled.
5. Show location of any outdoor lighting and note the type of lighting on the plan.
6. Location of all landscape buffers.
7. Show all fences, existing and proposed, and note the type of materials and height.
8. Type of material used in the parking area and driveways must be shown or noted on the plan.
9. Location of any access easements, drainage easements, utility easements, riparian buffers, or streams.
10. Location of existing structures (to remain), proposed structures, including all accessory buildings.
11. Location of well, septic tank, septic tank drain lines, and the length of the septic line. This information is on the Environmental Health Permit.
12. Distance from the road right-of-way and any existing structures (to remain) or proposed structures.
13. Driveway culvert size.
14. Parcel number, subdivision and lot number, name and signature of site plan drawer, date, graphic scale.
15. Site Plan shall be oriented north.
15. Other items may be required on the site plan as deemed necessary by Planning Department, Planning Board, and/or County Commissioners.



**APPENDIX I**

***RESERVED***



**APPENDIX II**  
**Water and Sewage Systems**  
**Rules and Regulations**

**Public Water and Sewerage Systems:** Based on plans and specifications approved by the N. C. Department of Environmental Health and Natural Resources, Public Water Supply Section and Division of Water Quality.

**Semi-Public Water Systems (3-14 Connections) and Public Sewage Systems:** Based on plans and specifications approved by the Johnston County Health Department (Water Supply) and the N. C. Department of Environment, Health and Natural Resources, Public Sewage Systems.

**Public or Community Systems and Individual Sewage Disposal Systems:** Water supply based on plans and specifications approved by the N. C. Department of Environment, Health and Natural Resources, Public Water Supply Section. Individual sewage disposal systems based on a site investigation by the Johnston County Health Department in accordance with rules of the N. C. Department of Environment, Health and Natural Resources, Division of Environmental Health, On-Site Wastewater Section.

**Individual Water Supplies and Public Sewage Systems:** Individual water systems based on a site visit according to rules governing the permitting, construction, repair, inspections, sampling and abandonment of private and semi-private public water supply wells. Public sewage systems based on plans and specifications approved by the N.C. Department of Environment, Health and Natural Resources Division of Water Quality.

**Individual Water Supplies and Individual Sewage Disposal Systems:** Individual water systems bases on a site visit according to rules governing the permitting, construction, repair, inspections, sampling and abandonment of private and semi-private water supply wells. Individual sewage disposal systems based on a site investigation by the Johnston County Health Department in accordance with rules of the N.C. Department of Environment, Health and Natural Resources, Division of Environmental Health, On-Site Wastewater Section.





**APPENDIX III**  
**Sample Letter of Credit**

Date: \_\_\_\_\_

IRREVOCABLE LETTER OF CREDIT NO. \_\_\_\_\_

TO: JOHNSTON COUNTY  
PLANNING DEPARTMENT  
P. O. BOX 1052  
SMITHFIELD, NC 27577

Gentlemen:

We hereby authorize you to draw on \_\_\_\_\_ Bank, \_\_\_\_\_, North Carolina, for the account of \_\_\_\_\_ Inc, up to the aggregate amount of \$ \_\_\_\_\_ available by your drafts at sight and to be accompanied by the following:

Statements from the Johnston County Planning Department that \_\_\_\_\_, Inc., has failed to comply with the water, sewer, and road requirements for \_\_\_\_\_.

All drafts must be marked, "Drawn under the \_\_\_\_\_ Bank Letter of Credit No. \_\_\_\_\_".

This letter of credit will be subject to the uniform customs and practice for documentary credits (1974 revision) as per Brochure No. 290 of the International Chamber of Commerce.

We hereby agree with the drawers, endorsers and bona fide holders of drafts drawn under and in compliance with the terms of this credit that the same shall be duly honored on delivery of documents as specified if negotiated or presented not later than one year from date of letter.

Very truly yours,

\_\_\_\_\_  
Bank President

\_\_\_\_\_  
Bank Vice-President



**APPENDIX III-A**  
**Procedures for Letter of Credit**

Letters of Credit must be issued with Johnston County as the Beneficiary.

Letters of Credit includes a Bond.

Letters of Credit must match, or exceed, the price quote of the work to be done.

Letters of Credit should be issued for the amount of “returnable” credit. This may involve several Letters of Credit for a single development project. For example, a Letter of Credit that includes road grading, paving, street signs and a landscaped entrance sign **cannot** be returned until **all** improvements are completed and accepted by the County or the North Carolina Department of Transportation where appropriate. Whereas, separate Letters of Credit for road grading, paving, street signs, etc. may be returned when each separate task is completed and accepted by the County or the North Carolina Department of Transportation, where appropriate.

Extensions for a Letter of credit must be written by the issuing financial institution requesting the extension at least one (1) month before the original letter expires. Johnston County will begin proceedings to redeem the original Letter of Credit within the final thirty (30) days of the original expiration date.

Upon Planning Department verification that the specific task(s) for which the Letter of credit is issued has been completed and accepted by the County, the Letter of credit may be mailed back to the issuing financial institution or returned to the holder of the “Drawn upon” account in person, at the Planning Department. In the case of the latter, the receiver will be required to sign a letter stating that the Letter of credit has been returned to them, and a copy of this letter will be placed in the Planning Department file.

Letters of Credit must be received by the Planning Department prior to the Final Plat map being signed for recordation.

In the event that Johnston County must redeem a Letter of Credit or Bond, the road will be petitioned to the North Carolina Department of Transportation to be accepted onto the State Maintenance System immediately. No additional permits will be issued in that, or any succeeding, section of the subdivision until the street is accepted onto the State Maintenance System by the North Carolina Department of Transportation.



**APPENDIX IV**  
**Private Road Maintenance Declaration**

Prepared by: \_\_\_\_\_

Return to: \_\_\_\_\_

NORTH CAROLINA DECLARATION OF RESTRICTIONS AND PROVISIONS FOR PRIVATE ROAD  
MAINTENANCE IN THE PLANNING JURISDICTION OF JOHNSTON COUNTY

THIS DECLARATION, made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, by

\_\_\_\_\_ hereinafter called Declarants.

WITNESSED: \_\_\_\_\_

WHEREAS, Declarants own in fee simple the real property described in Article 1 below, known as

\_\_\_\_\_  
WHEREAS, the said property will have access to SR. via the private road shown on the plat hereinafter referred to, said private road being known as \_\_\_\_\_

WHEREAS, Declarants by this Declaration of Restrictions, wish to bind themselves, their successors and assigns to provide all owners of any portion of said property owned by Declarants described below perpetual ingress, egress and regress to State Roads; and \_\_\_\_\_

WHEREAS, Declarants by this Declaration of Restrictions, wish to bind themselves, their successors and assigns to provide for maintenance of said private road until such time as the said private road is accepted by the State of North Carolina for maintenance;

NOW, THEREFORE, Declarants agree for themselves and with any and all persons, firms or corporations hereafter acquiring any of the property described in Article 1 below, that the same shall be subject to the following restrictions, conditions, and covenants relating to the use and occupancy thereof, which restrictions, conditions, and covenants shall run with the said property and inure to the benefit of and be binding upon the heirs, successors and assigns of Declarants and other acquiring parties and persons.

Article 1. The real property which is, and shall be, held transferred, sold and conveyed subject to the protective and restrictive covenants set forth in the various Articles of this declaration is located in \_\_\_\_\_ Township, Johnston County, North Carolina, and is more particularly described as follows:

Article 2. Declarants hereby grant unto themselves and the future record owners of the aforesaid property adjoining and abutting \_\_\_\_\_ as shown on the aforesaid record plat and as said road may be extended into the aforesaid property, perpetual ingress, egress and regress along the said road and for the purposes of installation and maintenance of utilities.

Article 3. Declarants, so long as they shall be record owners of any of the aforesaid property, shall be responsible for the maintenance of said private road as herein provided. In the event Declarants no longer own any of the aforesaid property, the owner of \_\_\_\_\_ as shown on the recorded plat herein before referred to shall be responsible for maintenance as herein provided.

Article 4. Each record owner of any of the aforesaid property abutting on said road shall bear on a pro-rata basis the cost of maintaining said private road, this being each owner's pro-rata share for grading costs, gravel, or rock hauled in to fill ruts, holes, and washed out sections and necessary replacement of, or additional drainage culverts. Written notice of all proposed maintenance shall be made to all owners of record at their last known address. \_\_\_\_\_ shall be maintained to subdivision standards as prescribed by Johnston County now and as the same may be revised from time to time. Maintenance and repairs necessary to keep the said road to subdivision standards shall be approved by a majority of the votes cast with respect to the proposed maintenance provided that for this purpose each owner shall have one vote for each "point" assigned to his property. Each owner's pro-rata share of the maintenance costs of said private road shall be computed by a point system whereby one point is assigned per each acre owner, calculated to the nearest acre, and three points for each



occupied dwelling unit and each owner's share shall be in proportion of his total points to the total points of the aforesaid property. Each owner's pro-rata share of the maintenance cost of the said private road shall be due and owing to whomever takes at that time responsibility for maintenance of said road within 30 days of the work being completed. If not paid by that time, then said costs may be reduced to a judgment and shall become a lien on the land of the defaulting owner.

Article 5. In the event that the said private road is extended within the aforesaid property, the costs of maintaining the entire road system shall be borne by all the owners of said property on the point system set forth above; provided, however, that the initial costs of constructing any extension of the road shall be borne solely by the owners of the portion of said property abutting said road extension as they may agree, or if they do not agree, then by the same point system as set out above.

Article 6. In the event Johnston County or any other governmental body, as a condition to the approval of any further subdivision of the property described in Article 1, may require said private road to be upgraded above subdivisions standards or publicly dedicated and constructed to Department of Transportation standards, then in that event, Declarants and all persons taking title to the property described in Article 1 shall be responsible for maintenance and the costs of maintenance of the entire road system to the new standard on the point system described in Article 4. Provided, however, that the initial cost of constructing the road or any portion of the road to a higher private road standard or to Department of Transportation standards shall be borne solely by the owners of the portion of said property, the subdivision of which requires that the road or any portion of it be upgraded. The cost of constructing the road or any portion of it to a higher private road standard or to Department of Transportation standards shall be shared by the owners responsible for the upgrading according to the point system described in Article 4. In the event public dedication of the said private road or any extension of the private road or portion thereof is required by Johnston County, Declarants and all persons taking title to the aforesaid property from and through Declarants shall publicly dedicate the portion of said road required to be dedicated.

Article 7. The private road located within said property may be dedicated to the public at the election of the owners in the event dedication is not required by a governing body as set forth above. In that event, the owners and their successors in title and interest to any of the property described herein will remain responsible for road maintenance as here provided until such time as the road dedicated is maintained by the North Carolina Department of Transportation or other governmental body.

Article 8. This Agreement shall run with and be appurtenant to the land and shall be binding upon the heirs, successors, and assigns of each record owner of the aforesaid property.

Article 9. This Agreement shall remain in full force and effect until such time as said road or any portion thereof is taken over by the Department of Transportation for maintenance purposes, and any portion of said road not so taken over shall remain subject to this Agreement and for said portion this Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, Declarants have caused this instrument to be signed and sealed on the day and year first written above. \_\_\_\_\_ (SEAL)

\_\_\_\_\_  
NORTH CAROLINA  
\_\_\_\_\_ COUNTY

I, \_\_\_\_\_, a Notary Public of the County and State aforesaid do hereby certify that \_\_\_\_\_ personally appeared before me this day and acknowledged the due execution of the foregoing Declaration of Restrictions and Provisions for Private Road Maintenance.

Witness my hand and notarial seal, this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

My Commission Expires: \_\_\_\_\_  
Notary Public



#### **APPENDIX IV-A**

#### **Instructions for Completing the Declaration of Restrictions and Private Road Maintenance**

1. Enter date - e.g. 23rd day of August, 1987.
2. Names and marital status and addresses of all parties to the document - e.g. "John G. Doe and wife, Jane H. Doe, of Route #2, Clayton, North Carolina, 27520." If marital status is other than married, list as applicable - unmarried, divorced, separated. If married, husband and wife must both be parties to the document.
3. Type plat name, semi-colon & and - e.g. "Property of John G. & Jane H. Doe; and"
4. Type SR number - e.g. SR "1342"
5. Type road name, semi-colon & and - e.g. "Gwen Road; and"
6. Type township name - e.g. "Clayton" Township
7. Descriptions may vary. Examples are:  
"Being all of the property as described in deed recorded in Deed Book 000, Page 000, of the Johnston County Registry which includes all of the property as shown on the plat entitled 'Property of John G. & Jane H. Doe, survey by Gerald Doe, R.L.S. and recorded in Plat Book \_\_\_\_\_ at Page\_\_\_\_\_ Johnston County Registry.' "  
"Being all of the property as shown on the plat entitled 'Property of John G. & John H. Doe, survey by Gerald Doe, R.L.S. and recorded in Plat Book \_\_\_\_\_ at Page \_\_\_\_\_ Johnston County Registry.' "
8. Type road name - e.g. "Gwen Road"
9. Type all lot numbers with acres and any other acreage shown in description - e.g. "Lot 1 (6.39 acres), Lot 2 (2.49 acres) and Lot 3 (3.43 acres)." Also type Deed Book and Page if additional property is involved in maintenance.
10. Type road name - e.g. "Gwen Road"
11. List appropriate private road standard as approved by the Planning Department.
12. Type legal name under each line.
13. Same as above - if not needed, leave blank. If more than 2 parties, add additional names. Note: Make sure you put the word (SEAL) behind the name.
14. Bring to a Notary Public and sign before Notary.
15. At top of first page fill in Prepared By with your name & return to with your name and address.
16. Articles 3 & 4 represent one method of handling the maintenance of a private road. Others can be approved.



**APPENDIX V**

**Arterial/Collectors**

<b>ARTERIAL STREETS:</b>				
I-40	HWY		NC 39	HWY
I-95	HWY		NC 42	HWY
US 70	HWY		NC 50	HWY
US 70 A	HWY		NC 55	HWY
US 70 A Bus.	HWY		NC 96	HWY
US 70 Bypass	HWY		NC 210	HWY
US 301	HWY		NC 222	HWY
US 701	HWY			

<b>COLLECTOR STREET by SR NUMBER:</b>							
1001	1010	1330	1520	1547	1563	1720	1939
1002	1143	1331	1521	1550	1700	1723	2055
1003	1162	1335	1524	1555	1701	1901	2141
1005	1303	1338	1525	1556	1705	1902	2320
1006	1308	1501	1526	1557	1714	1903	2342
1007	1309	1504	1531	1560	1716	1908	2523
1008	1313	1514	1532	1561	1717	1934	
1009	1313	1517	1533	1562	1720		

<b>COLLECTOR STREETS:</b>							
SR	1720	APPLEWHITE	RD	SR	1939	LIVE OAK CHURCH	RD
SR	2523	BAKERS CHAPEL	RD	SR	1520	LOOP	RD
SR	1555	BARBER MILL	RD	SR	1313	MASSENGILL POND	RD
SR	1303	BENSON-HARDEE	RD	SR	1514	MCLEMORE	RD
SR	1521	BH PARRISH	RD	SR	1533	MT PLEASANT	RD
SR	2141	BIZZELL GROVE CHURCH	RD			NC 231	HWY
SR	1162	BLACK CREEK	RD			NC 242	HWY
SR	1007	BROGDEN	RD	SR	1934	OLD BEULAH	RD
SR	1003	BUFFALO	RD	SR	1524	OLD DRUG STORE	RD
SR	1705	CASTLEBERRY	RD	SR	1309	OLD FAIRGROUND	RD
SR	1010	CLEVELAND	RD	SR	1006	OLD STAGE	RD
SR	2055	COMMERCE	PKWY	SR	1313	PLAIN VIEW CHURCH	RD
SR	1525	CORNWALLIS	RD	SR	1338	POLENTA	RD
SR	1700	COVERED BRIDGE	RD	SR	1901	POWHATAN	RD
SR	1504	CRANTOCK	RD	SR	2342	PRINCETON-KENLY	RD
SR	1009	DEVIL'S RACE TRACK	RD	SR	1714	PRITCHARD	RD
SR	1723	EARPSBORO	RD	SR	2320	RAINES CROSSROADS	RD
SR	1308	ELEVATION	RD	SR	1002	RAINS MILL	RD
SR	1331	FEDERAL	RD	SR	1330	RALEIGH	RD
SR	1908	FIRE DEPARTMENT	RD	SR	1560	RANCH	RD
SR	1547	GLEN	RD	SR	1517	SANDERS	RD
SR	1902	GLEN LAUREL	RD	SR	1562	STEEL BRIDGE	RD
SR	1556	GOVERNMENT	RD	SR	1143	STRICKLAND'S CROSSROADS	RD
SR	1008	HARPER-HOUSE	RD	SR	1501	SWIFT CREEK	RD
SR	1001	HINNANT-EDGERTON	RD	SR	1720	THANKSGIVING FIRE DEPT	RD
SR	1557	JACK	RD	SR	1717	TURNIPSEED	RD
SR	1531	JACKSON-KING	RD	SR	1903	VINSON	RD
SR	1526	JOSEPHINE	RD	SR	1701	WENDELL	RD
SR	1716	LAKE WENDELL	RD	SR	1532	WHITE MEMORIAL CHURCH	RD
SR	1335	LASSITER	RD	SR	1550	WINSTON	RD
SR	1561	LEE	RD	SR	1005	WOOD'S CROSSROADS	RD
SR	1563	LITTLE CREEK CHURCH	RD				

All Streets not listed above are considered to be Local Streets

