



7 STREETS, UTILITIES AND OTHER INFRASTRUCTURE

7.1 PURPOSE AND APPLICABILITY

- A. The purpose of this chapter is to establish criteria for the subdivision and development of real property within the jurisdiction of the Town.

These regulations are intended to:

1. Assure the timely provision of required streets, utilities, and other facilities and services to new land developments;
2. Assure the adequate provision of safe and convenient traffic access and circulation, for vehicles, bicycles and pedestrians, in and through new land developments;
3. Coordinate proposed development with existing or planned streets and with other public facilities;
4. Dedicate or reserve rights-of-way or easements for utility purposes; and,
5. Provide adequate water, sanitary sewer and reclaimed water services.

- B. The regulations of this Chapter apply to any new development subject to Development Plan or Subdivision review.

Any person who subdivides, sells or transfers property without recording a plat shall be guilty of a Class 1 misdemeanor.

1. **Authority.** According to the provisions of GS §160D-801 et. seq., the Town has the authority to regulate the subdivision of land within its corporate limits and Extraterritorial Jurisdiction.

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7.2 REQUIRED IMPROVEMENTS AND COORDINATION FOR ALL DEVELOPMENT

7.2.1 TABLE OF REQUIRED IMPROVEMENTS

The table below indicates required improvements by district for all development applications requiring a Development Plan or Subdivision Plan.

TABLE 7.3.1-REQUIRED IMPROVEMENTS													
REQUIRED IMPROVEMENTS (SECTION REFERENCE)	RESIDENTIAL USE DISTRICTS STANDARDS					COMMERCIAL & MIXED-USE DISTRICT STANDARDS				EMPLOYEE/CAMPUS USE DISTRICT STANDARDS			
	RR	SR	NR	NCR	MXR	NMX	DMX	RMX	CB	SP	IVMX	BRT	HI
Underground Wiring (7.3.3.B)	R	R	R	R	R	R	R	R	R	R	R	R	R
Underground Drainage (7.3.3.C)	R	R	R	R	R	R	R	R	R	R	R	R	R
Public Water and Hydrants (7.3.3.D)	R	R	R	R	R	R	R	R	R	R	R	R	R
Public Sewer (7.3.3.E)	R	R	R	R	R	R	R	R	R	R	R	R	R
Curb and Gutter (Engineering Design & Construction Standards Section 3.02G)	R	R	R	R	R	R	R	R	R	R	R	R	R
Paved Streets (7.6.5.K)	R	R	R	R	R	R	R	R	R	R	R	R	R
Street Signs (public streets) (7.6.5.K)	R	R	R	R	R	R	R	R	R	R	R	R	R
Street Lights (7.6.5.M)	R	R	R	R	R	R	R	R	R	R	R	R	R
Sidewalks (7.8)	R	R	R	R	R	R	R	R	R	R	R	R	R
Street Trees (Section 5.5)	R	R	R	R	R	R	R	R	R	R	R	R	R

KEY: R - Required

7.2.2 GENERAL REQUIREMENTS

- A. Engineering Design and Construction Standards.** All required improvements in this Chapter must meet both the standards herein and the Town's Engineering Design & Construction Standards.
- B. Dedication of any Public Utility Lines or Other Public Facilities by Final Plat.** Pursuant to GS §160D-804, land shall be dedicated and reserved for utility purposes. When a utility right-of-way is dedicated, the approval of a final plat does not constitute an acceptance by the Town of any public utility line or other public facility shown on the final plat. The act of accepting any dedication of lands or facilities located within the jurisdiction of this UDO, but outside the corporate limits of the Town, shall not place on the Town any duty to open, operate, repair or maintain any utility line or other public facility.
- C. Dedication of any Public Utility Lines or Other Public Facilities by Grant of Easement or Plat.** Public utility lines or other public facilities may be dedicated to the Town by separate grant of easement or separate plat (i.e., not a final plat of a subdivision) subject to the approval by the Administrator. No public utility lines or other public facilities shall be built within such easement or plat by a developer unless in compliance with construction drawings approved by the Administrator. Upon completion and receipt of a one year warranty, the Administrator may accept such public utility lines or other public facilities for public maintenance.
- D. Dedication of Streets.** When a street is dedicated in connection with a subdivision or development plan, the approval of a final plat shall not constitute the acceptance by the Town of any street shown on the final plat. The Administrator is hereby authorized by the Town Council to accept public dedication of streets upon the following conditions:
1. The street is located on lands within the corporate limits of the Town.
 2. The street has been constructed within a recorded right-of-way and done so in

accordance with the Engineering Design & Construction Standards.

3. The warranty period for the street construction has expired and no warranty issues remain.
4. The person dedicating the street is not otherwise in default of any other obligation to the Town.

Acceptance of dedication of lands for street right-of-way purposes located within the jurisdiction of this UDO, but outside the corporate limits of the Town shall not place on the Town any duty to open, operate, repair or maintain any street, and the Town shall, in no event, be held to answer in any civil action or proceeding for failure to open, repair or maintain any street located outside the corporate limits of the Town.

7.2.3 UTILITIES

- A. Easements.** Easements shall be provided for all public or private utilities including, but not limited to water, sanitary sewer, reclaimed water and drainage in conformance with the Engineering Design & Construction Standards and Code of Ordinances. The final location and configuration of all easements are subject to the approval of the Administrator and shall be clearly delineated on all final plats, site plans, development plans or other applications submitted to the Town for any form of development or improvement approval.
- B. Underground Installation of Utility Lines Required.**
1. **New Installations.** All new utility lines and services shall be provided underground. All such installations shall be provided in conformance with the Engineering Design & Construction Standards. Underground service connections at the street property line shall be provided to each lot by the developer or subdivider. At the discretion of the Town Council, the requirement for individual electric service connections to each lot may be waived in the case of adjoining lots to be retained in single ownership and intended to be developed for the same primary use

2. **Relocation.** Where any Major Subdivision, attached dwelling project, or Development Plan is proposed, existing overhead utility lines along or through the proposed development shall be relocated underground. Where the existing utility service is of a nature where relocation underground does not meet the criteria for underground relocation established by the utility provider, the Town Council may waive this requirement upon recommendation of the Administrator and payment of a fee-in-lieu of such relocation.

C. Drainage Utilities.

1. The developer or subdivider shall provide surface or subsurface stormwater drainage system in accordance with the Town's NPDES Phase II Post-Construction Stormwater Ordinance, the Town's NPDES Phase II Stormwater Illicit Discharge and Detection Ordinance, and the Town's Engineering Design & Construction Standards. In addition, stormwater drainage systems shall conform to the following:
 - a. No surface water shall be channeled or directed into a sanitary sewer.
 - b. Where feasible, the developer or subdivider shall connect to an existing storm drainage system.
 - c. Where an existing storm drainage system cannot feasibly be extended to the project or subdivision, a surface drainage system shall be designed to protect the proposed and existing development from water damage.
 - d. All development shall extend stormwater connections, contained in private drainage easements, sized to receive and to convey stormwater to and from adjacent properties built out conditions shown on the most current version of the Comprehensive Plan and in accordance with the Engineering Design & Construction Standards.

- D. **Water Utilities.** Each lot in a Major Subdivision or Development Plan within the Town and its

Extraterritorial Jurisdiction shall be provided, at the developers or subdividers expense, with municipal water services. Any water lines connections, services, and equipment so extended shall be installed in accordance with the Engineering Design & Construction Standards.

Each legally established residential lot or lot created by a minor residential subdivision that is within 1,000 feet of an existing municipal water line, which can be accessed through existing rights-of-way or easements, shall connect to such municipal water line at the developers or subdividers expense at the time of building permit. This shall not apply to any legally established lot located in the Extraterritorial Jurisdiction prior to the effective date of this UDO.

All lots not connected to municipal water systems shall have a suitable source of potable water which complies with the regulations of the Wake County Health Department and the State of North Carolina.

- E. **Sanitary Sewer Utilities.** Each lot in a Major Subdivision or Development Plan within the Town and its Extraterritorial Jurisdiction shall be provided, at the developers or subdividers expense, with municipal sanitary sewer services. Any sanitary sewer lines, connections, services, and equipment so extended shall be installed in accordance with the Engineering Design & Construction Standards. Connection to municipal water service is required with sanitary sewer service connection.

Each legally established residential lot or lot created by a minor residential subdivision that is within 1,000 feet of an existing municipal sanitary sewer line, which can be accessed through existing rights-of-way or easements, shall connect to such municipal sanitary sewer line at the developers or subdividers expense at the time of building permit. This shall not apply to any legally established lot located in the Extraterritorial Jurisdiction prior to the effective date of this UDO.

All lots not connected to municipal sanitary sewer systems shall have a suitable source of sanitary sewage disposal which complies with

the regulations of the Wake County Health Department and the State of North Carolina.

- F. Reclaimed Water Utilities.** Each lot in a Major Subdivision or Development Plan within the Town and its Extraterritorial Jurisdiction that is also within the Town's Reclaimed Water Service Area (shown on the Reclaimed Water Distribution Service Area Map located on the Town's website) shall be provided, at the developers or subdividers expense, with municipal reclaimed water lines and services. Any reclaimed water lines connections, services, and equipment so extended shall be installed in accordance with the Engineering Design & Construction Standards.

Each legally established residential lot or lot created by a minor residential subdivision that is within 1,000 feet of an existing municipal reclaimed water line which can be accessed through existing rights-of-way or easements shall connect to such municipal water line at the developers or subdividers expense at the time of building permit. This shall not apply to any legally established lot located in the Extraterritorial Jurisdiction prior to the effective date of this UDO.

- G. Fiber Optic Network.** When a Major Subdivision or Development Plan within the Town and its Extraterritorial Jurisdiction abuts the Town's existing fiber optic network, a connection or conduit for future connection shall be provided at the developers or subdividers expense.

Any new wastewater pumping station constructed with a Major Subdivision or Development Plan shall be connected to the Town's fiber optic network at the developer's or subdivider's expense.

Any new traffic signal installed with a Major Subdivision or Development Plan shall be connected to the Town's fiber optic network at the developer's or subdivider's expense.

- H. Water Metering Network.** The developer or subdivider shall be responsible for costs associated with any additional water metering network infrastructure as determined by the

Administrator. The developer or subdivider shall submit a site location map to the Administrator that includes the boundary of the proposed development, the location points for water service delivery with latitude and longitude coordinates where available. The Administrator will review site plans and provide an estimated network infrastructure design along with an estimate of fees necessary to serve the site. In addition, should the site need additional network infrastructure to adequately serve the site, the Administrator may require the developer or subdivider to dedicate (easement rights/right-of-way/fee simple ownership) sufficient to properly locate, operate, and maintain the infrastructure. The Administrator may require all or a portion of the associated network fees to be paid prior to commencement of work. Following construction, the Administrator will apply supplemental fees required to adequately install the water metering network infrastructure not otherwise paid for at the time of application.

7.2.4 COORDINATION WITH OUTSIDE AGENCIES AND UTILITIES

The Developer shall coordinate with applicable outside agencies and utility providers when reviewing the improvements required in table 7.3.1. This includes, but is not limited to, electric and cable utilities, wireless providers, and applicable governmental agencies.

7.3 CONNECTIVITY

- A. Purpose.** In order to provide for the convenient movement of traffic, effective fire protection, efficient provision of utilities or where such connection is in accordance with the Comprehensive Plan, streets shall be arranged so as to: provide for the continuation of collector streets and thoroughfare streets between adjacent subdivisions and development; maximize interconnectivity between and within subdivisions or development; and, minimize the use of cul-de-sac streets.
- B. General.** Streets, alleys and vehicular areas shall be designed and located in proper relation to existing and proposed streets, to the topography, to such natural features as streams and tree growth, to public safety and convenience,

and to the proposed land to be served by such streets. All proposed streets shall provide for the appropriate projection of streets in surrounding areas and provide reasonable access (stub streets) for surrounding acreage or tracts. Requirements may vary at the discretion of the Administrator where compliance is determined not feasible because of topography, the existence of environmentally sensitive lands, the need to preserve cultural resources, and/or other similar considerations.

C. Streets to be Interconnected. All streets shall be designed to form part of an interconnected street pattern. Streets must connect with adjacent street networks to the extent possible. Street designs will be evaluated as to meeting this interconnectivity standard on their ability to: permit multiple routes between origin/destination point; diffuse traffic; and, shorten walking distance.

1. **Gated Communities.** Gated communities are prohibited.
2. **Access Points.**
 - a. New development shall maintain external access points through street connections to existing roads and/or stubs to future development. Any development with more than 150 dwelling units must have a secondary means of public access and with each additional 300 units, another public access must be added. Nonresidential development shall provide secondary access if required by fire code.
 - b. An approved permit is required to connect to any existing state system street. North Carolina General Statute 136-102.6 Compliance of Subdivision streets with minimum standards of the Board of Transportation Required of Developers requires that new public streets outside the Town limits and changes to existing streets inside the Town limits that are the responsibility of NCDOT be in accordance with the minimum Right-of-Way and Construction standards established

by the Board of Transportation for acceptance on the state highway system. It is the intent of these standards and requirements, as set forth, to complement and not to conflict with the requirements of NCDOT as stated in NCGS 136-102.6. In all cases the most restrictive limitation or requirement or the requirement causing the highest standard of improvement shall govern.

D. Internal Design.

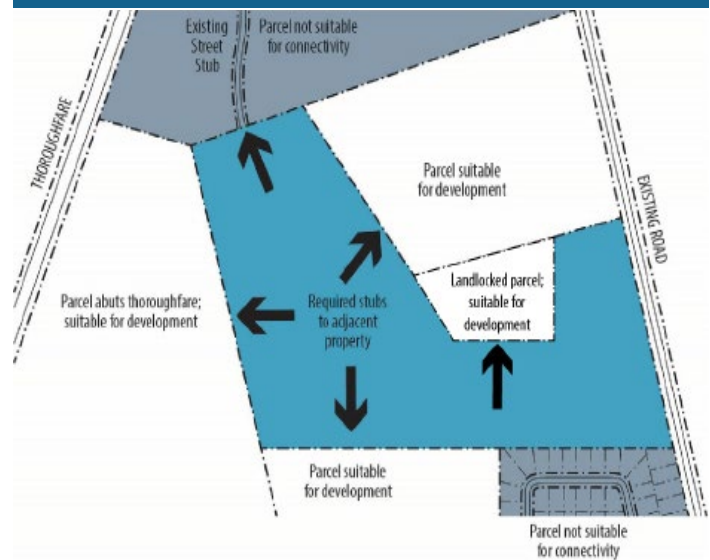
1. **All proposed streets shall be constructed in accordance with the minimum street standards as shown in Section 7.6.2.** All street improvements shall be designed and installed in accordance with the Engineering Design & Construction Standards Before acceptance of new streets, the developer's engineer shall certify that all street improvements installed in the development meet the minimum standards of the Engineering Design & Construction Standard.
2. **Cul-de-Sacs.** Permanent dead-end streets or cul-de-sacs shall be no longer than 1,000 feet per the Engineering Design & Construction Standards. In general, streets with one end permanently closed shall be avoided unless the design of the development and the existing or proposed street system in the surrounding area clearly indicates that a through street is not feasible at the location of the proposed cul-de-sac. If a cul-de-sac is provided, a pedestrian connection between the cul-de-sac and an adjacent street, sidepath, greenway or public park may be required, except when connecting to an adjacent thoroughfare.

E. Interconnectivity with Adjacent Projects.

1. **Connection to Street Stubs Required.** New developments shall connect to any existing street stubs from adjacent properties. Traffic calming measures as allowed in the Engineering Design & Construction Standards shall be included when street stubs between neighborhoods are connected.

F. Street Stubs for the Future.

1. **Stub Street Details.** Stub streets and streets intended for extension during future phases shall be designed and constructed to the property line or as close to the line, vertically and horizontally, as practical. It shall be the responsibility of the second development to construct the connection to an existing stub street. Stub streets shall not exceed 150 feet in length without a paved turnaround (permanent or temporary). A clearly visible street sign shall be erected at the end of the stub street stating that the street is planned to connect to a future street as specified in the Engineering Design and Construction Standards. The absence of a sign does not prohibit the future connection of the street.
2. **Street Stub Prioritization.** New development shall stub to all adjacent properties where practical at the rate of at least one street stub per 800 feet of property boundary when connecting to property within the RR and SR zoning districts, and at least one stub per 400 feet when connecting to all other districts. The location of new required street stubs shall be prioritized as follows: (See Figure 7.5.1)
 - a. Adjacent parcels 20 acres or greater.
 - b. Adjacent parcels that abut or are traversed by existing or proposed thoroughfares or collector streets.
 - c. Where any adopted transportation or land use plan recommends a street connection.
3. **Exceptions.** All Schools (K-12) and Civic Buildings are exempt from these stub street requirements.

FIGURE 7.5.1 STREET CONNECTIVITY EXAMPLE

7.4 STREET CLASSIFICATION AND DESIGN

The following standards are intended to provide general clarity for most conditions in the Town. Deviations to these standards may be granted by the Administrator subject to generally accepted safety and engineering practices.

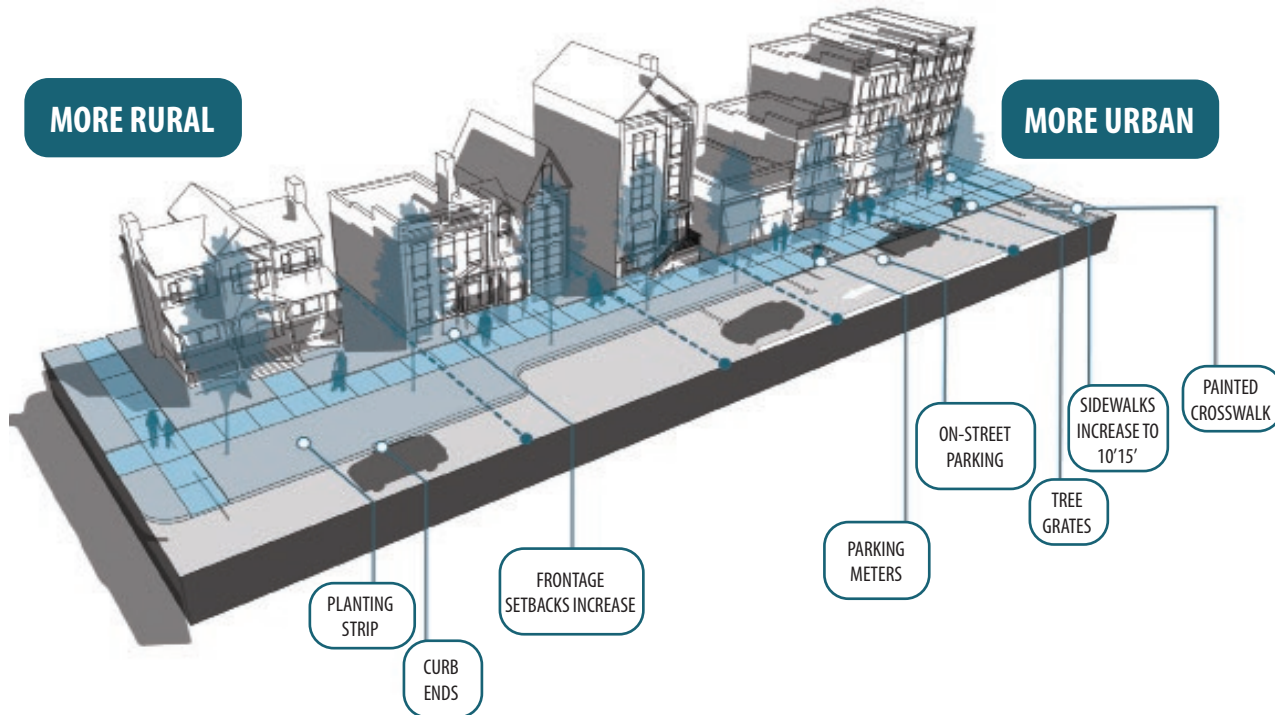
7.4.1 CONFORMANCE WITH COMPREHENSIVE PLAN

All streets shall be planned in conformance with the recommendations of the Comprehensive Plan and the Engineering Design & Construction Standards.

7.4.2 STREET DESIGN

Figure 7.4.2 is a simplified diagram of the many different streetscape elements that go into the assemblage of each street.

FIGURE 7.4.2 TYPICAL STREETScape ELEMENTS: RURAL TO URBAN CONDITION



7.4.3 STREET DESIGN ELEMENTS

(See illustration in 7.4.2)

- A. **Rights-of-Way.** The right-of-way should be the minimum required to accommodate the street, median, planting strips, sidewalks, sidepaths, utilities and maintenance consideration.
- B. **Measurement of Pavement Area Details.** The dimensions established for lane widths, sidewalks, sidepaths, bike lanes and parking lanes indicate the required back of curb to back of curb measurement, or to the edge of pavement for roadways with open drainage. Typical dimensions will be noted.
- C. **Curb and Gutter.** Where the dimension for curb and gutter is noted.
- D. **Turn Lanes.** Dedicated right turn lanes, where required, may be taken from the parking lane.
- E. **Dimension Ranges.** Where ranges are given, the project designer should consult with the Administrator as to the appropriate detail.
- F. **Standard Right-of-Way.** Where the existing right of way is less than the width called for in the Comprehensive Plan, the fronting property owner shall be required to dedicate the appropriate amount of right-of-way (as measured from the centerline of the existing street) as well as install all noted streetscape improvements including new or expanded sidewalks, street trees, lighting and street furniture.
- G. **Designation of New Right-of-Way.** Where a future right-of-way is identified in the Comprehensive Plan or other applicable plan, new development shall reasonably adhere to the conceptual alignment, provide such right-of-way, design and construction with proportionality. Design and construction must conform to all of the Street Network Requirements of the Engineering Design & Construction Standards.
- H. **Crosswalks.** Enhanced crosswalks (i.e. RRFBs) are encouraged near schools, parks and other locations that warrant high visibility crosswalks.

7.4.4 GENERAL STREET REQUIREMENTS

Street classifications shall follow the Comprehensive Plan and the Engineering Design & Construction Standards.

- A. **Areas for streets.** All proposed projects or subdivisions submitted for approval shall allocate adequate areas for streets.
- B. **Street Names.** Streets which are extensions or a continuation of any existing streets, shall be in compliance with Town Policy P-040 Street Naming and Addressing Policy.
- C. **Access to Thoroughfares and Collectors.** If the proposed project or subdivision abuts or contains a thoroughfare street, limited access street, or a collector street, the street plan shall provide a new street type connection between the project and the existing street. Each lot in the project that abuts the existing street shall have access on the new street.
- D. **Extension of Streets.** All street improvements in accordance with the Comprehensive Plan shall be extended across the entire frontage of all lots, phases or sections within a project or subdivision which have frontage on such street.
- E. **Frontage on Improved Streets.** All projects or subdivisions shall be designed so that all areas to be developed or subdivided shall have frontage on and access from:
 1. an existing Town or State street; or,
 2. a public street shown upon an approved final plat; or
 3. a private street.
 4. Such street shall be improved as required by the rules, regulations or specifications of the State of North Carolina or the Town, whichever is stricter, with the width of the right of way and pavement to be in compliance with the Comprehensive Plan, this UDO and the Engineering Design & Construction Standards.
- F. **Grading and Improvement Plan.** Streets shall be graded and improved to conform with the construction standards and specifications set forth in the Engineering Design & Construction Standards and Ordinance No. 00-023 – Soil Erosion and Sedimentation Control, Topography and Arrangement.
- G. **Street Signs.** The developer or subdivider shall erect or place street name signs, pavement marking and traffic control signs in conformance with the Engineering Design & Construction Standards, Town Policy and the North Carolina Manual on Uniform Traffic Control Devices at every street intersection within the project or subdivision.
- H. **Reserve Strips.** The creation of reserve strips adjacent to the right-of-way for use to deny access to a street from adjacent properties shall not be permitted.
- I. **Dedication of Public Streets on a Final Plat.** All public streets shown on a final plat shall be designated in accordance with GS §136-102.6 and 160D-806. The designation of a street as public on a final plat shall be conclusively presumed an offer of dedication of such street to the public free and clear of all liens and encumbrances.
- J. **Design and Construction Standards for All Public Streets.** In order to provide for streets which are of a suitable location and design to accommodate prospective traffic and afford satisfactory access to traffic, including public safety vehicles, snow removal, sanitation, and road maintenance equipment, and to avoid undue hardships to adjoining properties, all streets which are to be dedicated to the Town shall be designed and constructed in accordance with the Engineering Design & Construction Standards and the Comprehensive Plan.
- K. **Curb and Gutter.** Curb and gutter shall be provided for all streets in all projects or subdivisions in accordance with the Engineering Design & Construction Standards.
- L. **Street Lighting.** Developers or subdividers shall provide street lighting along all streets in accordance with the most recent street lighting policy adopted by the Town.
- M. **Transit Stops.** If a bus or transit stop is identified on the Comprehensive Plan along a proposed new street, that new street shall be built to accommodate the bus stop and provide shelter.

- N. Excess Right-of-Way or Slope Easement.** Right-of-way widths in excess of those recommended by the Comprehensive Plan and required by the Engineering Design and Construction Standards or slope easements shall be required whenever additional width is necessary to provide for adequate and stable earthen side slopes. Earthen side slopes shall be less than one foot vertical for each 3 feet horizontal.
- O. Bridges.** Bridges of primary benefit to the subdivider, as determined by the Town Council, shall be constructed at the full expense of the developer or subdivider without reimbursement from the Town.
- P. Alleys.** Alleys may be proposed in such instances where the use of alleys was indicated on an approved Subdivision Plan or Development Plan.
- Q. Private Streets, Private Alleys, Interior Access Driveways and Interior Access Drives.**
- 1. Design Standards.** Private streets or private alleys (which are not intended to be dedicated to or accepted by the Town for maintenance) shall comply with the minimum pavement width standards and the minimum depth and materials standards set forth in the Engineering Design & Construction Standards. Private vehicle parking areas must provide interior access drives to adjacent vehicle parking areas or stubs to potential development on adjacent property.
 - 2. Services.** Prior to the issuance of a UDO permit or obtaining final plat approval, the developer or subdivider shall provide the Town of written confirmation of a recorded access easement that all lots and adjacent parcels served by private streets or private alleys are provided with the following services: access/cross-access, regular trash pick up; leaf pick up; snow removal; daily mail delivery service; roadway maintenance and repair, including, but not limited to, driving surface, roadway subgrade, subsurface drainage, roadside drainage, curbs, sidewalks, street lights, street name signs, traffic control signs, and traffic control

signals; and, powers to enforce speed control and parking regulations. Such services shall be provided in accordance with the specifications approved by the Town Council, including the establishment of a maintenance fund or escrow account by the developer or subdivider, which may be supplemented by regular or special assessments against each lot owner provided such assessments are at reasonable and non-discriminatory rate of charge. Such documentary assurances shall be incorporated into the applicable final plat.

- 3. Private Access Easement.** A private access easement /cross-access easement is required when a non-residential project stubs access drives to adjacent properties.

R. On-Street Vehicle Parking Areas. Perpendicular, angled or parallel on-street vehicle parking areas may be approved for use on local streets where the on-street parking areas:

- are consistent with the intent of an approved subdivision plan or development plan;
- will not interfere with the safe and efficient flow of typical or emergency traffic; and,
- where the design of such on-street vehicle parking areas is approved by the Administrator.

7.4.5 SIGHT DISTANCE REQUIREMENTS

All development shall comply with the Sight Distance Requirements at all street and driveway intersections in accordance with the regulations of the North Carolina Department of Transportation and the Sight Distance requirements of the Engineering Design & Construction Standards.

7.4.6 SUBSTANDARD STREET SECTIONS

When any land proposed for project or subdivision has frontage on a proposed or existing street, alley public way or other thoroughfare; borders an existing street that does not meet current right-of-way width requirements; or, when the Comprehensive Plan indicates plans for realignment or widening of a street that would require use of some of the land in the project or subdivision, one-half of the right-of-way required for the street shall be dedicated for the full length of the frontage of

the lot, project or subdivision in accordance with the requirements of the Comprehensive Plan and Engineering Design & Construction Standards in connection with the final plat or issuance of a certificate of compliance for any other project (except UDO permits for signs).

Owners shall agree to construct the improvements (including medians and sidewalks or sidepaths as determined by the Administrator) required in such right-of-way along the entire frontage(s) of the lot, project or subdivision in accordance with the provisions of the Comprehensive Plan and the Engineering Design & Construction Standards.

Upon determination by the administrator that payment-in-lieu of street construction is in the public interest, a payment-in-lieu may be accepted.

Minor Residential Subdivisions of land under individual ownership, for the purpose of creating detached residential dwellings, are not required to construct road improvements.

7.4.7 CONFORMANCE WITH ADOPTED PLANS

The following standards apply to the widening and realignment of existing streets and thoroughfares.

- A. **Detached Dwelling Unit or Attached Dwelling Unit.** Prior to the issuance of a building permit for the development of any detached or attached dwelling unit located along any existing or proposed street or thoroughfare as indicated on the Comprehensive Plan, the Owner shall dedicate right-of-way to the Town for the street or thoroughfare in accordance with the requirements and specifications of the Comprehensive Plan and construct any required improvements.
- B. **Incorporation of Existing Street.** When any land proposed for a project or subdivision includes a proposed or existing street, alley, public way, greenway, or other thoroughfare, that street, alley, public way, greenway, or other thoroughfare shall be incorporated into the project or subdivision as a functional part of the street system of the project or subdivision and shall be constructed in accordance with the Comprehensive Plan and Engineering Design & Construction Standards.
- C. **Limitation.** Land reserved for any street purposes, whether public or private, or by right-of-way or easement, shall not be counted in satisfying the minimum setback or lot area requirements of this UDO.

7.5 TRAFFIC IMPACT ANALYSIS

7.5.1 INTRODUCTION

The Town has developed thresholds for Traffic Impact Analyses (TIAs) and other traffic assessments associated with land development applications. The study area and parameters for those studies are referenced in the Traffic Impact Analysis Policy. Development application approval is contingent upon the satisfactory completion of a TIAs where required. TIA must be completed at the developer's expense.

7.5.2 TIERS OF TRAFFIC ANALYSIS

Three tiers of traffic analysis (based on the study thresholds identified herein) are outlined below, and the Administrator reserves the right to require alternative levels of analysis on a case-by-case basis:

- A. **A Trip Generation and Distribution Analysis (TGDA)** is designated for developments that are not expected to generate significant site traffic or have significant impacts at off-site intersections. This tier of analysis would require a summary of the anticipated trip generation and site traffic distribution but would not require any capacity analyses.
- B. **A Limited Traffic Assessment (LTA)** is designated for developments when site traffic is significant enough to potentially necessitate limited improvements to the transportation network. This tier of analysis would typically require analysis of site driveways and critical adjacent intersections in a narrow study area and would require coordination through the Town's analysis scoping process.
- C. **A Traffic Impact Analysis (TIA)** is designated for developments when site traffic is significant enough to potentially necessitate improvements to the transportation network beyond site access points or adjacent intersections. This tier of analysis would typically require analysis of

critical intersections within a 1 mile radius of the site and would require coordination through the Town's and NCDOT's analysis scoping process.

7.5.3 TRAFFIC ANALYSES STUDY THRESHOLDS

Thresholds for required traffic analyses will be determined based upon the amount of site-generated vehicular traffic as defined below. The calculations of net new external vehicular trips as used in this section shall be based on the current Institute of Transportation Engineers (ITE) Trip Generation Manual. If an applicable ITE land use is not available or contains limited data, or if additional use-specific trip generation is provided, an alternative trip generation methodology may be approved by the Administrator.

TABLE 7.7.3 - STUDY THRESHOLDS

Level of Study	DAILY TRAFFIC VOLUME THRESHOLD (VEHICLES PER DAY)	PEAK HOUR TRAFFIC VOLUME THRESHOLD (VEHICLES PER DAY)
Trip Generation and Distribution (TGDA)	300-499	30-49
Limited Traffic Assessment (LTA)	500-999	50-99
Traffic Impact Analysis (TIA)	1,000+	100+

7.5.4 QUALIFICATIONS REQUIRED TO CONDUCT TRAFFIC IMPACT ANALYSIS

The analysis must be signed and sealed by a Professional Engineer (PE) in the State of North Carolina with relevant traffic engineering experience. The Administrator reserves the right to make a determination as to whether a particular engineer meets this criterion.

7.5.5 ANALYSIS SCOPE AND METHODOLOGY

Prior to conducting a TIA, the required scope and methodology should be developed in coordination with the Town and the NCDOT to ensure that technical requirements are met. Typical scope items expected to be included in LTAs and TIAs are noted below; however, additional detail may be requested by the Town or the NCDOT for certain tasks due to local knowledge of the area to address concerns or meet other prior planning or engineering requirements.

- A. Site location and existing conditions.
- B. Study intersections.

- C. Anticipated development elements including land uses and intensities, site access, and build-out year.
- D. Volume development methodology, including traffic counts, background traffic, and trip generation.
- E. Anticipated site traffic distribution.

7.6 SIDEWALKS, SIDEPATHS, AND GREENWAYS

7.6.1 SIDEWALK/SIDEPATH LOCATION

Sidewalks and Sidepaths shall be located within the dedicated, non-paved portion of the street right-of-way on both sides of all public streets as shown in the cross section for that street type

7.6.2 SIDEWALK/SIDEPATH ANALYSIS

Developers or subdividers are required to install sidewalks / sidepaths in the following situations, in addition to the design requirements of specific street sections within the development.

- A. As part of any development proposal or change in use resulting in an additional 1,000 vehicle trips or more per day, an applicant shall be required to identify direct, safe (1.25 x the straight line distance) pedestrian routes within 0.50 miles of their site to all transit facilities and neighborhood activity centers (schools, parks, libraries, etc.). If no existing route exists, or if there is a gap, a connection must be provided.
- B. Where transit shelters are provided, the shelters shall be well lit, weather-protected, and shall be placed in locations that promote security through natural surveillance and visibility.
- C. If there is an existing sidewalk/sidepath on the same side of the street as the development within 300 feet of a development site in either direction and sufficient right-of-way is available, the sidewalk/sidepath shall be extended from the site to meet the existing sidewalk/sidepath, subject to rough proportionality.

7.6.3 SIDEPATH ALTERNATIVE

Sideways shall be a minimum of 10 feet in width (per the Engineering Design & Construction Standards) and may deviate from the right-of-way if located within an easement.

7.6.4 SIDEWALK/SIDEPATH STANDARDS

Sideways/Sideways shall be constructed in compliance with the Engineering Design & Construction Standards.

Sideways/Sideways shall be constructed of concrete, asphalt or other approved material. The proposed materials and standards for construction shall be included as part of the request for a sidewalk/sideway and shall be installed in compliance with the approved materials and standards.

7.6.5 PEDESTRIAN ACCESS EASEMENTS

To facilitate pedestrian access from streets to schools, parks, playgrounds, or other nearby streets, a perpetual, unobstructed pedestrian access easement, at least 30 feet in width is required. Such pedestrian access easements shall be provided on the final plat or by separate grant of easement subject to the approval, by resolution, of the Town Council.

7.6.6 GREENWAYS

When land proposed for development is adjacent to a Greenway indicated in the Comprehensive Plan or other adopted plan of the Town, such greenway shall be dedicated to the and improved consistent with the following standards:

- A. Greenways shall be constructed in compliance with TOHS Engineering Design and Construction Standards Standards.
- B. Greenway Easement width shall be a minimum of 30 feet unless otherwise approved by Town Council.
- C. Pursuant to GS § 160D-702 (b), land shall be dedicated and reserved within in each project for greenway right-of-way purposes.
- D. When a greenway right-of-way is dedicated in connection with a project, the approval of a final plat shall not be deemed to constitute or affect the acceptance by the Town of any public greenway shown on the final plat. The final plat shall include a notation that the greenway is a “proposed greenway”, which may or may not be co-located on another type of easement.
- E. The Town Council may, by resolution, accept any dedication made to the public of lands for any public greenway located within the project jurisdiction of this UDO. The act of accepting any dedication of lands or facilities located within the jurisdiction of this UDO shall not place on the Town any duty to open, operate, repair or maintain any greenway. A greenway right-of-way is open and incorporated into the Town greenway system only after construction is finalized, approved, accepted, the warranty period has expired, and the Town has listed it on the official greenway map.
- F. Where construction and dedication of a Greenway is waived in favor of an approved alternative pedestrian/bicycle connection, sufficient easement areas shall be dedicated as a future Greenway Easement, and a fee in the amount of the estimated construction cost shall be assessed.
- G. **Alternate Compliance.** Alternatives to the greenway requirements may be proposed according to the following:
 1. The proposed connection is consistent with the purpose of Section 7.5 Connectivity.
 2. An alternate greenway connection may be provided to meet this requirement with sufficient easement width, subject to the approval of the Administrator.
 3. A fee in lieu of construction costs may be provided so that the Town may construct the greenway.

7.7 IMPROVEMENT GUARANTEES

The developer shall be required to post a performance guarantee equal in amount to 150% of the cost of the unfinished improvements at the time of final plat approval (as certified by The Administrator. The unfinished improvements should typically be the asphalt surface course and sidewalks/sideways. A performance guarantee shall be in the form of a surety bond, letter of credit, or escrow account. In the event the required improvements are not completed within the time specified by The Administrator, the Town may let or relet a contract for the purpose of completing the unfinished improvements of the project using the posted security.

HOLLY SPRINGS

North Carolina