chapter 7

STREETS, DRIVEWAYS AND PARKING

Section 7.1 General Street Standards

Streets shall be designed based upon the following general criteria:

A. Provide streets in accordance with adopted plans

B. Provide for adequate vehicular access to all properties

C. Provide street connections to adjacent properties to ensure adequate traffic circulation within the area

D. Provide a local residential street system that disperses traffic to multiple points, encourages traffic calming, and provides adequate access for fire, police, and other emergency vehicles

E. Provide a sufficient number of collector streets to accommodate the present and future traffic demands of the area

F. Balance the competing needs of pedestrian, bicycle, and vehicular traffic through integrated streets and access management

In addition to this Chapter, more specific design criteria regarding streets is found in the Town's *Engineering Design and Construction Standards Manual, Specifications and Special Provisions.*

Section 7.1.1 Types of Streets and Right-of-Way Required

A proposed street right-of-way must be of sufficient width to accommodate the required cross section. Typical street right-of-way are listed in the following table.

Additional examples of street rights-of-way can be found in the *Engineering Design and Construction Standards Manual*. Street rights-of-way that differ from any of these standards shall be reviewed by the Town Engineer on a case by case basis.

STREET TYPE	RIGHT-OF-WAY (feet)
Residential Local	
Without On-Street Parking	51
Parking on One Side of Street	57
Parking on Both Sides of Street	63
Ditch-lined Without On-Street Parking	71
Residential Collector	
With Bike Lanes	61
Divided with Median	74
Divided with Left Turn Lane	79
Ditch-Type Section	60
Retail/Mixed Use Local Street	
Without On-Street Parking	64
Parking on Both Sides of Street	64
With Median and Parking	83
Parking & Green Zone on Both Sides	67
Retail/Mixed Use Collector Street	
With Bike Lanes	63
With Median and Bike Lanes	82
Industrial Local Street	
Without On-Street Parking	63
Parking on One Side of Street	70
Parking on Both Sides of Street	77
Industrial Collector Street	
With Median and No Parking	87
With No Parking	63

Section 7.1.2 Curb, Gutter, Sidewalks Required

All new streets within Town limits shall be constructed with curb, gutter, and sidewalks on both sides of the street. The Town Engineer may waive all or part of this requirement under circumstances where:

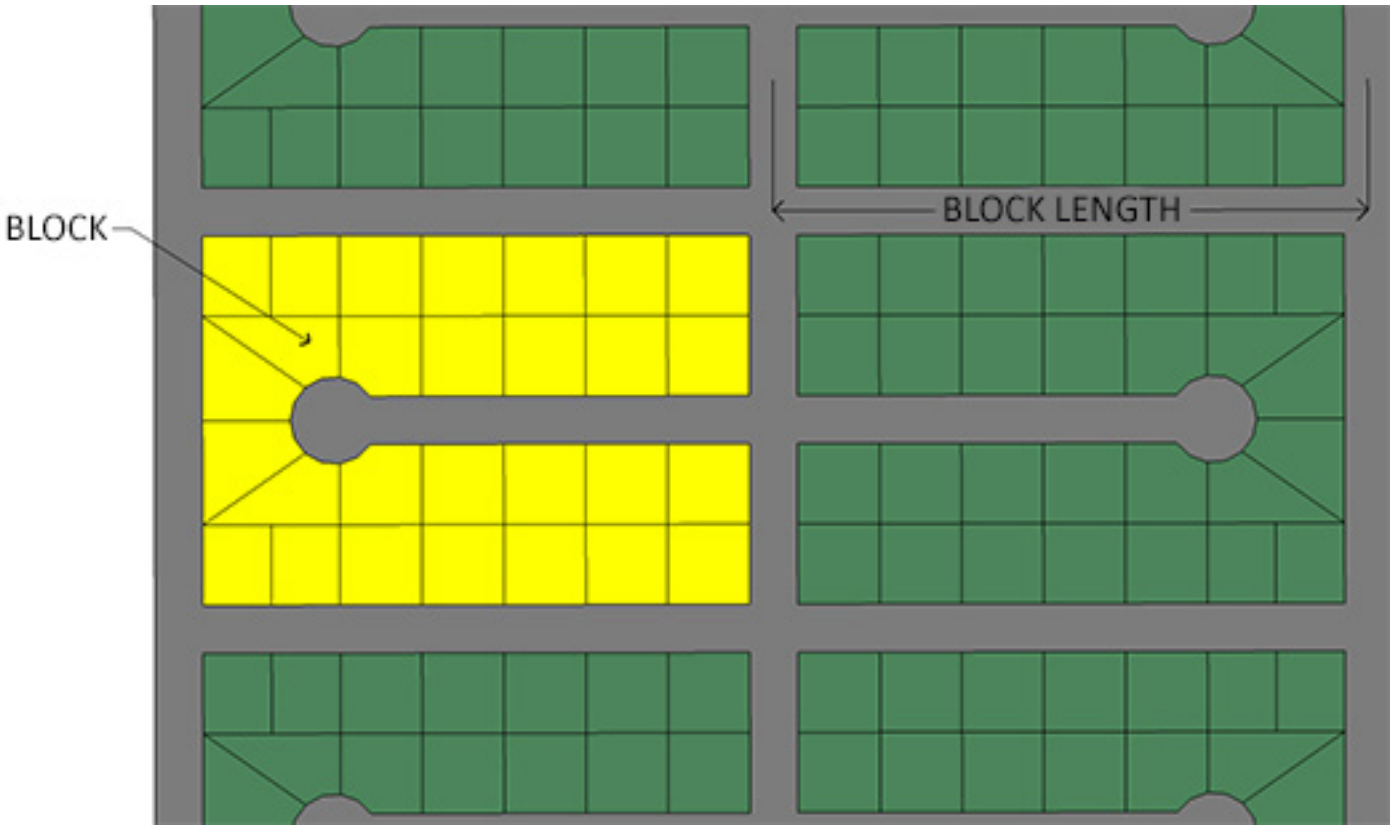
A. There are topographical or geographical limitations

B. There are environmental restrictions (Local, State, or Federal)

C. Residential developments in cases with very low density

The Town Engineer shall approve streets with ditch sections on a case-by-case basis.

Section 7.1.3 Block Length and Width



Block length requirements are described in Section 7.2.1 Street Connectivity.

Blocks shall be at least wide enough to allow two tiers of lots of minimum depth, except where prevented by topographical conditions or the size of the property. A single tier of lots may be used adjoining a major thoroughfare where access is provided from a minor interior street.

Section 7.1.4 Cul-de-sacs

In order to promote better street connectivity and access management, cul-de-sacs are generally discouraged as a street design option. Cul-de-sacs as part of any plan shall be reviewed on a case-by-case basis by the Town Engineer. Streets that terminate with cul-de-sacs, where deemed appropriate, shall not exceed 400 feet in length.

In general, permanent cul-de-sacs are discouraged in the design of street systems and should be used only when topography, the presence of natural features, and/or vehicular safety make connection impractical. Permanent cul-de-sacs shall comply with the design standards set forth in this code and the Town's *Engineering Design and Construction Standards Manual.*

Section 7.1.5 Payments in Lieu

A payment-in-lieu of street right-of-way improvements may be accepted by the Town Engineer when one of the following conditions exist:

A. Circumstances that would cause the construction of the street right-of-way improvement to be impractical.

B. The Town or other agency (e.g. NCDOT) has committed funding for the same improvements as part of one the Town's adopted plans and capital improvement projects.

The payment shall be equal to the full cost estimate for construction of the street right-of-way improvements with said estimate having been found acceptable by the Town Engineer. All payments-in-lieu shall be used exclusively towards transportation and pedestrian improvements within the Town.

Section 7.2 Connectivity

The following standards shall be met for all development sites and subdivision plans including redevelopment of sites. The purpose is to provide interconnected streets and multi-modal transportation systems in order to:

A. Connect neighborhoods to each other and to local destinations such as schools, parks, and shopping;

B. Maximize arterial capacity to better serve regional long distance travel needs;

C. Promote multi-modal options;

D. Provide multiple access routes for emergency and service vehicles;

E. Reduce vehicle miles of travel and travel times for all users.

Section 7.2.1 Street Connectivity

A. Residential Developments. All residential developments shall be required to connect to existing street stubs or provide stubs and rights-of-way to adjacent properties. Public right-of-way and access easements shall be dedicated to allow for future construction and connection of a street and sidewalks from the adjacent property.

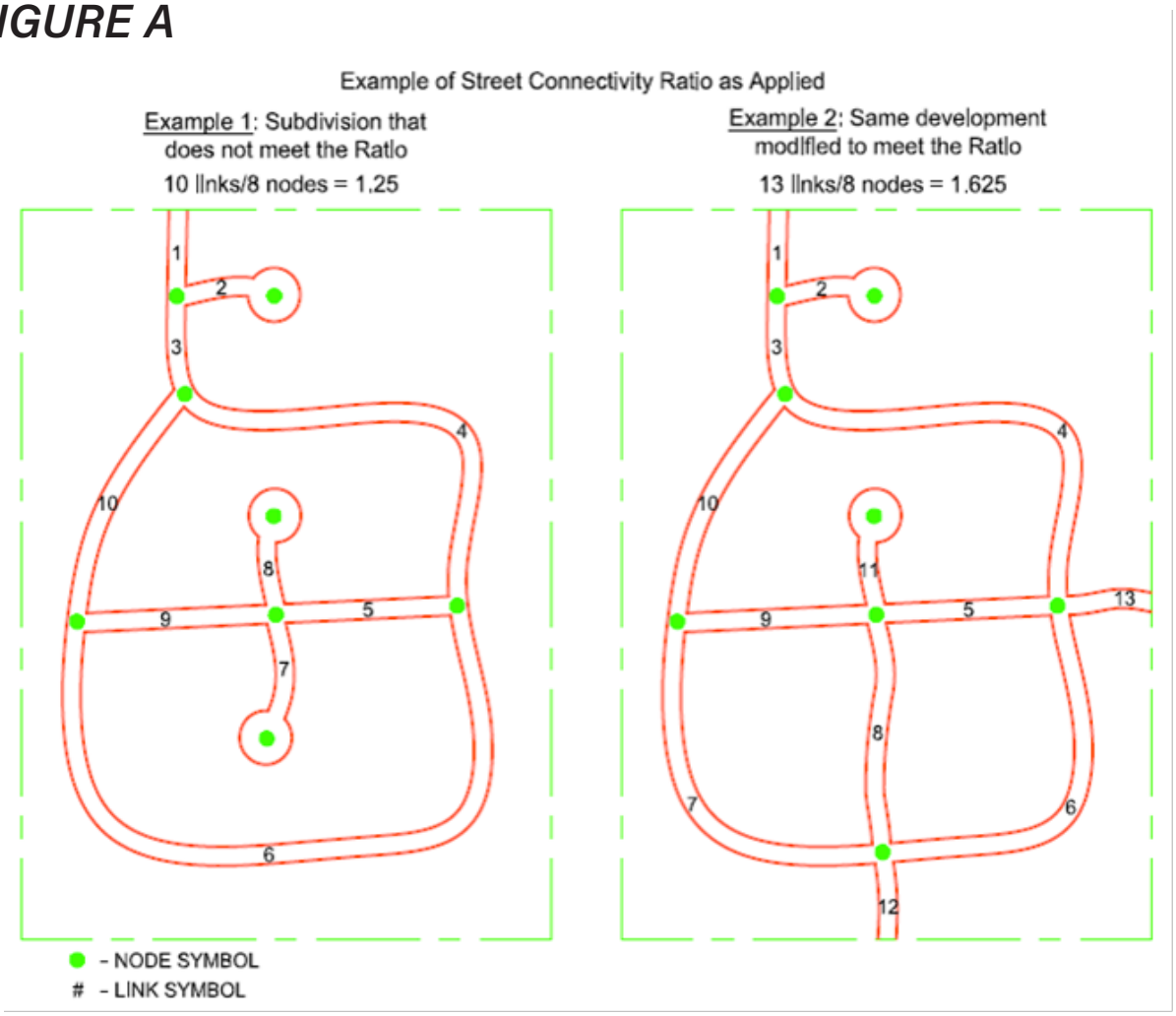
Any residential development of 20 parcels or more shall be required to achieve a **Connectivity Ratio of 1.4 or greater.** A loop would be an example of a block. Regardless of the bends or curves no decisions are required while traveling from node to node via a loop so regardless of length a loop will be considered as only one block. Street blocks on existing adjacent streets that are not part of the proposed subdivision are not included in the connectivity ratio (CR) calculation. *Figure A* provides an example of how to calculate CR.

At a minimum, two functioning vehicular and pedestrian access points to at least two public streets of the existing public street system (not a stub-out) is required for developments that exceed 100 residential units. A third shall be required for developments that exceed 500 residential units. Second and third access points shall be open and functioning prior to the issuance of the 101st and 501st Certificate of Occupancy respectively for the development.

In the event these conditions cannot be met without undue hardship due to environmental or physical property constraints, the Zoning Administrator may waive or modify the connection requirement.

The Connectivity Ratio shall be the number of street blocks (not including alleys) divided by the number of nodes (i.e. intersections and cul-de-sac heads).

FIGURE A



B. Non-Residential Developments. All non-residential sites including sites five acres or less, must provide street connections with all adjacent properties, taking into account the future development or redevelopment of these properties, or must provide an organized and complete street network with an emphasis on connectivity throughout the development and for future adjacent developments as so deemed by the Zoning Administrator. Non-residential, multi-family, or mixed used development of greater than five acres, must provide an organized and complete street network with an emphasis on connectivity throughout the development and for future adjacent developments.

Primary circulation through a development shall meet the following standards:

1. Vehicular access spacing on the street is limited to no less than 150 feet from a signalized intersection.

2. Vehicular access spacing on the street is limited to no less than 100 feet from a non-signalized intersection.

3. Intersections, driveways, or drive aisle connections with streets shall be laid out so as to intersect as nearly as possible at right angles, and no street shall intersect any other street at an angle less than seventy degrees.

4. Proposed access points shall align with an opposing access point on the street or shall be offset by at least 150 feet, unless median controlled.

5. Adjacent outparcels must share access drives. Where access cannot be shared as determined by the Town Engineer the minimum driveway separation shall be provided as per the Town of Waxhaw *Engineering Design and Construction Standards Procedures Manual*.

C. Street Arrangement. The proposed public and/or private street system shall be designed to provide vehicular and pedestrian interconnections to facilitate internal and external traffic movements in the area. In addition to the specific connectivity requirements described above, roadway interconnections shall be provided between the development site and its adjacent properties with one roadway connection every 1,250 to 1,500 linear feet for each **directional quadrant** which the property abuts.

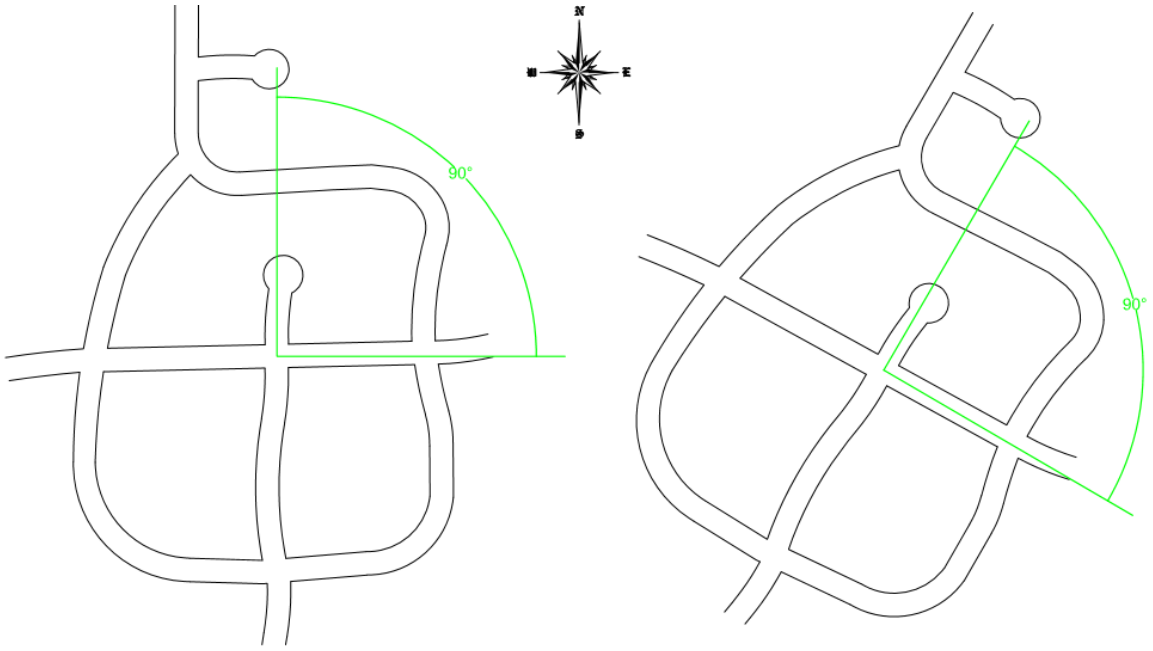
Figure B provides an illustration of a directional quadrant. If the common property in any direction is less than 1,250 linear feet, the subject property will be required to provide one interconnection in that direction.

Where new development is adjacent to vacant land that could potentially be subdivided, developed, or redeveloped, all streets, bicycle paths, sidewalks or pedestrian pathways, and access ways in the development's proposed street system shall provide easements for future access or continue to the boundary lines of the area under the same ownership as the subdivision, to create a continuous network as determined by the Zoning Administrator. In addition, all redevelopment and street improvement projects shall take advantage of opportunities for retrofitting existing streets to provide increased vehicular and pedestrian connectivity, such as sidewalks, crosswalks, and multi-use paths.

Street stub-outs and streets intended for extension during future phases shall be constructed to extend to the property line or as close to the line as practical. It shall be the responsibility of the future development to construct the connection to an existing stub street. Vehicular connections from adjacent property (street stub-outs) must be utilized unless the connection is deemed impractical by the Town Engineer due to topographic conditions, environmental constraints, property shape or property accessibility. If it is determined by the Town Engineer that a vehicular connection in any direction cannot be accomplished to the subject property, pedestrian connections may still be required.

D. ***Block Lengths:*** Maximum block lengths within proposed developments shall not exceed block length as shown in the following table. Short block lengths are intended to create a better pedestrian-scaled environment. Deviations from this requirement may be allowed if it is determined by the Zoning Administrator that the proposed lengths are impractical due to topographic conditions, environmental constraints, property shape or property accessibility.

FIGURE B



SAMPLE 1 **SAMPLE 2**

THE INTENT OF DIRECTIONAL QUADRANTS IS TO PROVIDE CONNECTIVITY IN MULTIPLE DIRECTIONS. HOWEVER, BECAUSE WAXHAW AND UNION COUNTY WAS NOT ESTABLISHED ON A CARDINAL GRID, ALTERNATIVE ROTATIONS WOULD APPLY WHEN NECESSARY AS DISPLAYED IN SAMPLE 2. AT LEAST ONE STUB SHOULD BE PROVIDED IN FOUR DIRECTIONS WITH AS NEAR TO 90 DEGREES SEPARATION AS POSSIBLE TO OPTIMIZE CONNECTIVITY.

ZONING	Commercial/ Industrial CC, EC	Residential R-1	Residential R-3, R-4	Downtown & Neighborhood Centers MS, TC, NC
BLOCK LENGTH	1,200 ft	800 ft	600 ft	400 ft

E. Exceptions for All Residential and Non-Residential Properties. The Town Engineer may provide exceptions to street stubs and connection when:

1. A street in a proposed development abuts an existing development and no existing right-of-way or streets extend to the common property line and no factors indicate the intent at the time of approval that the street would be constructed at a later time, such as:

    a. Recordation of construction easements

    b. Physical constraints such as a stream buffer or topographic issues present that would make the extension to the property line infeasible at the time of constructions

2. There are no apparent safety issues such as inadequate fire and police protection and response capability if the proposed new development does not connect to the adjacent existing development.

3. If land use relationships are not consistent or compatible as determined by the Zoning Administrator.

4. Creating future connections to State Highways is discouraged. However, the Town Engineer may provide an exception when a property abuts a State Highway under the following circumstances:

    a. Town may require connection to a State Highway with coordination with NCDOT.

    b. Town may require shared accesses when possible.

    c. Town may limit direct access to a State Highway if alternative access is available.

Section 7.2.2 Pedestrian/Bicycle Connectivity

A. Connections to Trails and Parks. When lots abut trails, parks and open space areas, access ways must be provided at a minimum of every 1/4 mile. Where a cul-de-sac street is permitted within a development, access ways to trails, parks and open space areas must be provided.

B. Connection of Cul-de-sacs. Where 2 cul-de-sac streets end within 300 feet of each other, pedestrian access ways shall be provided between the cul-de-sacs where feasible.

C. Surface Width. The minimum pedestrian/bicycle access way surface width shall be five feet with a right-of-way of six feet.

D. Surface Treatment. The surface of access ways shall be constructed of a smooth, compactible material that is accessible for wheelchairs and strollers. Acceptable materials include asphalt, concrete, and crushed stone.

Section 7.2.3 Cross Access for Non-Residential Developments

All non-residential development shall be designed to allow for both vehicular and pedestrian cross-access to adjacent properties to encourage shared parking and shared access points on public or private drives. A minimum distance of 100 feet shall be required between a cross access way and an intersection or driveway entrance. Development plans shall provide cross-access easements and complete connections that can provide an immediate benefit. If a block is to be constructed in the future, the grade on the connection, parking, landscaping and other improvements must be set to allow for extension into the adjacent property.

One vehicular and pedestrian cross access shall be required for every 400 linear feet in each direction where commercial properties abut a common property boundary. Pedestrian cross-access shall be required for all properties. If the common property boundary is less than 400 linear feet, cross-access to adjacent lots may be required to achieve adequate connectivity and provide cross-access to all parcels by providing drives or stub-outs per the direction of the Zoning Administrator.

Section 7.3 Driveways

Driveways connecting to state right-of-way shall be approved by the NCDOT. Driveways connecting to Town right-of-way shall be approved by the Town Engineer. Driveways shall be reviewed as part of the plan review processes described in Chapter 3 *Administration and Enforcement Procedures* and Chapter 5 *Subdivisions Regulations*.

The Town reserves the right to require the closure of driveways on redeveloped lots as well as any drive-in parking. The Town may require the realignment of a driveway or allow a shared access driveway with adjacent properties when developed.

Section 7.4 Greenways

Greenway locations and alignments shall be approved by the Zoning Administrator as depicted on the Town's adopted plans. Public greenways may be located along Town right-of-way adjacent to streets or through private property if an easement for public maintenance is acquired.

Section 7.5 Parking

Section 7.5.1 General Purpose

The provisions of this article are intended to help protect the public health, safety, and general welfare by:

A. Promoting economically viable and beneficial use of land;

B. Providing flexible methods of responding to the transportation and access demands of various land uses; and

C. Helping avoid the negative impacts that can result from requiring excess supplies of off-street parking (e.g. impervious surfaces, stormwater runoff, and visual environment).

Section 7.5.2 Applicability

A. General. Off-street parking and loading must be provided and maintained in accordance with the provisions of this Chapter. Unless otherwise expressly stated, the regulations apply to all districts and uses

B. New Uses and Development. The regulations of this Chapter apply to all new buildings constructed and all new uses established in all zoning districts.

C. Change of Use. If a new use of a building or structure requires more off-street parking than the use that most recently occupied the building or structure, additional off-street parking is required in an amount equal to the difference between the parking required for the new use and the parking that would have been required for the previous use if current parking requirements had been applicable.

D. Enlargements and Expansions. The regulations of this article apply whenever an existing building or use is enlarged or expanded to include additional dwelling units, floor area, seating capacity or other units of measurement used for establishing off-street parking requirements. In the case of enlargements or expansions that trigger requirements for additional parking, additional spaces are required only to serve the enlarged or expanded area, not the entire building or use. There is no requirement to address parking space deficits associated with existing, lawfully established buildings or uses.

Section 7.5.3 Off-Street Parking Requirements

A. Surfacing. All off-street parking and loading areas shall be paved.

B. Lot Location. Parking lots shall be placed behind or to the side of buildings where practical. Off-street parking is not permitted in front of the primary building facade, except in the EC district, or where specified in an adopted street section, detailed as a public plaza, or as approved by the Zoning Administrator under special circumstances.

C. Limitation on Uninterrupted Areas of Parking. Uninterrupted areas of a parking lot shall be limited in size. Large parking lots shall be broken by buildings and/or landscape features. See Chapter 8.5 Parking Lot Landscaping for additional landscaping requirements.

D. Dimensional Requirements. All parking spaces, aisles between parking spaces, and driveways shall meet the minimum dimensional requirements set forth in this chapter.

1. 90 degree parking spaces within a parking lot must be a minimum of nine feet wide by 18 feet long.

2. Additional parking space types and requirements can be found in the Engineering Design and Constructions Standards Procedures Manual.

3. Driveways for all uses, except single-family residential, shall maintain a minimum of 20 feet for a one way drive and 26 feet for a two-way drive.

E. Paving and Maintenance

1. Lot paving shall consist of asphalt, concrete, brick pavers, pervious paving materials, or other paving materials approved by the Zoning Administrator and Town Engineer.

2. All parking, stacking, and loading facilities shall be permanently maintained in compliance with the Town approval and shall be free of litter and debris at all times.

3. All parking areas shall be separated at least ten feet from buildings, in order to allow room for sidewalks, landscaping, and other plantings between the building and the parking area. This separation may be eliminated in the rear of buildings in areas designed for unloading and loading of materials; this applies primarily to industrial and warehousing buildings.

F. Parking Minimums.

1. Applicant may request a 20% reduction in the parking minimum required in this Chapter. Request must be submitted for approval to the Zoning Administrator.

2. Developments in the NC District may reduce parking minimums by 50% to encourage a compact and walkable mixed use. Infill development in the MS and TC is not required to provide parking.

3. Up to 10% of parking requirements may be met by motorcycle and Low-Speed Vehicle (LSV) parking.

D. Parking Ratios. Except as otherwise expressly stated, off-street parking for motor vehicles must be provided in accordance with the following minimum ratios.

VEHICULAR PARKING RATIOS		
USE CATEGORY	**SPECIFIC USE**	**REQUIREMENT**
Residential	Single-Family Detached	2 spaces per unit, plus 1 space per room rented.
	Two-Family Dwelling	2 spaces for each unit, except that one-bedroom units require only 1 space.
	Townhouse (fee simple/ condominium)	2 spaces for each unit. Plus 1 visitor parking for every 4 parking spaces.
	Multifamily Dwelling including independent senior housing.	2 spaces per unit.
	Manufactured Home	2 spaces per unit
	Modular Home	2 spaces per unit, plus 1 space per room rented
Group Living	Family Homes for Persons with Disabilities (Small and Large)	1 space per 3 residents
	Homes for the handicapped, aged, or infirm including nursing homes	2 spaces for every 5 beds, except for uses exclusively serving children under 16, in which case 1 space for every 3 beds
	Child care homes	1 space for every two employees on maximum shift
	Halfway houses	1 space per 3 bedrooms and 1space per employee
Live/Work	Live/Work Units	2 spaces per dwelling unit, plus 1 space for each 2 non-resident employees, plus one space for each 500 square feet of the portion of the building used for non-residential purposes.
Community Service	Community Center	3.3 spaces per 1000 square feet of floor area
	Library, Museum, Art Gallery, Art Center	3.3 spaces per 1000 square feet of floor area
	Other	3.3 spaces per 1000 square feet of floor area
Day Care	Day Care Center	1 space per employee plus 4 spaces per 1000 square feet of floor area. Required parking may be reduced for day care centers with designated pick-up and drop-off area in an amount determined by the Zoning Administrator

Educational Facilities	Business Schools	1 space per 5 seats within classrooms or assembly spaces
	College/University	1 space per 5 seats within classrooms or assembly spaces
	Schools, Public/ Private	2 spaces per classroom or office in elementary schools; 5 spaces per classroom or office in high schools
	Trade/Vocational	1 space per 5 seats within classrooms or assembly spaces
Government Facilities	Other	3.3 spaces per 1000 square feet of floor area
Health Care	Continuing Care Facility	3 spaces per 5 beds except government sponsored facilities for low income households or public/ private facilities for elderly populations which require 1 space per 5 beds.
	Hospital	2 spaces per bed
	Medical Clinic	6.6 spaces per 1000 feet of floor area
	Other	5 spaces per 1000 square feet of floor area
Institutions	Child Care Institutions	1 space per 3 beds
	Nursing Care Institutions and Intermediate Care Institutions	3 spaces for every 5 beds
	Mental Health Facility	1 space for every two employees on maximum shift
Parks and Open Space	Cemetery	1 space per 50 internment plots
	Public Park	5 spaces per 1000 square feet within an enclosed building plus 1 space per 3 person capacity for facilities where visitors watch participant sports
	Other	1 space per 5 seats in any facility with viewing stands or seating areas (permanent or temporary).
Religious Institution		1 space for every 4 seats plus 5 spaces per 1000 square feet of non-assembly space
Utilities	Minor Utility	None
	Major Utility	1 space per employee plus 1 space per each fleet vehicle kept at the site.
	Telecommunication Facility	1 space for each service vehicle

Entertainment	Public Swimming Pool, Tennis Courts, Golf Course	5 spaces per 1000 square feet within an enclosed building plus 1 space per 3 person capacity for facilities like swimming pools where a maximum capacity has been established.
	Golf Course or Country Club, Private	5 spaces per 1000 square feet within an enclosed building plus 1 space per 3 person capacity for facilities like golf courses where a maximum capacity has been established.
	Gym, Spa, Indoor Tennis Court or Pool, Private	5 spaces per 1000 square feet within an enclosed building plus 1 space per 3 person capacity for facilities where visitors watch participant sports
	Horse Stables	1 space per horse at maximum capacity
	Indoor entertainment facility including bowling alleys, skating rinks, squash courts, billiards and pool halls	5 spaces per 1000 square feet within an enclosed building plus 1 space per 3 person capacity for facilities with seating for visitors to watch participant sports
	Outdoor Athletic Facility, Private	5 spaces per 1000 square feet within an enclosed building plus 1 space per 3 person capacity for facilities with seating for visitors to watch participant sports
	Adult Use/Sexually Oriented Business	5 spaces per 1000 square feet of gross floor area plus 1 space for every 4 seats in any assembly area
	Theater	1 space for every four seats
	Theater, Drive-In	1 space per speaker outlet
	Water Slide, Miniature Golf, Skateboard Parks	5 spaces per 1000 square feet within an enclosed building plus 1 space per 3 person capacity for facilities with seating for visitors to watch participant sports
	Other	1 space for every 200 square feet of gross floor area
Office	Medical Office	4 spaces for every 1000 square feet of gross floor area
	All Other Offices	3.5 spaces for every 1000 square feet of gross floor area
Overnight Accommodations	Bed and Breakfast	1 space per rented room plus parking for any permanent residents consistent with the other requirements of this table.
	Hotel	1 space per room plus 1 space for every 2 employees on the maximum shift

Restaurants	Drive-Through Restaurant	10 spaces per 1000 square feet of floor area including any outdoor area used for dining.
	Sit-Down Restaurant	6 spaces per 1000 square feet including any outdoor area used for dining.
Retail Sales and Service	Bar, Nightclub, Taverns	10 spaces per 1000 square feet of gross floor area plus 1 space per four seats located outdoors
	Convenience Store	5 spaces per 1000 square feet of gross floor area
	Fuel Sales	5 spaces per 1000 square feet of gross floor area of building devoted primarily to gas sales operation, plus 1 parking space per pumping station
	Shopping Center	4 spaces per 1000 square feet of floor area; 4.5 per 1000 square feet of floor area for shopping centers over 100,000 square feet
	Other and Undetermined (Retail, Service or Mixed-Used projects where tenancy is not determined)	4 spaces per 1000 square feet of floor area
Animal Services	Veterinarian/Kennel, Indoor	5 spaces per 1000 square feet of floor area
	Veterinarian/Kennel, Outdoor	5 spaces per 1000 square feet of the floor area of building plus 1 space per 10 cages for outdoor facilities.
	Other	5 spaces per 1000 square feet of floor area
Self-Service Storage		1 space per employee during the busiest shift plus 1 space per 5,000 square feet of area devoted to storage
Vehicle Sales and Service	Car Wash	1 space for every 3 employees on the maximum shift for a manual or conveyor type car wash and in the case of a self-serve car wash 2 parking spaces per bay
	Vehicle Repair	1 space per employee during the busiest shift plus 2 spaces per service bay
	Vehicle Sales or Rental, Indoor	5 spaces per 1000 square feet of floor area plus 1space per employee during the busiest shift.
	Vehicle Sales or Rental, Outdoor	5 spaces per 1000 square feet plus 1 space for each 5000 square feet of outdoor storage area
	Other	5 spaces per 1000 square feet of floor area

Employment Center	Light Industrial Service	2 spaces per 1000 square feet of floor area
	Flex Space and Other	1 space per 2,000 square feet of warehouse space plus 2 spaces per 1000 square feet of office floor area plus 1 space per 1,000 square feet of outdoor work areas. When a proposed building would accommodate multiple tenants the parking requirements will be calculated on the basis of the floor area for each tenant.
	Manufacturing and Production	1 space per employee during the busiest shift
	Warehouse and Freight Movement	1 space per employee on the busiest shift but not less than 1 parking space per 5,000 square feet of area devoted to warehousing or storage use (whether inside or outside)
Wholesale Sales		1 space for every 2 employees on maximum shift
Agribusinesses/ Greenhouses		1 space per 2 employees on maximum shift
Farmers Markets		1 space per 1,000 square feet of lot area used for product display or sales

H. Area Measurements. Unless otherwise expressly stated, all parking standards must be computed on the basis of gross floor area.

I. Multiple Uses. Unless otherwise expressly stated, lots containing more than one use must provide parking in an amount equal to the total of the requirements for all uses on the lot. See 7.5.7 Parking Alternatives, for additional alternatives to off street parking.

J. Unlisted Uses. Upon receiving a development application for a use not specifically listed in an off-street parking schedule, the Zoning Administrator is authorized to apply the off-street parking ratio specified for the listed use that is deemed most similar to the proposed use.

K. Pedestrian Corridors. Parking lots shall be designed to allow pedestrians to safely move from their vehicles to the buildings. On small lots, this may be achieved by providing a sidewalk at the perimeter of the lot. On larger lots, corridors within the parking area should channel pedestrians from the car to the perimeter of the lot or to the building(s). These corridors should be delineated by a paving material which differs from that of vehicular areas and planted to provide shade and an edge. Small posts or bollards may be used to define/protect the pedestrian corridors. The minimum width of the sidewalk or pedestrian corridor shall be five feet.

7.5.4 Electric Vehicle Parking

A. General. All new non-residential and residential development is encouraged to provide a parking alternative for electric vehicles.

B. Design Criteria. The following requirements shall be applied to the location and design of all electric vehicle (EV) charging stations.

1. Provide EV parking spaces in non-prime locations where non-EV users are less likely to choose to park.

2. Design should be appropriate to the location and use. Stations should be readily identifiable to electric cars users.

3. EV parking spaces must meet standard size parking stall requirements.

4. Each charging station space shall be posted with signage indicating the space is for electric vehicle charging purposes only. Information identifying voltage and amperage levels or safety information must be posted.

5. Where Charging Station equipment is provided within an adjacent pedestrian circulation area, such as a sidewalk or accessible route to the building entrance, the charging equipment must be located so as to not interfere with accessibility requirements.

6. Charging station equipment shall be maintained in all respects, including the functioning of the charging equipment.

7.5.5 Bicycle Parking Ratios

A. Parking Ratios

BICYCLE PARKING RATIOS		
USE CATEGORY	**SPECIFIC USE**	**REQUIREMENT**
Public/Institutional Uses	Libraries, Museums, Public Parks, Hospitals, Post Office	1 bike parking space per 15 parking spaces
Single Family Attached/ Multi-Family/ Cluster Subdivisions (Residential)	Club houses, recreational buildings or facilities, and other amenity areas or facilities	1 bike parking space per 15 parking spaces
Assembly Uses	Churches, Public and Private Schools, Auditoriums, Stadiums	1 bike parking space per 15 parking spaces
Entertainment Uses	Skating Rinks, Golf Courses, Theaters, Health Clubs	1 bike parking space per 20 parking spaces
Retail and Business Services	Convenience stores, Shopping centers, Restaurants	1 bike parking space per 25 parking spaces

B. Bicycle Parking Design and Location

1. Bicycle racks must be of high-quality construction, in wave, bollard or inverted “U” type design, or other as approved by Zoning Administrator.

2. The size of the bicycle parking space shall be in accordance with generally accepted geometric design principles for the type of space and lot as provided in Association of Pedestrian and Bicycle Professionals Bicycle Parking Guidelines. Acceptable rack elements, rack location and access, rack area and site conditions such as protection from the elements and visibility shall conform to the Association of Pedestrian and Bicycle Professionals Bicycle Parking Guidelines.

3. Racks shall be secured to the ground on a hard surface such as concrete, asphalt, or unit pavers.

4. Bicycle parking shall be located no closer than three feet from any wall to provide adequate space for access and maneuvering.

5. Bicycle racks, once installed on sidewalks should provide for a clear unobstructed width of at least five feet for clear pedestrian access and should be installed at least three feet from the face of curb.

6. Racks should be placed no more than 50 feet from the building entrance or no further than the closest motor vehicle parking space.
7. Uses with several major entrances shall locate a portion of the required bicycle parking at each entrance.

C. Residential Uses. Bicycle parking is required for Single-Family Attached, Multi-Family or cluster subdivisions with common recreation areas.

7.5.6 Accessible Parking Requirement

All accessible parking shall comply with the North Carolina State Building Code.

7.5.7 Stacking Spaces for Drive-Through Facilities

A. In addition to meeting the off-street parking requirements of this section, drive-through facilities shall comply with the minimum stacking space standards established by the Stacking Ratios table.

B. The design and layout of required queuing lanes and stacking spaces must not interfere with circulation and traffic flow on the site and may not interfere with access to parking spaces.

C. Stacking Ratios

Type of Use	Minimum Stacking Spaces	Measured From
Bank, teller lane	4	Teller Window
Bank, ATM	3	Teller Machine
Restaurant, with drive through	6 plus 4 to pick-up window	Order Box
Car Wash, automatic	6	Bay Entrance
Car Wash, self-service	3	Bay Entrance
Car Wash, full service	4	Bay Entrance
Auto Service Station, gas pump island	30 feet from the end of each island	
Unlisted	Determined by the Zoning Administrator	

D. Unlisted Uses. Requirement for uses not specifically listed may be determined by the Zoning Administrator based upon the requirement for comparable uses and upon the particular characteristics of the use.***7.5.7 Parking Alternatives***

E. Shared Parking:

1. **General.** Sharing parking among different users can result in overall reductions in the amount of motor vehicle parking required. Shared parking is encouraged as a means of conserving scarce land resources, reducing stormwater runoff, reducing the heat island effect caused by large paved areas and improving community appearance.

2. **Special Approval.** Shared parking agreements require review and approval by the Zoning Administrator.

3. **Eligibility.** Shared parking may be approved for mixed-use projects and for multiple nonresidential uses that have different periods of parking demand. Required residential parking and accessible parking spaces (for people with disabilities) may not be shared. Any use applying for shared parking must be located within 1,000 feet walking distance of the parking lot as measured from the entrance of the use to the nearest parking space in the shared use lot.

4. **Filed Agreement.** An agreement providing for shared use of parking must be executed by the parties involved and be filed with the Zoning Administrator and in a form approved by the Town Attorney. Shared parking facilities will continue in effect only as long as the agreement remains in force. If the agreement is no longer in force then the parking must be provided as otherwise required by this Chapter.

F. Remote Parking. If some or all of the off-street parking spaces required by this section cannot reasonably be located on the same lot as the principal use, then such spaces may be provided on land located within 1000 feet of any entrance to such principal use The required maximum 1000-foot separation of the use from the parking shall be measured from any entrance to the nearest parking lot space following a reasonable and safe walking route, provided that:

1. The land on which the parking facilities are provided is owned by the same person or persons as the principal use.

2. Such land is not separated from the principal use by a thoroughfare or collector street.

3. Such land is located in a zoning district within which the principal use would be allowed as a permitted or special use.

4. Such land shall be used for no other purpose than to provide parking for the principal use.

5. There is a pedestrian walkway or sidewalk connecting the parking area to the use it serves.

6. The provision of off-site parking, whether the spaces are new or existing, shall be indicated and reviewed as part of the site plan approval process.

7. The restrictions of this subchapter shall not apply to those uses that share parking spaces pursuant to subsection above.

7.5.8 Loading Spaces

A. Whenever the normal operation of any use involves regular delivery or shipment to or from the subject use, off-street loading area must be provided in accordance with this section to accommodate the delivery or shipment operations in a safe and convenient manner.

B. Location and Setbacks

1. Loading spaces shall be located on the same parcel as the use they serve.

2. All loading and unloading operations shall be completed without obstructing with any public right-of-way or any parking space or drive aisle.

3. Loading areas may not be located within 50 feet of any abutting Residential property unless the loading area is screened on all sides. Width of screening shall be in accordance with buffer standards described in Chapter 8.

C. Design

1. Loading Spaces shall be a minimum of 10 feet in width and 30 feet in length, exclusive of drive aisles. Spaces must have a minimum vertical clearance of at least 14 feet.

2. Access to and from the loading space must be provided to and from a public street or alley.

3. Loading areas must be surfaced the same as parking lot.

Gross Floor Area (Sq Ft)	Minimum Loading Spaces Required
0 - 25,000	0
25,001 - 100,000	1
100,001 - 250,000	2
250,001 or more	3

D. Required Number of Loading Spaces

1. **Office, Lodging, and Hospital Uses.** These minimum requirements shall apply to office, lodging, and hospital uses. No loading space is required in the MS Zoning District.

Gross Floor Area (Sq Ft)	Minimum Loading Spaces Required
0 - 15,000	0
15,001 - 50,000	1
50,001 - 100,000	2
100,001 - 250,000	3
250,001 or more	4

2. **Industrial, Retail and Wholesale Operations, Distribution and Storage Uses.** The following requirements shall apply to industrial, retail and wholesale operations, distribution and storage uses. No loading space is required in the MS Zoning District.

7.5.9 Modifications to Requirements

The Zoning Administrator is authorized to waive or modify the requirements of this Chapter.